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SESSIONAL PAPERS.

6-7

VOLUME 6.

SECOND SESSION OF THE THIRD PARLIAMENT

OF THE

DOMINION OF CANADA.

SESSION 1873.



VOLUME VIII.

PRINTED BY MACLEAN, ROGER & Co., WELLINGTON STREET, OTTAWA.

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- No. 2..... INLAND REVENUE :—Report, Returns, and Statistics of the Inland Revenues of the Dominion of Canada, for the fiscal year ended 30th June, 1874.
 ————— Supplement to the Inland Revenue Report, for the year ended 30th June, 1874.
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- No. 5..... MARINE AND FISHERIES :—Seventh Annual Report of the Department of, for the year ended 30th June, 1874, together with five Supplements.
 ————— Correspondence relative to the grant by the Quebec Government of \$4,000 to the Marine and Immigrant Hospital, Quebec.
 ————— SCHEDULE of Papers for the Department :—
 ————— Statements of Receipts and Expenditure in connection with Sick and Distressed Seamen.
 ————— Statement of Receipts and Expenditure in connection with Harbor Police, Montreal and Quebec.
 ————— Statement of Receipts and Expenditure in connection with the Decayed Pilot Fund.
 ————— Statement of Receipts and Expenditure in connection with the construction of Lights, Fog-whistles, &c. [*Not printed.*]

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- No. 10... **LIBRARY OF PARLIAMENT** :—Report of the Librarian on the state of.
- No. 11... **LEPINE, AMBROISE** :—Correspondence, and further correspondence relating to the commutation of the sentence of death passed on Ambroise Lepine for the murder of Thomas Scott at Fort Garry
- No. 12... **ELECTION COURTS** :—General Rules of the Election Court for the Province of New Brunswick, under the Act 36 Vic., cap. 28, sec. 32.
 —General Rules made by Her Majesty's Court of Queen's Bench for Ontario, under and by virtue of "The Dominion Controverted Elections Act, 1874." [*Not printed.*]
- No. 13... **GEOLOGICAL SURVEY OF CANADA** :—Report of Progress of, by Alfred R. C. Selwyn, F.R.S., F.G.S., Director, for 1873-74. [*Not re-printed for Sessional Papers.*]
- No. 14... **SUPERANNUATION** :—Return to Address, Showing the Allowances and gratuities granted under the Act 33 Vic., cap. 4, since the beginning of the year 1874, the grounds of superannuation, the age of each person superannuated, the names and ages of the persons appointed to succeed the person so superannuated, and the offices and salaries held by such successors respectively.
 —Statement of all allowances and gratuities granted under the Act 33 Vic., cap. 4, with statement of the cases in which (since last Return) additions have been made to the actual number of years services of persons employed in the Civil Service, who have been superannuated.
- No. 15... **UNFORSEEN EXPENSES** :—Statement of Expenditure charged to Unforeseen Expenses, under Orders in Council, by authority of the Act 37 Vic., cap. 1, Schedule B, from 1st July, 1874, to date.
- No. 16... **"BAVARIAN"** :—Return to Address, Correspondence concerning the destruction by fire of the Steamboat "Bavarian," in November, 1873. [*Not printed.*]
- No. 17... **CHALONER, H. J.** :—Return to Address, Correspondence, &c., in reference to the dismissal of Mr. H. J. Chaloner of Quebec, as Shipping Master. [*Not printed.*]
- No. 18... **PILOTS** :—Return to Address, Correspondence between the Government, and any other person or persons in reference to the appointment of Commissioners of Pilots. Also in reference to the dismissal of Mr. Hamilton, as Collector of Customs at North Sydney. [*Not printed.*]
- No. 19... **BRITISH COLUMBIA, —TERMS OF UNION** :—Correspondence on the subject of the non-fulfilment of the terms of Union with the Province of British Columbia.
- No. 20... **MARINE ELECTRIC TELEGRAPHS** :—Message,—Correspondence which has taken place with Her Majesty's Government on the subject of a Bill passed in the last Session of the Dominion Legislature, entitled: "An Act to regulate the Construction and Maintenance of Marine Electric Telegraphs."
- No. 21... **MORDEN, Wm. J.** :—Return to Address, Copies of all correspondence connected with the appointment of Wm. J. Morden, as Postmaster for the Village of Greenville, in the County of Wentworth, and the removal of said office to Bullock's Corners. [*Not printed.*]
- No. 22... **BANKS** :—List of Shareholders of the several Banks of the Dominion of Canada, in compliance with the Act 34 Vict., cap. 5, sec. 12.
- No. 23... **STATUTES OF CANADA** :—Official Return of the distribution of the Statutes of the Dominion of Canada, being 37 Victoria, 1st Session of the 3rd Parliament, 1874, under the provisions of the Act 31 Vict., cap. 1, sec. 14. (English and French versions.) [*Not printed.*]
- No. 24... **FORTIFICATIONS, &c., TRANSFERRED** :—Return (in part) to Address, Statement of the Fortifications, Lands and Material of War, which were transferred to the Government of this country by the Imperial Government; also a Report of a competent officer on the state of repair of the several Forts and Buildings so transferred, and of the condition of the Material of War; also a return of such properties as have been conveyed to Municipal Corporations, if any; or of any lands that it is proposed by the Government to transfer to such Corporations. [*Not printed.*]
- No. 25... **MILITIAMEN, 1812-13** :—Return to Address, Statement showing names, ages and places of residence of all Militiamen of 1812-13, who have applied to the Imperial Government through the Department of Militia and Defence for a pension, or indemnity.

- No. 26... **NIAGARA FRONTIER**:—Return to Address, Copies of all Reports, Orders and correspondence between the Militia authorities and the Militia or any other Department, in reference to the Military movements on the Niagara Frontier, in the year 1866. [*Not printed.*]
- No. 27... **BELL, L. G.**:—Return to Address, Copy of the Report of L. G. Bell, C.E., on the exploration made of the route of the Huron and Ottawa Railway from Ottawa City to Parry Sound; together with all maps or papers accompanying the same.
- No. 28... **COPYRIGHTS**:—Return to Address, Correspondence relating to Addresses of this House, presented last Session to the Governor General on the subject of the Act respecting Copyrights, which Act was reserved for the signification of Her Majesty's pleasure thereon.
—Return to Address, Copies of Despatches and other communications which have passed since the 31st March, 1874, on the subject of an Act respecting British Copyright Works passed in the Session of 1872, and reserved for Her Majesty's pleasure thereon. [*Not printed.*]
- No. 29... **GOVERNOR GENERAL**:—Return to Address, Copy of His Excellency the Governor General's Commission; and of the Royal Instructions which accompanied the same.
- No. 30... **GYPNUM, GROUND**:—Return to Address, 1st. The entire quantity of ground gypsum, or land plaster imported into the Dominion of Canada from the United States, since the 1st day of April, 1874; 2nd. For the respective quantities of said ground gypsum, or land plaster, imported from the United States as received at the several Lake and River Ports of the Dominion; 3rd. For the entire sum collected as revenue from the said article of ground gypsum, or land plaster, between the 1st day of April and the 1st day of December, 1874. [*Not printed.*]
- No. 31... **BAPTISMS, MARRIAGES AND BURIALS**:—General Statement of, for certain districts in the Province of Quebec, for the year 1874. [*Not printed.*]
- No. 32... **FISH INSPECTORS**:—Return to Address, Number of Counties in Nova Scotia and New Brunswick in which Examiners of Fish Inspectors have been appointed; the number of Inspectors appointed in each County; also, the quantity of fish or fish-oil inspected, with description of package, and by whom inspected, and amount of fees collected. [*Not printed.*]
- No. 33... **ALIENS, NATURALIZATION OF**:—Return to Address, Copies of any Despatch or Despatches, received from the Imperial Government on the subject of the Naturalization of Aliens, since the Despatch of the Earl of Kimberley, of date the 3rd September, 1873. [*Not printed.*]
- No. 34... **RICHIBUCTO HARBOR, N.B.**:—Return to Address, Copy of contract for the removal of wrecks at the entrance of Richibucto Harbor in New Brunswick; with the names of the sureties and sums paid on such contract; also copy of Report of Engineer, or other officers, of work performed, on which Report payment was made. [*Not printed.*]
- No. 35... **OLIVER'S FERRY**:—Return to Address, Orders in Council, correspondence and papers in reference to the construction of a Bridge over Oliver's Ferry. [*Not printed.*]
- No. 36... **WELLAND CANAL**:—Return to Address, List of persons to whom contracts have been awarded for the construction of the several sections of the works now in progress, or hereafter to be commenced on the Welland Canal, for which tenders have been received, with the names of their sureties; also a list of the tenders made for the same, specifying the names of persons so tendering, the sections for which they severally tendered, and the amount of each tender.
—Return to Address, Copies of all Estimates and Reports of the Engineers in charge of the Welland Canal, shewing the cost of removing the rock bottom at Kaney's Bend, with a view to obtaining Lake Erie level. [*Not printed.*]
- No. 37... **DAWSON ROAD**:—Return to Address, Statement of the number of Emigrants conveyed over the Dawson Road to Manitoba, since the opening of the said Road; also the cost of conveyance of such Emigrants to Manitoba, shewing the average cost of each person, so carried.
- No. 38... **JOHNSTON, MR.**:—Return to Address, Instructions furnished by the Department of Public Works to one Mr. Johnston, for the survey of that portion of the Ottawa River lying between the foot of Paquette's Rapids and Head of Allumette Island; also copies of all plans of said survey, with Mr. Johnston's report thereon, together with the estimated cost of improving the navigation at Paquette's Rapids and Allumette Rapids, so as to admit of the passage of steamers, and the scale of prices upon which such estimate of cost is based. [*Not printed.*]
- No. 39... **THUNDER BAY, &c.**:—Return to Address, Copies of all tenders and correspondence relating to the contract for carrying passengers and freight between Thunder Bay and Fort Garry, with the names of parties tendering, and amount of bonus asked; the rate per head to be charged for passengers, and the rate per ton for freight, &c.

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- No. 41... **ELECTIONS, RECORDS OF**:—Return shewing—1st. The vacancies that have occurred in this House since the last General Election; the date when each vacancy took place; and when the same was notified to Mr. Speaker. 2nd. The date of the Warrant of Mr. Speaker for a new Writ in each case. 3rd. The date of the issue of the Writ in each case. 4th. The date of the transmission of the Writ to the Returning Officer in each case. And also a similar statement respecting the vacancies occurring during two last Parliaments. [*Not printed.*]
- No. 42... **BANK OF UPPER CANADA**:—Statement of the Estate of the Bank of Upper Canada, on the 31st January, 1875.
- No. 43... **RECEIPTS AND PAYMENTS**:—Statement of the Receipts and payments of the Dominion of Canada, from 1st July, 1874, to the 20th February, 1875.
- No. 44... **CANADIAN PACIFIC RAILWAY**:—Articles of Agreement entered into between Asa Belknap Foster and Her Majesty Queen Victoria, for the construction and working of the Georgian Bay Branch of the Canadian Pacific Railway, bearing date the 27th February, 1875; accompanied by a copy of a Report of a Committee of the Honorable the Privy Council, approved by His Excellency the Governor General in Council, on the 4th November, 1874, in relation thereto.
—Return to Address, All tenders for the construction of the Georgian Bay Branch of the Canadian Pacific Railway, with Orders in Council, correspondence, and all papers relating thereto.
—Return to Address, Memorandum of the Chief Engineer of the Canadian Pacific Railway, referred to in a Report of the Honorable the Privy Council, approved by the Governor General on the 7th June, 1873.
- No. 45... **POSTAL CONVENTION**:—Return to Address, Copies of the Postal Convention recently made with the Postmaster General of the United States by the Postmaster General of Canada.
- No. 46... **MANITOBA, MILITIA VOLUNTEER FORCE IN**:—Return to Address, All applications made by persons who served in the Militia Volunteer Force in Manitoba, and who have been invalided or discharged before the termination of enlistment, for grants of land in that Province.
- No. 47... **CIVIL SERVICE EMPLOYÉS, DOMINION**:—Return to Address, Statement shewing the number of Employés in each Department of the Civil Service of the Dominion, giving the name of each Employé, and his age, when first appointed to the Service; also his occupation prior to his said appointment, and the country in which he was born. [*Not printed.*]
- No. 48... **ST. LAWRENCE RIVER NAVIGATION**:—Report of John Page, Esq., Chief Engineer of Public Works, on the Navigation of the River St. Lawrence, between Lake Ontario and Montreal.
- No. 49... **ST. LAWRENCE TOW BOAT CO.**:—Return to Address, Correspondence between the Government and the St. Lawrence Tow Boat Company, on the subject of the leasing of the Wharves below Quebec; also Statement shewing the sums collected as wharfage dues established by the Department of Public Works and the sums paid to the Government for each of the said Wharves.
- No. 50... **INSURANCE**:—Statements made by Insurance Companies, in compliance with the Act 31 Vic., cap. 48, sec. 14.
- No. 51... **RECIPROCITY TREATY**:—Return to Address, Papers in connection with the negotiations with the Government of the United States for a Treaty of Commercial Reciprocity.
—Supplementary Return to Address, Papers in connection with the negotiation of a Treaty of Commercial Reciprocity with the United States.
- No. 52... **INTERCOLONIAL RAILWAY**:—Return to Address, Copies of all special rates granted for freight on the Intercolonial Railroad.
—Return to Address, All papers and correspondence connected with the contract for supplies to the Intercolonial Railroad, from the 1st June to the 31st December, 1874, of Cars, Trucks, Bar Iron and Railway materials.
—Return to Address, Statement in detail of the several amounts paid out by the Government for work actually performed on Section 16 of the Intercolonial Railway from the time the work was taken out of the hands of the Contractor until the present time, &c., stating in detail the grounds for paying the same, and whether the amounts so paid (if any) were sanctioned by the Contractor before payment; also, any report of the officer in charge of said work; also, a statement in detail of all qualities of all work performed in Earth, Rock and Masonry, on Section 16 of the Intercolonial Railway since that section was taken out of the hands of the Contractor, &c.

- No. 52... **INTERCOLONIAL RAILWAY**:—Return to Address, A comparative statement of the number of tons of freight, not to include Government freight, carried over the Intercolonial Railway in Nova Scotia and New Brunswick during the months of October, November and December, in the years 1873 and 1874, and the months of January and February, 1874 and 1875, respectively; together with the average distance carried, the average rate received per ton, and the average rate per mile per ton. [*Not printed.*]
- No. 53... **GATINEAU RIVER**:—Return to Address, Copies of all advertisements, tenders, contracts, reports, and all other correspondence as well as all affidavits, in connection with the construction of booms, piers, and other works on the Gatineau River last winter.
- No. 54... **ACCIDENTS ON RAILROADS**:—Return to Address, Statement of the number of persons killed or injured on the different Railroads of Canada. [*Not printed.*]
- No. 55... **PRINCE EDWARD ISLAND RAILWAY CONTRACT**:—Return to Address, Correspondence between the Dominion Government and the Government of Prince Edward Island, concerning the contract for the construction of the Railway on the Island, and handing over the same to the Government; and also all correspondence between the contractors, the Local Government or the Dominion Government, or either of them, regarding the substitution of Wire fencing for the fencing provided for in the contract. [*Not printed.*]
- No. 56... **INDIANS, MISSISSAGUA, THE**:—Return to Address, Returns respecting that portion of the Mississagua Indian Tribe now settled upon Scugog Island. 1st. For the amount invested by the Dominion Government on their behalf in the lands which said Indians now occupy; 2nd. For the amount of all other funds originally received from and invested in behalf of said Indians, with the several annual additions thereto:—showing how said funds are invested; at what rate of interest; and the several annual payments or donations made by Government to them since the first receipt and investment of said funds in the Indians' behalf. [*Not printed.*]
- No. 57... **KING, JAMES, OF HALIFAX, N.S.**:—Return to Address, Copy of the contract entered into between James King, Esq., of Halifax, N.S., and this Government, for the purpose of running a steamer between Georgetown, P.E.I., and Pictou, N.S., during the winter season.
Supplementary Return:—Copy of the advertisement calling for a winter steamer at Prince Edward Island, and also for a copy of the contract entered into for the performance of said service. [*Not printed.*]
- No. 58... **SHORTEST ROUTE TO EUROPE**:—Report of Special Committee of the House of Commons, appointed to enquire into the shortest route to Europe.
- No. 59... **JUDGES, PROVINCE OF QUEBEC**:—Statement of payments to the Judges of the Province of Quebec, on account of travelling expenses, from 1st July, 1867, to 30th June, 1874.
- No. 60... **FINANCIAL STATEMENT**:—Return to Address, Statement of all monies lying at the credit of the Dominion in any Bank or in the hands of any Financial Agent or other person, on the 20th day of February last, stating specifically the names of the Banks, Financial Agents or other persons, with whom such monies are deposited, and whether on interest or otherwise, and the rate of interest allowed in each case.
- No. 61... **"LAND PURCHASE BILL, 1874," P.E.I.**:—Return to Address, Correspondence which may have passed between the Government of the Dominion and the Local Government of Prince Edward Island and with the Imperial Government and the landed proprietors, relating to a Bill passed by the Local Legislature of that Province, to be entitled "The Land Purchase Bill of 1874."
- No. 62... **HAMEL, J. A.**:—Return to Address—1st. Copies of all documents relating to the appointment of J. A. Hamel, Esquire, of Malbaie, Physician, to vaccinate the Indians on the North Shore of the River St. Lawrence for the years 1868 and 1869; of the instructions furnished to him, and of the reports made by him during the said two years on the subject. 2nd. A statement shewing the number of Indians vaccinated by the said J. A. Hamel during the said two years; the accounts furnished by the said J. A. Hamel, and the amount of money paid to him by the Government for the services rendered. 3rd. Copies of all communications sent to the Government by the Reverend Father Arnault and others, during the said years 1868 and 1869 in relation to the said J. A. Hamel. [*Not printed.*]
- No. 63... **KITSON LINE**:—Return to Address, Copies of all Orders in Council or other authority granted, to certain American Steamboat proprietors, known as the "Kitson Line," to trade on the Red River, in the Province of Manitoba, &c. [*Not printed.*]
- No. 64... **GRAVING DOCK, ESQUIMAULT**:—Return to Address, Copies of all correspondence with the Government of British Columbia, or with any person on behalf of that Government, respecting the construction of a first class Graving Dock at Esquimault.

- No. 65... REGISTRY DIVISION, MONTREAL:—Return to Address, Copy of the Bill passed in the last Session of the Legislature of the Province of Quebec, intituled: "An Act to divide into three parts the Registry Division of Montreal." [*Not printed.*]
- No. 66... CHICOUTIMI AND SAGUENAY, SQUARE TIMBER:—Return to Address, Statement shewing the number of pieces of square timber, spars, masts, deals and boards exported, from the month of April, 1874, up to this date, from the Counties of Chicoutimi and Saguenay, &c.
- No. 67... SPRING HILL MINING Co.:—Return to Address, All correspondence between the Government, or their officers, and the Spring Hill Mining Company, for all Orders in Council relating to the said Company; and any agreements that may have been made with the same.
- No. 68... PRINCE EDWARD RAILWAY, CONSTRUCTION OF:—Return to Address, Copies of all papers and correspondence between the Dominion Government and the Prince Edward Island Government, relative to the construction of the Prince Edward Railroad, and the transfer of said Railroad to the Dominion Government. [*Not printed.*]
- No. 69... COAL, COKE, &C., N.S. & N.B.:—Return to Address, Shewing the quantity and value of Salt, Coal, Coke, Wheat, Corn and other grains; Wheat and Rye Flour and Meal exported from, and imported into the Provinces of Ontario, Quebec, Nova Scotia and New Brunswick, from the 7th April, 1870, to the 1st April, 1871, with the amount of duties collected on these articles at each Port of Entry. [*Not printed.*]
- No. 70... HARBORS, PIERS AND BREAKWATERS:—Return to Address, Shewing the amount expended by the several Local Governments on all Harbors, Piers, and Breakwaters in the Dominion, prior to 1867, and since July, 1867, by the Dominion Government, and also the amounts expended on all such works by any local Companies, Municipal Authorities, Railway Companies, Harbor Commissioners, or any other Companies or persons, before or since July 1st, 1867.
- No. 71... OTTAWA RIVER, SLIDES, DAMS, &C.:—Return to Address, Shewing the sums expended on capital account as well as the amounts chargeable to income, in the construction of Slides, Dams, Piers, Booms and other works, to facilitate the passage of Timber and Saw Logs on the Ottawa River and its tributaries, up to 31st December last.
- No. 72... LACHINE CANAL:—Return to Address, Copies of all correspondence, letters or telegrams between the Government and the proprietors of land in the vicinity of the proposed enlargement of the Lachine Canal, from 1st March, 1874, to the 1st March, 1875, &c., &c.
- No. 73... CIVIL SERVICE EMPLOYÉS, P.E.I.:—Return to Address, A complete Return of all dismissals from, and appointments to, the Civil Service of Prince Edward Island, as well as the salaries attached thereto. [*Not printed.*]
- No. 74... CUSTOMS AND EXCISE:—Return to Address, Receipts from Customs and Excise for the months of May and October, in the year 1874. [*Not printed.*]
- No. 75... CHATHAM BRANCH RAILWAY:—Return to Address, Copies of all correspondence, memoranda, propositions, Reports to Council and Minutes of Council in relation to aiding the Chatham Branch Railway, or in connection therewith. [*Not printed.*]
- No. 76... ST. PETER'S CANAL:—Return to Address, Copy of the Report of Mr. Perley, C.E., on the enlargement of St. Peter's Canal. [*Not printed.*]
- No. 77... MARINE HOSPITAL, SYDNEY, C.B.:—Return to Address, All plans, correspondence, documents and tenders in possession of the Government, relative to the proposed erection of a Marine Hospital at Sydney, C.B., &c. [*Not printed.*]
- No. 78... ORDNANCE LANDS, FREDERICTON:—Return to Address, All papers, correspondence, telegrams or Orders in Council connected with the sale of certain Ordnance Lands at Fredericton, N.B., to the Fredericton Branch Railroad Company, or to Temple & Burpee, &c.
- No. 79... QUEBEC AND GULF PORTS Co.:—Return to Address, All papers and correspondence, advertisements for tenders, if any, with terms of renewal or extension of subsidy to Quebec and Gulf Ports Company for service between St. Lawrence and Pictou, &c. [*Not printed.*]
- No. 80... HARBORS AND BREAKWATERS, P.E.I.:—Return to Address, Copies of the Reports of the Dominion Government Engineer appointed to survey and report upon Harbors and Breakwaters in Prince Edward Island. [*Not printed.*]
- No. 81... SUPREME COURT, N.B.:—Return to Address, All decisions made since the 1st of January, 1875, by the Supreme Court of New Brunswick, with reference to the jurisdiction of the Local Government or Municipal authorities in that Province in granting or withholding licenses for the sale, or regulating the sale, of spirituous liquors. [*Not printed.*]

- No. 82... **PILOTAGE, AN ACT RESPECTING**:—Return to Address, Correspondence with Boards of Trade or other parties, Minutes of Council, &c., in relation to the effect of an Act entitled "An Act respecting Pilotage," having reference to the effect upon Trade and Navigation of the said Law as effects collisions, and the responsibility of pilots and owners of vessels in such cases. [*Not printed.*]
- No. 83... **MONTREAL HARBOR DUES**:—Return to Address, Copies of instructions given to Collectors of Customs in Ontario, to collect Montreal Harbor Dues on all freight landed at the Port of Montreal; also a statement of the rate of Dues so levied, and the principle on which they are computed. [*Not printed.*]
- No. 84... **BRITISH MERCHANT SHIPPING**:—Return to Address, All Papers and correspondence had with Her Majesty's Government in relation to the Legislation which was under the consideration of the Imperial Parliament in relation to British Merchant Shipping from 1871 to the end of 1874, in connection with the so-called Plimsoll movement; also in connection with the proposed Legislative measure in relation to merchant shipping at present proposed by Her Majesty's Government; also, all papers, Minutes of Council and despatches had between the Government of Canada and Her Majesty's Government, protesting against any Legislation being had by the Imperial Government which would affect Canadian shipping. [*Not printed.*]
- No. 85... **CANADIAN PACIFIC RAILWAY, EASTERN TERMINUS**:—Return to Address, Correspondence between the Canadian Government and the Government of the Province of Quebec, on the subject of Railway connections between the Eastern terminus of the Canada Pacific Railway, and the Province of Quebec. [*Not printed.*]
- No. 86... **LUNENBURG, N.S.**:—Return and two further Returns to Address, Copies of all letters in connection with appointments to, and resignations or dismissals from office, and the appointment of successors in the County of Lunenburg, Nova Scotia, since the 1st October, 1873. [*Not printed.*]
- No. 87... **PENITENTIARIES**:—Seventh Annual Report of the Directors of Penitentiaries of the Dominion of Canada, for the year 1874.
- No. 88... **BRITISH COLUMBIA, CROWN LANDS**:—Copies of Orders in Council relative to Acts of the Legislature of British Columbia. 1. "An Act to amend and consolidate the Laws affecting Crown Lands in British Columbia;" and 2. "An Act to make provision for the better administration of Justice, and as to their disallowance." [*Not printed.*]
- No. 89... **BRITISH COLUMBIA STEAMSHIP CO.**:—Return to Address, All correspondence or letters (if any) between the Government and the "British Columbia Steamship Company," relative to a subsidy for carrying the Mails between San Francisco and Victoria. [*Not printed.*]
- No. 90... **IMMIGRANTS, MONTREAL**:—Return to Address, Any papers showing the number and condition of Immigrants now in the City of Montreal without employment. [*Not printed.*]
- No. 91... **GRAVING DOCK, QUEBEC**:—Return to Address, Copies of all papers, documents, letters and correspondence, having reference to the selection of the site for the construction of a Graving Dock in the Port of Quebec. [*Not printed.*]
- No. 92... **RIDEAU CANAL**:—Return to Address, Statement of Leases of Water Power made by the Department of Public Works between the Dominion Dam at the Whitefish and Kingston Mills on the Rideau Canal, both inclusive; date of lease or leases; time such lease or leases expire; quantity of power rented and approximate power used during past year under each lease; with copy of reports and papers, if any, submitted by the Superintendent Engineer of the Rideau Canal during the past twelve months to the Department of Public Works on this subject. [*Not printed.*]
- No. 93... **GREAT WESTERN RAILWAY CO.**:—Copies of correspondence and accounts *in re* duties refunded to the Great Western Railway Company. [*Not printed.*]
- No. 94... **MILITIA SERVICE EXPENSES**:—Return to Address, Statement of all sums of money expended in 1870-'71-'72-'73 and '74, for the Militia Service, including the Mounted Police, either for payment of men, expenses attending camps, or for clothing, ammunition, drill sheds, or other incidental or ordinary expenses of the Department in Ottawa. [*Not printed.*]
- No. 95... **POSTMASTERS (INSTRUCTIONS)**:—Return to Address, Instructions issued to the Postmaster in cities, towns and villages, by the Postmaster General, under authority of section 42 of the Act 31 Vict., cap. 10, with reference to dutiable goods brought into the Dominion through the post office. [*Not printed.*]

DEPARTMENT OF MILITIA AND DEFENCE.

OTTAWA, February, 1875.

The undersigned has the honor to forward to Your Excellency the accompanying Report relating to the Militia of the Dominion of Canada for 1874, which is respectfully submitted for your Excellency's consideration.

W. B. VAIL,
Minister of Militia and Defence.

His Excellency
The Governor General,
Ottawa.

ANNUAL REPORT

OF THE

STATE OF THE MILITIA

FOR

1874.

HEAD QUARTERS, OTTAWA,
January, 1875.

The Honorable

The Minister of Militia and Defence, &c., &c., &c.,

SIR,—The Militia Reports which have been presented to Parliament for several past years, have treated exhaustively the question of its organization and development.

It will therefore be my duty to confine myself to a few condensed remarks, as to the probable improvement of the Dominion Forces.

I approach the subject with hesitation, having so recently arrived for the first time in Canada. I would hardly do so at all, but from the experience gained in my late journey through the provinces of Quebec and Ontario.

To Nova Scotia and New Brunswick I am still a stranger, as well as to Prince Edward Island, Manitoba and British Columbia; but these I hope to visit in turn as soon as possible.

The very able and valuable professional opinions which have from time to time been published, viz:—that of the Defence Commissioners, of Colonel Sir William Jervois, by Major-General MacDougall in various forms, as well as by others of experience and repute, and more recently by Colonel Fletcher, Scots Fusiliers Guards, in a pamphlet distinguished by its acute and practical examination of the conditions applicable to the Canadian Militia of to-day, leave me no room for new matter, the whole question having been already so comprehensively discussed.

I commend this admirable review of the Militia to the consideration of the Government, and to the perusal of the Members of the Legislature—if his principle were adopted my work would be simple, details alone would require to be filled in.

I may therefore be pardoned if in the few following suggestions I am found occasionally reiterating what has been already forcibly dealt with.

The first question which presents itself to ask, is : how are the officers, the sergeants, and rank and file of the Militia instructed and grounded in every quality that creates a soldier ?

It is replied, we have officers and sergeants who were educated at the Army Schools, who received certificates of classification, and many of whom are animated by military proclivities, and take every opportunity to improve themselves.

All very true, but what opportunity have they had to improve their information since the recall of the Royal Forces ?—they cannot all go to Europe ; they cannot improve themselves without practice here. I have met some very cultivated officers with many military attainments, and full of zeal, but in the condition of things their number must be limited, and Military Schools no longer exist.

Therefore, how is the supply to meet the demand for the time to come ? What provision is there for a future flow of officers and sergeants qualified to instruct the remainder ?

Certainly there are camps of exercise, and very pleasant holiday gatherings no doubt they must have been ; but, with some few exceptions, who among them can be qualified to give the necessary and desirable instruction ?

Now, it is evident that, since the withdrawal of the Royal Troops, military example emulation in discipline and instruction, with all that is inseparable from making men into soldiers, are no longer a reality. The buccaneering raids of Fenians, which roused the anger and the military ardour of the people, have passed away into oblivion ; peace, commercial prosperity and contentment prevail.

In a ratio, therefore, with the annual diminution of the instructed element, the military spirit languishes in a measure throughout the country, and unless some means of attraction or incentive are produced may decline into a blank.

Notably a few who do not look beyond the present are content with the happy thought, that, should alarm arise, regiments of men could be at once clothed in military garb, and with rifles in their hands be sent forth to fight !

But soldiers cannot be extemporized in such fashion ; neither the work of war, nor even the subduing of a street riot could be confided with any safety to the efforts of undisciplined bodies of men.

Wars and commotions in these days we live in, come in surprises, suddenly, and often destructively.

It must not be lost sight of, in the midst of increasing opulence and commercial prosperity, which so often tend to put out of sight the possibility of danger, that the

Government of Canada has undertaken the control of a vast territorial Dominion, extending over half a mighty continent, and with an enormous frontier line from the Atlantic to the Pacific, embracing within its western confines wild races of Indians to the extent of at least 60,000, many of whom are of predatory habits, semi-warlike and barbarous in their nature.

Also, that this great Dominion cannot expect to be more exempt than other populous and rapidly expanding countries from the usual causes of internal dissention or commotion.

Progressing therefore in opulence and population, with every prospect of growing into a great and influential nation, Canada must at no distant time have power to protect its industry, its commerce and its soil; it must, in the natural course, possess material force to make itself secure and respected among nations by resort to arms if necessary. Permanent military institutions must grow with the growth of the country, as all past history of nations teaches us.

Meantime, the sum voted annually for the Militia must be applied to the best advantage and full value obtained for the money expended,—that is by devoting a portion to bestowing a sound practical military education upon officers and non-commissioned officers, who are the very essence and foundation of all armies, and without whom masses of untaught men, be they ever so well equipped or gaudily clothed, are only a helpless mob.

To this end, therefore, it behoves us to lose no time in creating a substitute for the military schools of the past.

The successful experiment of enrolling two batteries of artillery as training schools for that arm, under two very capable officers of the Royal Artillery, invite us at once to convert these into Brigade Schools for the three arms.

The expense of purchasing cavalry horses might, perhaps, impede the adoption of this plan, I therefore reluctantly omit the cavalry branch for the present; but, as a temporary substitute, it would answer a good purpose to obtain the services of a paid drill instructor for each regiment from the regular cavalry, who should be rated as Sergeant Major.

I therefore submit that a company of Engineers and three companies of Infantry be forthwith embodied, the former in half companies, attached to the Artillery at Quebec and Kingston. The Infantry, one company at Toronto in the New Fort, one at Ottawa as the seat of Government, and one either in Nova Scotia or New Brunswick, each to have a highly proficient instructor from the Royal Army, but otherwise officered from the militia.

The effect of these Infantry Schools would be to infuse a rapid supply of trained officers and sergeants throughout the Militia of the Dominion, qualified to give instruction and provide against a want already seriously felt and annually increasing.

Its immediate important effect would be to supply the most serious defect in the Militia organization:—officers and sergeants qualified to form a permanent regimental staff, without which battalions are as machinery without propellers.

In the British Militia this staff, in ten company battalions, consists of two officers

and thirty-six sergeants and buglers, but even one officer as Adjutant and Quartermaster with a sergeant-major and a bugler, would be of the very first importance to the Canadian forces; it would, doubtless, be better still that, in the outset, the Adjutant should be taken from the regular army.

By these means proper instruction would be certainly afforded; arms and clothing would be carefully preserved where, at present, loss and waste occur; the pay of caretakers would be saved; a responsible officer would be permanently at headquarters of the battalion; a nucleus for elementary training always on the spot; a military system' cohesion, order and regularity, as well as new life and animation, would be infused into the whole organization.

As I had the honor to report to you, on my return to Ottawa, not only on the various duties which would devolve on such a regimental staff, but also on the moral obligation which officers of every degree would feel to become masters of their professional duties at these training schools, I need not enter into detail here.

The staff would, apart from drill, have varied and important duties in the several districts; their execution ensured by monthly reports to headquarters, and, together with the schools, would remove the apparent blank to which, without these means, we may be imperceptibly drifting.

Camps of exercise with this all important element would then become of real and substantial value, as they are admittedly better for teaching troops the varied duties of a soldier's life, and of inspiring a wholesome rivalry and military emulation between regiments, than mere mechanical barrack drill, but only as a consequent upon it.

The formation of an Engineer Company I look upon as no less a necessity than the infantry already treated of. Their duties are peculiar, and require scientific study; an organized force of skilled artizans is indispensable to keep in repair and preserve from decay the valuable forts, batteries, magazines and other costly military works and buildings which embrace some of the most modern improvements. I only mention these among the many duties which fall into the wide sphere of an Engineer's attainments.

I have proposed a half company for Kingston; owing to its central position from whence working parties could be detached east or west when required; and a half company at Quebec, owing to the extent of its fortifications and works.

I therefore venture to urge the formation of Brigade Schools on your serious consideration.

The intention of the Government to create a Military College at Kingston must be productive of future advantage. The course of study proposed for cadets at that college will, however, be of a higher and more scientific order, and their attainments will qualify them for a wider sphere than the more mechanical instruction of cavalry and infantry in the *minutiae* of discipline, drill and interior economy, which is immediately wanted.

No doubt the future staff of the Dominion will find room for many talented and intelligent young men, who will commence their career at this College.

ARMS.

The information acquired in my late journey, as well as from experienced officers convinces me that in many instances the rifles are badly cared for. In my casual inspections, I invariably found the arms in good order and well looked after at the headquarters of battalions of infantry; in all cases so with cavalry; but in some country companies of infantry and one small battery of artillery, the reverse—for instance, arms badly oiled or greased, placed in stands for the winter at full cock, with open breech blocks, or leaning against walls, injuriously to the adjustment of the foresight.

As there are about 370 detached companies, besides 39 independent companies of infantry—and in my rapid journey I saw but few—I can hardly think those I did find irregular can be the only exceptions.

Moreover, there is little doubt that men are not prevented from using their arms for sporting purposes, and, therefore, possibly, in other ways. I am even informed that the foresight is sometimes removed from the rifle.

Discipline, good order and efficiency, can be little observed when such gross irregularities are even possible.

The cause arises from arms of country companies being retained at company headquarters, nominally in charge of the captain, who receives a contingent of \$40 a year.

The captain, being usually a gentleman with private or professional occupations, deputed a caretaker, in some cases conspicuous for neglect or ignorance.

In one place I went all over a company's store house, containing several hundred pounds worth of Government property, without the caretaker being aware I was in the town till afterwards.

All this is subversive of efficiency and requires remedy.

The remedy possibly, touches delicate ground. I am told—remove the company arms and stores and you dissolve the company; their pride is, to be seen and to use their arms and military clothing among their friends and associates; also, it is presumed advantageous to have arms available for the practice of the men when so disposed. Granted: but better remove the arms and stores to battalion headquarters than countenance known irregular practices, attended with injury and loss of public property.

I submit, therefore, that as some commanding officers coincide in the opinion, each officer commanding a battalion should be directed to use his discretion in removing, as soon as may be convenient, to battalion head quarters, the arms, clothing and stores of rural companies. The several caretakers annual allowance of \$40 each would be saved, as the duty would fall upon the permanent staff, and the saving could be applied on improving regimental armouries, drill sheds and store rooms, with lockers for the men's uniforms, in which the clothing of each man could be kept separately, and marked.

MILITARY STORES.

I have inspected the military store depôts at London, Toronto, Kingston, Montreal and Quebec; I found them in thoroughly good order.

A searching inspection will in future, be made in each January, of all works, forts, magazines, arms, powder, ammunition and Government stores of every description, throughout the Dominion, by boards of officers of which the Inspectors of Warlike Stores will be members.

These boards will, among other duties, report the number of obsolete guns, caronades, mortars and other sorts of ordnance, mounted and dismounted, with a view to their being sold and replaced by modern rifled cannon.

RESERVE OF RIFLES.

In addition to several other descriptions of arms, there are about 60,000 Snider, Enfield rifles in the country. I recommend that the War Department be requested to retain for the Dominion at least 60,000 more, to be bought year after year as funds may be provided. The price of these rifles is £2 10s. each, while the Martini-Henry costs about £4. The former excellent weapon may be considered well adapted for this service.

It is necessary that one skilled armourer, at least, should be attached to each military store depot, not only to keep in order the spare arms, but also to repair the regimental arms, many of which are, and some have been a long time, unserviceable in every infantry battalion and company in the Dominion; there should be not less than four additional armourers provided as soon as possible, and the arms put in thorough repair.

AMMUNITION.

There is at present in Canada, an insufficient number of rounds of Snider ball cartridge per rifle for the establishment of active militia; this will be augmented shortly, but there should not be less than 400 rounds per rifle, and, when possible, a reserve of double that quantity. The amount of powder in store is 200,000 pounds, besides the service ammunition in charge of "A. and B." batteries.

CLOTHING.

The care of clothing calls for immediate attention, as well as the care of arms.

I find it not unfrequently occurs, that men are permitted to take their clothing to their abodes, and the result is, that clothing is often abused or lost, and the great coat frequently used for common wear. The captain is nominally, and by law actually responsible; but the law is not enforced, and public property is often wasted.

Therefore, all stores should, I consider, be concentrated at battalion head quarters under the responsible permanent Adjutants.

The heavy cloth tunic has been found too hot for summer drills; a serge frock, to last for three years, made of excellent material manufactured in Canada, will be substituted; a saving will thus be effected.

TRAINING.

The annexed reports from the Deputy Adjutants-General of the Military Districts give full details of the training of the past season.

In consequence of the sum appropriated for training the Militia being only sufficient for 30,000 officers and men this year, a very simple method was adopted: to apply the amount in equitable proportion to the population of the Military Districts.

The population of the whole Dominion by last census was 3,609,782 souls ; it is now approximately 4,000,000.

The following table will show the numbers trained this year in each Province, corresponding with the population, viz :—

	Population,	Quota trained.
Ontario.....	1,620,851	13,457
Quebec	1,191,516	9,902
New Brunswick.....	285,594.....	2,376
Nova Scotia.....	387,800.....	3,225
Manitoba.....	15,000.....	126
British Columbia....	15,000.....	126
Prince Edward Island.....	94,021.....	788 (provisionally)

quota trained amounting to about $\frac{3}{4}$ per cent.

The Active Militia enrolled, (including this year, Prince Edward Island,) is 43,000, being $1\frac{1}{2}$ per cent. of the population, to which must be added the Grand Trunk Railway Brigade of 2,128, very efficient men.

The Reserve Militia, divided into three classes, amounts to 655,000, making a total of 700,000 men between the ages of 18 and 60, liable by law to be called out in defence of their country.

It is a matter of vast importance that the rolls of the Active Militia should be kept complete to the full number provided by the Statutes, even if the sum voted only admits of a portion being annually called out for training ; the remainder being assembled for muster, if only for one day in each year at battalion head quarters, taking by turn to come out for training consecutively.

By these means combined, the advanced guard of the main Canadian Army, or regular Militia, would be kept complete, and capable of being rapidly made effective for the field.

RECRUITING.

The Reserve Militia is enrolled by officers duly appointed, only once in four years ; but it would be desirable that the officers and sergeants should be annually trained, either by attaching them to regiments of the Active Militia, temporarily for that purpose or preferably, at convenient times, by the permanent staff of those regiments when appointed.

The Active Militia is raised by voluntary enlistment for three years, and in the country generally there appears no want of men to volunteer for its ranks, so much so that this year, in some districts, disappointment was expressed when the strength of the companies was reduced from 55 to 42, in order to fit the number into the amount of money disposable

Of course in Canada generally, comprising, in some parts, a floating population, conditions as to voluntary service vary according to circumstances in different provinces, districts and cities.

I am not sufficiently experienced in the country to express any strong opinion upon the most effective mode of recruiting, but it is apparent that it admits of improvement in time of peace.

In the event of alarm or danger affecting the Dominion, few who could carry arms would be found absent from their post, and the hardy, manly life to which the bold enduring people of Canada are accustomed from boyhood, would render them a very formidable army when properly disciplined.

It appears that under the present system, in rural districts recruiting depends much on the popularity of the captains, by whose exertion and influence the company is formed and kept together.

Manifestly this is wrong in principle, because a popular gentleman may be an incompetent officer; but notwithstanding incompetency he is retained, being popular with the company, which it is assumed would disperse were he removed.

I conclude this applies only to rural, and chiefly to what are termed independent companies.

A means might be substituted to raise and maintain the desired numbers on another principle, when permanent Adjutants are appointed, viz:—through the County Wardens and their Reeves at their usual monthly meetings; the quota or proportion to population being observed as now. The Reeves have rolls of townships, and the able bodied men could be noticed on the Adjutant's application to the warden for the number required to replace casualties, or they could have the option of paying a small annual sum for three years in lieu of attendance. This applies to the Province of Ontario, but could of course be carried out in other provinces under their local systems.

In the United Kingdom all militia enrolments are made by Adjutants, and why not so by this means in Canada, the system being, as at present, voluntary service in the militia of the Dominion?

This plan, under regimental staffs, would give the whole force a tone of consistency, and of reliable organization which it hardly presents now; and the country would receive a certain equivalent in trained men for its annual expenditure.

Furthermore, it might be considered desirable to abolish the rule of permitting men to become entitled to discharge upon giving six month's notice, which is said to be abused; and discretionary power might be given to commanding officers to grant discharges to men quitting the district for a change of residence or occupation.

There are 662 companies of Infantry, comprised in ninety-three battalions, twelve of which are however provisional, and there are thirty-nine independent companies.

Of the latter, three are in Manitoba, and four in British Columbia, as well as eight in New Brunswick; the majority of the remainder, about fifteen in number, might be broken up with advantage.

ARTILLERY AND CAVALRY.

There are seven brigades of Garrison Artillery composed of forty-five batteries, and there are sixteen independent batteries ; altogether sixty-one garrison batteries. I have as yet been able to see but few ; but those were good, with one exception.

There are also sixteen field batteries, six of which are already armed with the most approved new rifled field gun. Those I have had the advantage of inspecting were fully equipped with harness, and all in excellent order.

The artillery derive manifest benefit from the admirably conducted Gunnery Schools at Quebec and Kingston, whose commandants, lent from the Royal Artillery, take praiseworthy pains to instruct officers and men. The good result throughout that branch is as apparent, as would be that of the schools of the other arms if similarly organized.

There are three regiments of Cavalry, comprising eighteen troops, and there are three squadrons, viz : at Quebec, Port Hope and Kingston, as well as sixteen independent troops ; in all, forty troops of Cavalry.

The arms, clothing and saddlery of those I have seen are excellent, and very carefully preserved. They have the advantage of some very accomplished cavalry officers in their ranks.

The mode of horsing both artillery and cavalry is defective, and a question somewhat difficult of solution ; but I hope to have the opportunity of consulting officers of experience in those arms, with a view to its improvement.

As far as I can at present learn, a bonus of ten dollars a year for each horse enrolled and registered for three years, for field batteries, would in some degree lead to satisfactory results.

Cavalry being a very favorite service, I understand there is less difficulty in procuring horses—the property, generally, of the troopers themselves.

I invite your attention to the reports of the Commandants of the Schools of Gunnery ; the benefits arising from these institutions, as I have already said, cannot be too highly prized. If it were possible, these batteries should be even upon a larger basis, uniting instruction in both Garrison and Field Artillery, the duties of which are widely different.

Branch Gunnery Schools at Montreal and Toronto, where detachments of these batteries are respectively stationed, would greatly extend their utility by enabling officers and volunteer gunners in those populous cities and rural districts adjoining, to attend for short course studies, which the great distance from Quebec or Kingston frequently prevents.

If the pay of officers attending for short or long course studies was increased from \$1 to \$1½ per diem, many more would be induced to take advantage of these schools, who now hesitate to do so, finding the allowance does not meet the obligatory expenses of living.

Moreover, it would be signally advantageous to these schools if each Field battery consisted of four guns, completely horse-d, instead of the present insufficient number.

The term Artillery Schools would, I think, be more appropriate than that of "Gunnery" as at present, and more expressive of the instruction derived there.

STAFF.

The country is very judiciously divided into Military Districts, of which there are twelve, viz: four in Ontario, three in Quebec, one each in Nova Scotia and New Brunswick, one in Prince Edward Island, and one each in Manitoba and British Columbia; for each of these there is a Deputy Adjutant General, with a Brigade Staff. The whole under a General officer of the Royal Army, with a Deputy Adjutant-General at Headquarters. The voluminous correspondence and increased work of the Department has thrown a very undue amount of labor on this Staff Officer, and therefore there should be added as Deputy or Assistant Quarter-Master-General, a thoroughly trained officer, to whom should be entrusted the increased superintendence of the supply of clothing, as well as the various important other duties which apply to that Department, including a general knowledge of the local resources of the country, with its various lines and modes of communication which in case of active operations could not be dispensed with.

At such times confusion and fatal mistakes would inevitably occur, were an inexperienced officer hastily placed in a position of great responsibility, and in such a comprehensive sphere.

I submit that appointments to the District Staff should be based upon the rule long prevailing in the army: to last for five years, but eligible for renewal for competency

Regimental uniforms have in some instances been permitted to imitate minutely those of the Royal Army in ornaments and lace. In the British Militia this is carefully avoided and so the propriety and taste of deviating from that system is open to question.

With regard to military titles, it strikes a stranger on arrival in Canada what a superabundance of field officers exist throughout the Dominion.

The rank of Lieutenant-Colonel, which in the Royal army is only reached after twenty years, and often more—passed probably in remote countries and unhealthy climates, with every species of military experience, is in Canada obtained in half that time; the possessor probably having seldom or never held proportionate commands—possibly with little amount of military experience—and having spent the whole, or as much as he chose, of his life comfortably at home.

Consequently, military titles are so common as to be held in light esteem; they lose the weight and distinction accorded to them in Europe, and having been acquired so easily and so early in life, no higher distinction of rank remains to be obtained in reward for good, gallant and faithful services to the state.

This has been caused by a rule bestowing brevet rank, after each period of five years' service, which service probably amounts in the aggregate to some ten weeks training,

according to its duration, during the five years; a very undue proportion of promotion to superior grades has therefore resulted, and in case of the Canadian Militia acting with the Queen's troops the result would be very inconvenient.

A modification of this rule in the future is desirable. The period of five years carrying, as a matter of course, brevet rank under paragraph 56 of the Regulations and Orders for the Militia might be made seven.

No brevet rank to be given to subalterns, in accordance with the rules of the army.

Every officer seeking promotion to have a certificate of professional competency for the superior grade.

Captains and Majors to be eligible at all times for brevet promotion for conspicuous, good or gallant service or other special meritorious conduct.

Regimental promotion to continue as heretofore, the proposed alterations not to be retrospective.

I am afraid this report has assumed larger proportions than I anticipated.

I have the honor to be, Sir,

Your obedient servant,

E. SELBY SMYTH,

Major-General.

P.S.—In the foregoing report allusion is made to the staff of the militia in the Military Districts of the Dominion, to the effect that it would prove beneficial in practice if the system were adopted here, similar to that which it was found necessary to introduce into Her Majesty's service several years ago, restricting the duration of staff appointments to five years, but allowing re-appointments for special fitness.

It is only by zealous exertions and constant superintendence that the system of discipline and the reputation and success of any military organization can be maintained, and this specially falls to the duty of Executive staff officers.

Officers selected for employment in such positions should by their previous service as well as by their acquirements and character, be considered fully qualified to discharge with advantage the duties of a staff officer.

It is, however, necessary in the interests of the service, that qualifications and competency should not be kept out of view by suffering officers to be placed in such responsible positions through any local or other influence. In such an event, the officer may or may not be professionally qualified, possibly sometimes the latter, and so his duties may be slurred over.

It is especially necessary that staff officers should be independent of local influence, that their energies should be devoted to the interests of the service under the Regulations, by which they are bound to abide, and responsible to execute.

Particularly in Canada this is necessary. The vast region of its territory renders it barely possible to administer effectually militia affairs by an exclusively centralized system at headquarters. Much must, therefore, be entrusted to the exertions of local Executive staff officers.

The effect of limiting such appointments in the Army to five years, is:—

1. To ensure a feeling that by energy, and proved competency the officer continues deserving of reappointment in the same, or some other post.
2. To prevent his growing indolent, careless, or falling under local influence, subversive of independent action.
3. To ensure a healthy flow of succession with new thought, and enlarged ideas in modern professional acquirements.

A permanent localized staff must in the nature of things in a great measure fall short in these points; they feel themselves fixtures, enter into local occupations, to which Military duties become secondary, and hence neglected.

Following upon this state of affairs, the public remark that duties are negligently performed—their observation is probably attracted by the small amount of professional, compared with private occupation, and thus, conclusions injurious to the character and maintainance of the Militia engage their attention and give rise to unfavorable discussions, by which the force suffers.

The duties of the Brigade staff in Canada, so far as has yet come under my notice, are small for three-fourths of the year. During the training time they have occupation and before and after, but from what I can gather a good deal is incompletely performed. Hence occurs waste, loss of Camp and other stores, and sometimes even money.

Cases of this nature have already come under my notice, which possibly might have been prevented by more activity.

Arriving unexpected in a certain town, one night in January, I found the Militia stores in a disgraceful state. The Brigade Major resides in the town, and on being called to account he simply enough admitted, other armories in his brigade might be in the same condition!

Such a staff officer is worse than useless.

I have met several who are active and intelligent, but as I have not seen all, I cannot speak for all.

This I think undoubted, that too long a local tenure of office, with but little to do for several months of the year, has a tendency to render most men in such positions, less careful, zealous and active minded, if not actually neglectful, than is consistent with
vice, and therefore I consider the system admits of reform.

I am aware this requires careful handling, too long an undisturbed residence has allied some of these gentlemen, either by family ties or otherwise, with persons of local influence, and a change infringing on their comfortable tenure may cause remonstrance.

But such a position is not consistent with discipline or efficiency, and I am willing to bear the onus of responsibility, in carrying such reform as may be approved, into effect.

It is my duty to the Government and people, to represent what a life long experience assures me are defects, without regard to the interests of individuals.

I recommend that all district and brigade appointments be limited to five years, and that the officers be eligible to re-appointment for competency and zeal in the interests of the service.

That they be liable to removal from one district to another, if thought desirable.

That such reductions as may be approved shall take place.

And that these rules may take effect from the first of April next.

I believe the majority of the present staff are qualified for re-appointment, but the knowledge of their tenure not being indefinite, and being liable to removal, will be a beneficial incentive.

I suggest the Deputy Adjutant-Generals of Districts should, instead, be termed "Inspecting Field Officers." The former term being a misnomer inapplicable to positions of command.

The Inspecting Field Officer to be held responsible for the entire duties of executive command; as I was, myself, for six years with 43 regiments of various arms, without any Staff assistance, entailing annual journeys from 5 to 6,000 miles into every county in Ireland. I merely instance this to show how much can be done when made a point of duty, and more thoroughly by one than by several with divided responsibility.

To complete the reform, in this direction, permanent Adjutants and Sergeant-Majors should be appointed to each battalion of Infantry, and a Cavalry Inspector to each Province. The Artillery are already provided for.

Then old Brigade Majors might gradually be absorbed, reserving a District Adjutant only to assist the Inspecting Field Officer of each District.

To follow out this idea, the system would give opportunities to intelligent officers in which the Militia abounds, to perform the duties of Brigade Majors in Camps of instruction, receiving, perhaps, forage for a horse.

The knowledge thus acquired and the incentive to become proficient would tend to create an emulation productive of good amongst active young fellows who are soldiers at heart, and they would become practically qualified for those positions in war, after a course of instruction in an Infantry School.

The Military College will, in the future, also produce a scientific class of officers for such situations.

The Inspecting Field Officers would command, as now, the Districts and Camps at training.

The Infantry Schools would supply the Adjutants and Sergeant-Majors as well as drilled instructors in abundance.

The Adjutants would pull together the whole regimental machine—recruit—impart drill, keep accurate rolls, accounts and registers, and preserve the costly Government property.

Considerable travelling expenses, inaccurate musters, "tramps," enrolled merely to make up numbers for training, waste and destruction of clothing, arms and equipment, claims to compensation from sickly men who should not have been taken on, and other improprieties would be abolished or reduced to a minimum. Thus solidity and a reality would replace what has tended to become a superficial and somewhat loose condition; a better value returned for the sums spent, and, I think, a general feeling of satisfaction would be stimulated by visible effects.

Assuming these ideas should be approved and put in force, you will, in consequence, for some time to come, only be able to afford to assemble for training comparatively few men each year; but those will be better recruited, more compact and reliable, as well as better trained.

Withal, the quota should be kept complete in each province, and be trained in turn, the rural companies joining headquarters occasionally not only for drill's sake, but for the benefit to be derived from association and knowledge of each other.

Under the above system you would have a flow of fresh material among the staff, with watchfulness, activity, and an interest in suggesting and introducing improvements, instead of the *laissez aller* which prevails.

A large and useful body of well instructed commissioned and non-commissioned officers by means of the school system.

A well compacted regimental system by means of the permanent staff.

A great saving in arms, stores and clothing.

In fact a substantial, instead of a somewhat shadowy condition of organization.

I see no other real or more substantial mode of reform [under] existing conditions, and I feel assured these means would eventually produce, to a certain extent, the sort of reliable nucleus which this country should possess, and beyond which it is not disposed at present to advance.

In the advocating permanent schools and regimental staff, without materially increasing the estimates I have also shown that, therefore, for some time to come, much fewer men can be annually assembled for drill than heretofore, but I believe the soldier-like qualities of commanding officers and others will continue to inspire them with zeal to assist the Government in its reform, and that they will hereafter, as heretofore, make good use of leisure time by frequently imparting occasional hours of evening drill to their men in their drill sheds as the Volunteers do in England, in order that when called out they may be reasonably efficient for any service that may be required of them.

E. SELBY SMYTH,
Major-General.

HEAD QUARTERS,
OTTAWA, February, 1875.

APPENDIX No. 1.

MILITARY DISTRICT, No. 1.

DEPUTY ADJUTANT-GENERAL'S OFFICE,
LONDON, 21st December, 1874.

SIR,—I have the honor to submit the enclosed Return of the Annual Drill of the District under my command for the year 1874.

The total force who performed drill for this year was—

- One Regiment of Cavalry, 4 Troops,
- Two Batteries of Field Artillery,
- One Battery of Garrison Artillery,
- Ten Battalions of Infantry and Rifles,

being a total strength of 267 officers, 3,256 non-commissioned officers and men, with eight guns, and 160 sabres.

The following corps did not perform drill for this year, viz :—27th Battalion Infantry and Sarnia Garrison Battery, who obtained a special permission to postpone drill ; also, one company 29th Battalion, two companies 32nd Battalion, and one company 33rd Battalion ; these latter, though good companies, were restricted from performing their drill on account of their having been below minimum strength last year.

There were two brigade camps assembled in the district, the first held at Guelph for 12 days, commencing 23rd June, consisting of —

- The " Wellington " Field Battery, under Captain Macdonald,
- „ 28th " Perth " Battalion, under Lieut-Colonel W. Smith,
- „ 29th " Waterloo " Battalion, under Major Peck,
- „ 30th " Wellington " Rifles under Lieut-Colonel Clarke,
- „ 32nd " Bruce " Battalion, under Lieut.-Colonel Sproat,

being a total of 78 officers, and 1,037 non-commissioned officers and men, under command of Lieut.-Colonel Clarke, 30th Rifles.

This brigade was formed from the 2nd Brigade Division, and was camped on the " Exhibition Grounds " near Guelph, having also the Race-course for drilling on. I was present there during four days and inspected the brigade, which turned out in a very efficient state, and had evidently made considerable progress in their drill during camp.

The County of Wellington and Town of Guelph not only showed the interest which they have always taken in their Militia Force, by many acts of kindness, but also, as in former years, voted a sum to augment the daily pay of their own local corps, while the ladies of Guelph most liberally provided an entertainment to every one in camp.

On the 7th September, another brigade, taken from the 1st Brigade Division, assembled in camp near London for 12 days, consisting of—

- 1st Regiment Cavalry, under Lieut.-Colonel Cole,
- " London Field Battery," under Lieut.-Colonel Shanly,
- 7th Battalion " London Light Infantry," under Lieut.-Colonel McBeth,
- 22nd " Oxford Rifles," under Lieut.-Colonel Hugh Richardson,
- 24th Battalion " Kent," under Lieut.-Colonel D. Smith,
- 26th Battalion " Middlesex," under Lieut.-Colonel Atwood,

being a total strength of 119 officers, 1,537 non-commissioned officers and men, with four guns and 160 sabres; under my own command, with Lieut.-Colonel Moffat, Brigade Major.

This brigade is complete and fit for service, and though the greater part of the men were recruits, yet they improved so much in drill as to be able to go through a satisfactory brigade field day before the camp was broken up.

At both these brigade camps the regulated routine of camp duties was fairly carried on, and the general conduct very orderly and well behaved; the rations for both camps were very good, in fact more satisfactory than at any previous camps.

Though the weather was excessively hot the sanitary arrangements were good, and there was very little sickness.

Target practice was strictly and carefully performed under the efficient superintendence of Lieut.-Colonel R. Lewis (late 7th Battalion) for the London Camp, and of Captain Thompson, Goderich Garrison Artillery, who was equally attentive to his duties, for the Guelph Camp; and I venture to hope that the liberality of the Government in giving prizes for the best shots, as in 1872, will again be shown, and will not be confined to the grants to Rifle Associations only, at whose meetings but few of the volunteer force can attend.

I was present at the muster of each corps in these camps, and saw that every man on the pay roll was present or duly accounted for.

With regard to the effects of the order issued previous to these camps, in which the strength of companies was reduced from 55 to 42 non-commissioned officers and men, I am of opinion that it is an advantage, by keeping the general strength of the companies more equal, and allowing captains more choice of men to fill up their companies.

The enclosed Return, marked "A," of the six years during which the present Militia Act has been in force, shows the strength of the force in this district that have performed annual drill each year, together with the average strength per company or corps; and it will be noticed that the average of this year is three officers and 43 men, per company, the strength allowed being 42 men, while the total average of the five preceding years is three officers and 47 men, with the strength allowed being 55 men.

The system of brigade camps continues the most popular with the force, and the officers and men generally have got so accustomed to these camps, that a great deal of the confusion at first incidental to the novelty of the life has worn off, and they now settle down for their few days' drill without loss of time.

The two Batteries of Field Artillery are probably the most efficient corps in the district, much of which is due to the great attention which their respective commanding officers pay to their corps. The London Field Battery were allowed to perform four days extra drill, and they marched to Port Stanley for shot and shell practice with their muzzle-loading rifle nine-pounder field guns, making satisfactory practice. I trust that both Field Batteries will be permitted extra drill for a like purpose next year.

The 25th "Elgin" Battalion performed their drill by eight days in battalion camp at St. Thomas, where I inspected them but regret that I cannot report finding the battalion in so satisfactory state as I could wish.

The 33rd "Huron" Battalion also performed drill in battalion camp at Godrich. I found everything highly satisfactory at my inspection there. Drill very steady, as this corps always has been; and arms, accoutrements and uniforms in very good order.

I have to report that, being instructed to call out guards of honor to attend His Excellency the Governor General during his tour through this district, I found such a general desire among the force to turn out that my only difficulty was to keep the numbers within due limits, and I am happy to be able to report that His Excellency (who invariably inspected every guard of honor) was pleased to express himself well pleased with them.

I have, as on former occasions, much satisfaction in acknowledging the able assistance so willingly accorded me by Lieut.-Colonel Moffat, and by Lieut.-Colonel Service, Brigade Majors, and by the commanding officers of corps in the district.

I have the honor to be, Sir,

Your obedient servant,

JOHN B. TAYLOR, Lieut.-Colonel,

Depy. Adjt. Genl., Military District, No 1.

[A.]

RETURN showing strength of the Active Militia in Military District No. 1, who have performed Annual Drill during the six years since the present Militia Act came in force, up to the end of 1874.

YEAR.	NUMBER WHO PERFORMED ANNUAL DRILL.			AVERAGE STRENGTH PER COMPANY.		Manner in which Drill was carried out.
	Companies or Corps.	Officers.	Men.	Officers.	Men.	
1869.....	78	305	3,662	3	47	Battalion Camp, Local Head quarters, 12 days.
1870.....	65	242	3,174	3	49	Brigade Camp for 16 days.
1871.....	74	311	3,952	3	53	Brigade Camp for 16 and 8 days.
1872.....	83	325	3,978	3	47	Divisional Camp at Windsor. 16 days.
1873.....	49	176	1,867	3	38	Local Battalion Camps, 8 days; or 16 days at head-quarters not in camp.
1874.....	76	267	3,256	3	43	Brigade Camps for 12 days—Companies reduced to 42.

JOHN B. TAYLOR,
Lieut.-Colonel.

MILITARY DISTRICT, No. 2.

HEAD QUARTERS, OLD FORT, TRONTO,
18th December, 1874.

SIR,—I have the honor to forward, for the information of the Major-General commanding, the accompanying Inspection Report of corps of Active Militia, in Military District No. 2, which have performed the annual drill for 1874-75, in accordance with General Orders, dated Ottawa, 3rd June, 1874.

The strength of these corps, which were duly mustered by the District Paymaster, Major Alger, is as undermentioned:—

	Officers.	N.C. Officers and Men.	Officers.	N.C. Officers and Men.
CAVALRY.				
Governor General's Body Guard	3	39		
2nd Regiment of Cavalry—7 Troops.....	27	260	30	299
ARTILLERY.				
<i>Field Batteries.</i>				
Toronto	6	71		
Hamilton.....	3	71		
Welland.....	3	72		
			12	214

	Officers.	N.C. Officers and Men.	Officers.	N.C. Officers and Men.
<i>Garrison Batteries.</i>				
St. Catherine's (annual drill not performed 1st December, 1874).				
Toronto	1	42		
Collingwood.....	3	36		
			4	78
INFANTRY.				
2nd Battalion Queen's Own Rifles 10 companies.....	24	460		
10th Royals, not required to perform annual drill.				
12th Battalion, York Rangers, 8 comps.	24	305		
13th Battalion, Hamilton 6 do	15	252		
19th Battalion, Lincoln 6 do	19	252		
20th Battalion, Halton 7 do	23	269		
31st Battalion, Grey 7 do	22	290		
34th Battalion, Ontario..... 7 do	20	248		
35th Battalion, Simcoe Foes- ters 10 do	23	383		
36th Battalion, Peel..... 9 do (No. 1 Company absent.)	18	266		
37th Battalion, Haldimand..... 7 do (Nos. 1, 4, 6 and 7, per- formed drill.)	6	145		
38th Battalion, Brant..... 6 do (Nos. 5 and 6 Companies performed drill.)	8	74		
39th Battalion, Norfolk..... 8 do	24	290		
44th Battalion, Welland..... 8 do (Nos. 2 and 5 Companies absent.)	16	244		
77th Battalion, Wentworth..... 6 do	21	251		
Rifle Company, Sault Ste. Marie	2	48		
			265	3,777
Cavalry	30	299		
Artillery	16	292		
Infantry	265	3,777		
Total.....	311	4,368		

exclusive of the officers and non-commissioned officers employed on the staff of the brigade camp.

By reference to the above it will be seen, that the corps of all arms mustered well, most of the corps well up, some full—the 2nd Battalion Queen's Own Rifles over the required number, as laid down in the General Order of the 3rd June last.

In the performance of the annual drill, the Governor General's Body Guard performed its drill at head-quarters, as usual; paraded for inspection, clean and soldierlike; well mounted and drilled well, officers and men.

Toronto and Collingwood Garrison Batteries performed their 12 days drill at their respective head quarters, in compliance with No. 7, General Orders, 3rd June; were inspected by Lieut.-Colonel Denison, Brigade Major, who made a favorable report of their general appearance, and heavy gun drill.

INFANTRY.

The 2nd Battalion Queen's Own Rifles performed 12 days drill at head-quarters, Toronto. The physical appearance of the men of the Battalion, when paraded for my inspection, was very good; officers and men appeared well up in their drill, principally company drill; arms and accoutrements in very good order; clothing somewhat deficient.

The four companies of the 37th Battalion, and the 39th Battalion Rifles, performed their drill at their respective head-quarters, under canvas; were inspected by Lieut.-Colonel Villiers, Brigade Major, who made a very favorable report of both corps;—very steady under arms; battalion and skirmishing drill very fair; appearance of the men good.

The Rifle Company at the Sault Ste. Marie, under the command of Captain Wilson, was inspected by Lieut.-Colonel Denison, Brigade Major, who reported arms, accoutrements and clothing in good order. Very useful company. Is in possession of three four-pounders, which the men handle uncommonly well.

The remaining corps were assembled in brigade camps.

The camp at Niagara was formed on the 23rd June last, under the General Order, for 12 days drill.

With reference thereto, I beg leave to refer to the report made by Lieut.-Colonel Skinner, herewith endorsed, marked "A."

Having been in the camp several days with Lieut.-Colonel Villiers, Brigade Major, who remained in camp during the drill, rendering all the assistance in his power, I must say the camp was very orderly and well behaved.

The duties, both staff and regimental, well carried out; the rations were uncommonly good; no complaints.

Although the time is, I consider, too short, I must bear testimony to the aptitude officers and men shew in acquiring their drill and places; and when the brigade was inspected by me on the 2nd July, nine days only in camp, the general appearance of the force, all arms, their steadiness under arms, and the manner in which the brigade movements were performed, were most creditable to all connected with the force in camp.

The two Field Batteries, Hamilton and Welland, well horsed, well commanded, deserve more than ordinary credit.

The 13th Battalion, from Hamilton, deserves mention; strong in numbers, steady and soldierlike under arms; their skirmishing when covering the brigade in the field, all shew the regiment to be in good order.

CAMP, HOLLAND LANDING.

This camp was formed on the 29th September, (12 days drill) rather late, which was unavoidable, owing to the Provincial Exhibition taking place at Toronto the week prior. It was composed of the following corps:—Nos. 2 and 3 Troops, 2nd Regiment of Cavalry. Toronto Field Battery; the 12th, 31st, 34th, 35th and 36th Battalions of Infantry—in all 121 officers, 1,630 non-commissioned officers and men, 175 horses.

The camp was under my command.

Brigade Staff appointed temporarily—Superintendent of Drill, Lieut.-Colonel Denison; Brigade Major, Brigade Major Bligh, 35th Battalion; Supply Officer, Major Selby, 12th Battalion; Musketry Instructor, Captain White, 34th Battalion; Orderly Officer, Cornet Clarence Denison, Governor General's Body Guard, with five Staff Sergeants.

As a brigade camping ground, especially in the autumn, Holland Landing offers many favourable inducements, holding a central position in the brigade division. Good water easily obtained by sinking wells; dry sandy soil covered with sod, with some fifty acres adjoining the camp ground for drill and exercise; excellent rifle ranges, (9 in all) with

sunken marker's butts, radiating from a common centre in different directions; ground free with easy access; all go to show it to be a very good place. I must not omit to mention the obliging services rendered by Mr. B. Thorne, Township Reeve, who obtained the free use of the Township Park (or reserve) enclosed, as well as clearing and levelling the adjoining grounds for drill purposes, free of expense. Although the weather was very inclement, constant rain and cold, principally at night, fortunately, the men turned out cheerfully and paraded three times a day. Squad and company drill for several days, before being put together as brigades, had a marked good effect, the weakest point being guard mounting and posting sentries, &c. Making all guards, brigade guards, and requiring all to parade every morning for the Brigade Major's inspection, had a very good effect.

The whole of the force was under canvas. I am happy to say, less average sickness than usual; no casualties worth mentioning; the men behaved well; the rations were well supplied and good. It gives me much pleasure to state that the attention, both on the part of the Brigade Staff, Regimental Officers and men, to their drill and duties, was very satisfactory, resulting in a brigade field day on the 8th October, which would have reflected credit on much older troops.

Lieut.-Colonel Denison, as Superintendent of Drill, performed his duties very much to my satisfaction, affording useful instruction when ever required.

Major Selby, 12th Battalion, as Supply Officer, Captain White, 34th Battalion, as Musketry Instructor, were most attentive in the discharge of their respective duties.

Target Practice.

I beg leave to forward the enclosed report of Ensign St. John, marked "B," 19th Battalion, a very efficient Musketry Instructor, showing the general average and working of the corps of Active Militia at the Niagara camp, by which it is satisfactory to find that there is a marked improvement this year, compared with that of 1872.

I glean the following from his report :—

	Figure of Merit.
Brigade figures of merit.....	15-31
Best shooting Company, No. 5 Company, 20th Battalion.....	25-63
Best shooting Troop of Cavalry, No. 4 Troop, Grimsby.....	20-81
Best shooting Battalion, 20th Regiment.....	18-64
Best shot in Brigade, Private David Stock, No. 2 Company, 77th Battalion, score.....	60 points.

From the report of the target practice, at the camp at Holland Landing, I received from Captain White, Musketry Instructor, marked "C," enclosed, it appears that the brigade figure of merit stood 14-76.

	Figure of Merit.
Best shooting Company, No. 4 Company, 35th Battalion.....	20-56
Best shooting Battalion, 35th Regiment.....	16-19
Best shooting Troop, No. 2, Oak Ridges, 2 Regiments of Cavalry	16-00
Best shot in Brigade, Sergeant-Major Grigley, 12th Battalion, score.....	47 points.

The average shooting at the Niagara camp, was evidently the better; the weather may have had something to do with it.

SCHOOL OF MILITARY INSTRUCTION.

Number of cadets admitted during the year.....	75
Number of cadets who obtained 1st class certificates.....	7
do who obtained 2nd class certificates.....	59
Withdrawn by permission.....	9
Total	75

Of the above number, 20 were officers of the force, 20 non-commissioned officers, 16 were privates, 10 were cadets not belonging to the force, some of whom have since received commissions.

Average number of days required to obtain a 1st class certificate. . . 78
do do 2nd class certificate... 65

Adjutant, Lieut.-Colonel Denison, Brigade Major.

Drill Instructor, Sergeant-Major Cantlin.

The above school closed, at Toronto, on the 31st May last.

I cannot close this report without bringing specially forward the march made by the Toronto Field Battery, commanded by Captain Gray, from the Old Fort to the camp at Holland Landing, and also the return march, a distance of thirty-eight miles, whose report, marked "D," I beg leave to enclose, giving the details; it shows what a Field Battery of the force can do when commanded by a smart and intelligent officer.

I have the honor to be, Sir,

Your most obedient servant,

W. S. DURIE, Lt.-Colonel,

Deputy Adjutant General,

Military District No. 2.

[A.]

DUNELG, BEACHVILLE, 13th July, 1874.

SIR,—I have the honor to submit the following report of the Brigade Camp assembled at Niagara under my command on the 23rd June last, in accordance with District Order of the 11th ult. The force was comprised of the following corps:—

Corps.	Commanding Officers.	Officers.	N. C. O. and Men.	Total.	Horses.
Staff		10	6	16	5
2nd Regiment Cavalry	Major Book	20	197	217	217
Hamilton Field Battery	Capt Smith	3	71	74	55
Welland Field Battery	Lieut. F. King	3	72	75	37
13th Battalion	Major and Bt. Lieut.-Col. Irving	16	263	279	4
19th do	Major McDonald	23	252	275	4
20th do	Lieut.-Col. Murray	22	269	291	4
38th do	Lieut.-Col. Patton	8	82	90	1
44th do	Lieut.-Col. Barnett	15	204	219	3
77th do	Lieut.-Col. Brown	19	262	281	4
Totals		139	1,678	1,817	354

The health of the several corps comprising the brigade was good, and neither accident nor cases of serious illness occurred during the continuance of the camp. Seven men had to be sent home, owing to illness contracted prior to marching from company headquarters, which was not discovered until the medical inspection to which every regiment was subjected the day after arrival. In this connection, and with a view to saving the country from unnecessary expenses, I would urgently recommend that commanding officers of corps be ordered to have all their men inspected by the medical officer of the battalion prior to marching out for active service or to camps of exercise.

The first six days after arrival was devoted to preliminary drill, as follows:—

Cavalry.—Sword exercise, mounted and dismounted drill.

Artillery.—Foot drill and field battery movements.

Infantry.—Squad, company, skirmishing and battalion drill.

The hours for parade were—

Morning parade	- - - - -	from 6.30 to 7.30.
Forenoon	„ - - - - -	„ 10.00 to 12.00.
Afternoon	„ - - - - -	„ 3.00 to 5.00.

The different corps were also practised in guard mounting and dismounting, and posting sentries, a branch of their duty of which a great majority of the men were entirely ignorant, and for which the time at our disposal was insufficient to get them thoroughly posted.

On the 30th June I ordered the first brigade parade, and was much pleased at the precision and promptitude with which the movements were performed, a large proportion of the men having never taken part in a brigade parade before.

On the 1st July (Dominion Day) the brigade was paraded at eleven o'clock, and at noon a *feu de joie* was fired in honor of the day. In the afternoon I had purposed allowing the men a half-holiday, as is customary on this day, but at the request of officers commanding corps I took the brigade for a march out in column of route, throwing out advanced and rear guards of cavalry.

On Thursday, the 2nd of July, the brigade was paraded for your inspection, and a very successful field day carried out under your direction.

I cannot conclude my remarks on drill without at least adverting to the inadequacy of the time in such short camps of exercise as those assembled for twelve days. The days occupied in assembling and returning, with the intervening Sunday, cutting down the actual time spent in drill to nine days, and even less in the case of artillery. All this time should be spent in preliminary drill, and say five or six more in brigade exercises.

The target practice was carried out regimentally under the supervision of Ensign St. John, Brigade Musketry Instructor, and twenty rounds per man expended. For any efficient instruction in this important branch of a soldier's duty, I have to remark as above that the time allowed is altogether too short.

On Sunday, the 27th June, Divine service parades were ordered, and all the men marched to their several places of worship.

The Young Men's Christian Association opened and maintained a booth on the camp ground, where religious services were held in the evening, and the troops were supplied with newspapers, pens, ink, and paper free of charge.

The conduct of the men, with one or two exceptions, was excellent, and I learned with satisfaction from the residents of the town and neighbourhood that they considered the troops more than ordinarily well behaved.

In reference to the transport arrangements I heard no complaints, with the exception of the train which conveyed the 13th Battalion, which was delayed for five hours in the neighbourhood of Clifton, in a burning sun and without water. The natural advantages of the ordnance lands at Niagara for camp purposes is I think a fit subject for remark in this report. The climate is healthy, there is an abundance of excellent water, an expansive parade ground, capital shelter for cavalry and field battery horses, and rifle ranges not easily surpassed. Besides these natural advantages, there are many barrack buildings which can be utilized as hospitals, soldiers' quarters, mess and store houses, and prove invaluable to a camp of exercise. I would suggest that a small amount be expended annually to keep the buildings in repair, and would strongly urge that the ground and buildings be retained for military purposes.

In conclusion, I have to acknowledge the efficient manner in which the several members of my Brigade Staff performed their duties, especially mentioning Captain Moore, Brigade-Major, and Captain Boice, Supply Officer.

I have the honor to be, Sir,

Your obedient servant,

J. A. SKINNER, Lieut. Col.,
Officer in Command of Brigade Camp
at Niagara.

The Deputy Adjutant General,
Military District No. 2, Toronto.

[B.]

ST. CATHARINE'S, 21st July, 1874.

SIR,—I have the honor to submit the nominal roll of those who made the highest scores in company and battalion of the Brigade Camp, Military District No. 2, assembled at Niagara for the annual drill of 1874-75.

The figure of merit of the brigade is 15.31; last camp it was 11.49; a very great improvement.

The best shooting company is No. 5 Company, 20th Battalion, with the average of 25.63, being slightly better than the highest company figure of merit (in the District) of last camp, which was 25.12, obtained by No. 5 Company, 38th Battalion.

The battalion having the highest figure of merit is the 20th Battalion, being 18.64; last camp the best battalion of the Division obtained 17.62; a considerable increase. The best shot in the brigade is Private David Stock, of No. 2 Company, 77th Battalion, with the score of 60 points.

The figure of merit of the cavalry (2nd Regiment) is 17.77; the best shooting troop is the Grimsby Troop, with an average of 20.81; and the best shot in the regiment is Private W. Martindale, of the same troop, having scored 58 points.

The number of men who fired the required number of rounds is, Infantry, 1,183; Cavalry, 184.

Of the thirty-seven making the highest scores, twenty-one are non-commissioned officers, being over one-half.

I am glad to state that the suggestion of Major Dartnell, District Musketry Instructor for 1872, as to having but one marker in each butt, and having the markers permanently drawn from each battalion, was acted upon this year. I found it worked well, there being no complaints of inattention as during the previous camp.

The rules of firing were the same as those of last camp, and which seemed to give general satisfaction.

I approve of the "Hythe position" at 400 yards, notwithstanding it has been objected to in former reports, for skirmishers are often prevented from firing lying down by reason of the lowness of the ground, therefore are compelled to fire from the knee; consequently, in becoming accustomed to the Hythe position, it will not come amiss.

I am glad to state no accidents occurred. The weather was not wholly favorable to shooting, on account of the severe winds which prevailed.

Next camp at Niagara, I would advise the raising of targets Nos. 7 and 8.

In taking into consideration the marked improvement of the brigade shooting, it must be remembered that the 500 yards range was added to the ranges of last camp.

When it was definitely announced that there would be no prizes for those with the highest scores, I could not help but notice the disappointment expressed on the men's faces. If prizes are to be withheld, it will be found to have a prejudicial effect on the interest taken by the volunteers in rifle shooting.

I desire to here make mention of the valuable assistance rendered me by Staff-Sergeant Dunford, of the Queen's Own Rifles.

I am, Sir,

Your obedient servant,

F. ST. JOHN, Ensign,

Musketry Instructor.

[C.]

CAMP, HOLLAND LANDING, 9th October, 1874.

SIR,—I have the honor to report that, as Musketry Instructor to the Brigade, I have conducted the target practice according to the instructions received from you, and also that I found the ranges in the most convenient and satisfactory state, both as regards situation and safety.

Enclosed you will please find a tabulated return of each battalion, which I hope will give all the necessary information which you require.

In closing this report, I beg to call your attention to the fact that the course has been conducted without accident or hindrance to any person engaged. With the exception of the hinges on the trap-doors in butts, which were too light, and occasioned a little delay while being fixed, in all other respects everything worked satisfactory.

I am, Sir,

Your obedient servant,

JOSEPH WHITE, Capt.,
Brigade Musketry Instructor.

Lieut.-Col. DURIE,
Deputy Adjutant General,
Commanding Camp at Holland Landing.

[D.]

TORONTO, 2nd November, 1874.

SIR,—I have the honor to report that the Toronto Field Battery, under my command, assembled for annual drill on Tuesday, the 29th September, 1874.

On the same day at 10 a.m., the Battery commenced the annual ball practice.

The target was moored in Lake Ontario, at about one thousand yards from shore.

The firing was high at first, in consequence of the common shell not being charged, as I had instructions not to use powder for that purpose.

Reducing the weight of the projectile by half a pound has a very great influence on its flight, and I would strongly recommend the propriety of not permitting artillery to engage in practice until they are deemed competent to use shell according to regulation.

Twenty-eight rounds hit the target out of forty-nine fired, the last round completely demolished the superstructure, leaving only the raft and anchor to be towed ashore.

The remainder of the ammunition I retained to be used on some future occasion.

On Wednesday at noon the Battery started on the march for camp at Holland Landing.

A halt was made at Hogg's Hollow, eight miles from Toronto, to water and feed the horses; the men had dinner at the same time.

Arrived at Bond's Lake, twenty miles from Toronto, at seven o'clock p.m., watered and fed the horses, and cooked supper for the men.

Arrived at Holland Landing Camp at forty-five minutes past three a.m., October 1st, performing a march of thirty-eight miles in less than sixteen hours.

The Battery walked forty-five minutes and trotted fifteen each hour on the march, trotting five minutes at a time.

The men and horses were in capital spirits, the Battery going into camp on the trot.

I reported to Lieutenant-Colonel Denison, Brigade Major, who met the Battery and pointed out the position it was to occupy.

During the camp the Battery was under your immediate orders, and I trust and believe performed its duty to your satisfaction.

Major Irwin, the officer commanding the School of Gunnery, inspected the Battery on Thursday, the 8th October.

The Battery marched out of camp on Friday, the 9th October, at eleven o'clock a.m., and moved rapidly over the road, as I was eager to make the most of a few hours' daylight and fine weather.

A short halt, to feed and water horses, and to cook dinner for the men, was made at Aurora; I also halted the Battery five minutes during each hour, walked forty minutes and trotted fifteen; after dark I discontinued trotting.

I deemed it advisable not to halt for any length of time as there was every indica-

tion of rain, the road already muddy and heavy to travel over, and a new coat of metal laid at intervals along the route.

The Battery arrived at the Old Fort, Toronto, at 11.45 p.m., Friday, accomplishing the march in thirteen hours, and proving beyond a doubt a Volunteer Field Battery can possess that faculty of nobility, without which it is a useless expense.

On Saturday the guns, arms, harness, and accoutrements were returned into store, in a clean and proper manner.

The harness was placed in the harness room in a very creditable condition indeed, and this after continual wet weather, but this is owing no doubt to a couple of small prizes offered annually to the drivers by the officers of the Battery.

A prize also given to the smartest sub-division has the effect of keeping the guns at all times thoroughly clean.

I find encouragement *better than punishment.*

I cannot close this report without noticing the zeal and ability of the officers under my command, and their untiring energy in the interest of the corps, before, during and after the annual drill.

I have the honor to be, Sir,

Your obedient servant,

JOHN GRAY, Capt.,
Toronto Field Battery.

Lieut.-Col. DURIE,
Deputy Adjutant General,
Military District No. 2.

MILITARY DISTRICT NO. 3.

DEPUTY ADJUTANT GENERAL'S OFFICE.

KINGSTON, December 10th, 1874.

SIR,—I have the honor to forward, herewith, for submission to the Major General commanding, a tabular statement (Form 106), of my inspections in Military District No. 3 after the annual drill for 1874-75, together with this Report of the state of the Active Militia therein under my command.

The force consists of the following corps:—

7 Troops of Cavalry.	
2 Field Batteries.....	} Artillery.
4 Garrison Batteries....	
10 Battalions or 64	} Infantry.
Companies.....	

The total strength of these corps, as by law allowed, is:—

Corps.	Officers.	N. C. O. and Men.	Horses.	Guns.
Cavalry.....	32	385	417	.....
Field Batteries.....	10	150	124	8
Garrison Batteries.....	12	220	.....	4
Infantry.....	272	3,530	50	.....
Total.....	326	4,285	591	12

In accordance with General Order (14) 3rd June, 1874, the nominal strength of each troop or company of Garrison Artillery, Cavalry, and Infantry, for the annual drill of 1874-75 was reduced to 42, exclusive of officers, and the total number entitled to drill under this order, was :—

Corps.	Officers.	N. C. O. and Men.	Horses.	Guns.
Cavalry, 7 Troops.....	27	294	321	.....
Field Batteries, 2 Batteries.....	10	150	124	8
Garrison Artillery, 4 Batteries.....	12	168	.....	4
Infantry, 10 Battalions.....	272	2,688	50	.....
Total.....	321	3,300	495	12

The numbers who have actually performed the drill, and have been mustered, inspected, and paid up to the 1st December, 1874, are :—

Corps.	Officers.	N. C. O. and Men.	Horses.	Guns.
Cavalry, 7 Troops.....	27	313	334	.....
2 Field Batteries.....	7	132	97	8
2 Garrison Batteries.....	6	76	.....	2
8 Infantry Battalions of 46 Companies.....	159	1,833	37	.....
Total.....	199	2,354	468	10

The excess of cavalry strength was caused by the mounted band of the Northumberland and Durham squadron being specially allowed in addition to the squadron strength.

The following corps have not yet performed their drill, viz. :—

The Port Hope and Trenton Garrison Batteries.

14th Battalion, 1 company.
 16th do 8 companies.
 45th do 3 do
 46th do 6 do

making a total of two Garrison Batteries of Artillery and eighteen Infantry companies who have failed to muster so far this year.

Two brigade camps were formed simultaneously at Kingston and Cobourg, on the 22nd June, 1874, for 12 days' drill, composed of corps in the two Brigade Divisions respectively.

The staff recommended and allowed for these camps was :—

1 Commandant.....	} For each camp.
1 Major of Brigade.....	
1 Supply Officer.....	
1 Camp Quartermaster.....	
1 Musketry Instructor.....	
1 Provost Sergeant.....	
1 Brigade Clerk.....	

The senior officer of Militia in each camp took command as Brigadier. The Artillery and Cavalry were under the senior officers of their respective arms. The staff was selected

by the Deputy Adjutant General commanding the district, and submitted for approval to headquarters at Ottawa.

The Kingston camp was composed of the following corps :—

- Artillery.—The Kingston Field Battery.
- 3 Troops Cavalry { The Frontenac Squadron.
Napanee Troop.
- 5 Battalions Infantry.. { 14th Princess of Wales' Own Rifles.
15th Argyle Light Infantry.
47th Frontenac Battalion.
48th Lennox and Addington Battalion.
49th Hastings Battalion.

Total strength of camp was :—

Officers	113
Non-Commissioned Officers and Men.....	1,360
Horses	203
Guns	4

Lieut.-Colonel A. Campbell of the 15th Battalion, "Argyle Light Infantry," from Belleville, being the senior officer in camp, commanded the whole. The immediate command of the cavalry was assumed by Lieut.-Col. John Duff, of the Frontenac Squadron.

Lieut.-Colonel Campbell's Report, marked A., is attached.

The strength of the camp as given above was the actual number present at muster when the District Paymaster, in my presence, called the rolls of every troop and company there assembled, and each officer, man and horse was viewed by me personally on that occasion.

The Cobourg camp was composed of the following corps :—

- Artillery.—The Durham Field Battery.
- 3 Troops Cavalry { The Northumberland and Durham Squadron.
Peterborough Troop.
- 3 Battalions Infantry... { 40th Northumberland Battalion.
45th West Durham do
57th Peterborough do

Total strength of this camp :—

Officers.....	77
Non-Commissioned Officers and Men.....	879
Horses	223
Guns	4

Lieut.-Colonel W. Smith, of the 40th Battalion, from Cobourg, being the senior officer present, commanded as Brigadier.

In the absence of Lieut.-Col. D'Arcy Boulton, of the Northumberland and Durham Squadron, then on leave in England, who is the senior officer of the Active Militia in the Military District No. 3, the immediate command of the cavalry in this camp devolved upon Lieut.-Col. Smart of the Port Hope Troop.

Lieut.-Colonel Smith's Report, marked B., is attached.

The same precautions were taken at this camp, as at Kingston, to ascertain the actual number present entitled to pay.

The other corps in this District who have performed annual drill at their own headquarters are :—

- The Picton troop of Cavalry.
- The Napanee and Cobourg Batteries of Garrison Artillery.

The total number of these mustered was :—

Officers.....	9
Non-Commissioned Officers and Men.....	115
Horses	42
Guns	2

Making with the camps a grand total of :—

Officers.....	199
Non-Commissioned Officers and Men.....	2,354
Horses.....	468
Guns.....	10

that have so far completed the drill for 1874-75, and have been mustered and paid.

As Deputy Adjutant General in command of the District, I gave my personal superintendence to these two camps alternately, and issued a scale of parades and exercises to be observed daily during the period of encampments, together with other orders for the better government of the force.

At Kingston the cost of supplies, in proportion to the numbers, was less than at Cobourg.

Tenders were obtained by public advertisement for the supply of rations, fuel and forage, and those accepted were approved by the Minister of Militia and Defence.

The contractors fulfilled their obligations to the satisfaction of the troops assembled.

The total amount recommended to be paid for these supplies at Kingston was \$3,745.91 $\frac{1}{8}$ and at Cobourg, \$3,473.18.

The cost of forage, per daily ration, at Kingston, was 40 cents; and at Cobourg, 48 cents.

The cost of men's rations (without fuel wood), at Kingston was 16 $\frac{1}{2}$ cents; and at Cobourg, 21 $\frac{1}{2}$ cents, per man, per diem.

The cost of fuel wood has not been taken into account in calculating the cost of daily rations, for the reason that a quantity of drift wood and old picketing was picked up in the vicinity of the camps which saved the men the labor of cutting up cordwood, and consequently the full allowance of cordwood was not drawn.

At Kingston 30 cords of wood were consumed at a cost of \$177, and at Cobourg 16 cords, costing \$96.

The total number of rations drawn during the camps was, at Kingston 15,812, and at Cobourg 10,385.

No complaints of any kind were made as to the quantity or quality of the supplies furnished.

Owing to the short period allowed for camp exercises, twelve days only, including the days of coming and going and Sundays, the target practice was necessarily limited to 15 rounds, per man. The practice was performed at three ranges, 200, 400 and 600 yards, at both camps, under the supervision of musketry instructors specially selected for that duty.

The returns of these officers will accompany this Report.

The cost of transport by waggon on the country roads, not traversed by railroads, amounted to \$338.04 for Kingston and \$142.45 for Cobourg.

The remainder of the transport for both camps was by rail or steamboat, and was furnished upon transport requisitions signed by me, and paid on demand by the Militia Department in Ottawa.

The 16th "Prince Edward" and the 46th "East Durham" Battalions, have not yet performed the annual drill for 1874-75.

The reason assigned by the 16th Battalion for neglecting to do so has not been made known to me.

The Lieut.-Colonel commanding the 46th Battalion reported that the last issue of clothing was worn out, and therefore the battalion could not appear in public. His application to be allowed to perform the drill at company headquarters was not approved.

These two battalions are amongst the best in the District.

The Garrison Batteries at Port Hope and Trenton have also failed as yet to put in their drill this year. No reason has been assigned.

The Commandant of the School of Gunnery at Kingston accompanied me on my inspection of the other two Garrison Batteries at Napanee and Cobourg. He examined them in garrison gun drill, and expressed approval of the manner in which the exercises

were performed by the gun detachments, and in which his questions were answered; but they were recommended to attend the School of Gunnery in future, and obtain a more perfect and extended knowledge of artillery duties than their own limited means of instruction now enable them to attain.

The total amount of money distributed amongst the several corps for efficient bands of music was:—

In the 6th Brigade Division.....	\$475
do 7th do	500

Total in the District..... \$975

The amount granted in aid of the Rifle Associations was \$225, as follows:—

6th Brigade Division.....	\$75
7th do	75
Hastings Association.....	75

Total..... \$225

The state of the arms and clothing reported upon in the tabular statement (Form 106 a.) refers to the equipment seen in the camps, and at the armouries of other corps only who performed drill and were inspected at their own headquarters, which is of course a portion only of the arms and clothing in possession of the force.

In the month of October a report was forwarded to me of the loss by fire of the clothing of No. 2 Company, 15th Battalion "Argyle Light Infantry," at Belleville, on the 3rd of that month. This clothing was kept by the captain in his office in the market building for their better preservation, while the arms and accoutrements of the company in the armoury were uninjured.

The report of the captain as sent to me is enclosed herewith.

The instructions issued for the recall of all arms and clothing in possession of the men are being carried out by commanding officers of corps, but up to the present date the half-yearly inspections by the Brigade Majors have not been completed, and I am therefore unable to make a more accurate report at present of the equipment generally.

I have the honor to be, Sir,

Your obedient servant,

S. P. JARVIS, Lieut.-Colonel,

Deputy Adjutant General, Military District No. 3.

The Deputy Adjutant General of Militia,
Ottawa.

[A.]

THE CAMP, KINGSTON, July, 3rd, 1874.

SIR,—I have the honor to report that the corps named in the margin have performed their annual drill, in the camp just ended, for 1874 and 1875, under my command, as officer commanding the 7th Brigade Division, according to the District Orders dated June 17th, 1874.

The Camp was laid out and was conducted in strict accordance with the regulations and orders for drill, guards, target practice, &c.

The brigade field movements were very creditably performed.

It affords me great pleasure to be able to report most satisfactorily on the conduct of every officer present, and that I was most ably seconded by the officers in command of battalions.

The target practice was most ably conducted under the superintendence of Captain Byrne, the Musketry Instructor.

The Supply Officer, Captain Gordon, was most attentive and diligent in the discharge of his onerous duties.

Cavalry.
Frontenac
Squadron.
Napanee
Troop.
Kingston
Field Battery.

Infantry.
14th Battalion
15th do
47th do
48th do
49th do

To the Brigade Major, Lieut.-Col. Phillips, I am indebted for much valuable aid and assistance in carrying out the various duties incident to the command intrusted to me.

The total actual strength of the force in camp is appended to this Report.

I have the honor to be, Sir,

Your obedient servant,

ALFRED A. CAMPBELL,

Lieut.-Col. Commanding Kingston Camp.

The Deputy Adjutant-General,
Commanding Military District No. 3,
Kingston.

[B.]

COBOURG, July 22nd, 1874.

SIR,—As senior officer and Commandant at the brigade camp for the present year, recently formed at Cobourg under the authority of District Orders, dated June 17th, 1874, I have the honor to report that the camp composed of the corps with commanding officers as named in the margin, was duly formed on the 22nd ultimo.

The ground, selected just outside the northern limits of the town, was well adapted to purposes of encampment, being convenient, cheerful and remarkably healthy; there being very few cases of sickness, and those of only the mildest type.

The drill and exercises were conducted, as nearly as possible, in accordance with the directions laid down in the District Order, and general camp duties and routine were carried on with as much strictness as can be in the case of raw troops brought together for so brief a period.

Of the general conduct of officers and men I cannot speak in too high terms, and, considering the shortness of the time afforded for actual work (only nine days, exclusive of Sunday and the days of marching in and out), and the comparatively large number of the recruits in the ranks, the progress in drill was very satisfactory. Indeed the change made in the Field Battery (at field drill for the first time) was something remarkable.

In this connection I might say that the reduction in the number of men per troop and company for drill purposes I strongly approve of, and would wish to see the reduction carried still further, provided it could be accompanied with a corresponding increase in the number of drills and the greater consequent efficiency of the company and battalion staffs.

The difficulty experienced in horsing volunteer batteries, a subject of general complaint amongst Artillery officers, was entirely absent in the case of the Durham Battery; indeed Captain Graham brought with him more than the regulation number of horses. With the battery there were some very fine teams, and in general its horses, and those of the cavalry in camp, were all that could be desired.

From the Brigade Staff I received every assistance, each of its members seemed the right man in the right place. The prompt and satisfactory issue of supplies by Captain Van Ingen could not have been better performed by any Control Officer in the regular service. Captain Johnston is a most painstaking and intelligent musketry instructor, and on this occasion proved the value of the special training received by him some years ago; while Major McDermid discharged the duties of Camp Quartermaster in a way that showed him to be a reliable and trustworthy officer.

The relationship existing between the Brigade Major and myself forbids

any reference to him, beyond the fact that the credit of any success arising from preliminary arrangements is altogether his.

To the officers commanding corps my thanks are due for the cheerful, ready, and soldier-like support which on all occasions I received from them.

The supplies were of the best that the season could afford. The meat, though thin, was always sweet and of good quality, and the bread, furnished by Shepherd, of Port Hope, was excellent. Indeed, as regards the supplies, no complaint whatever was made.

The transport arrangements, both by the Grand Trunk and by the Cobourg and Peterborough roads were all that could be desired, securing, as they did, early arrivals and departures.

There was no casualty of moment to report. The weather during the whole period was very pleasant, and on marching out all ranks seemed well satisfied with the camp and everything connected with it.

The payment of officers according to rank was appreciated, as was also the increase of ten cents a day in the pay of the rank and file.

With respect to the conveniences provided for the troops it may not be amiss to say that at the commencement of the camp a post office was established at the Brigade Office under the immediate charge of the Brigade Clerk, the transport branch of the service being performed by a mounted orderly, with mail bags kindly lent by Mr. Sykes the obliging Cobourg Postmaster. Postage stamps too were kept on sale, and everything done to secure prompt and satisfactory communication with home and friends.

The Montreal Telegraph Company, with characteristic enterprise and at no small expense, laid a wire in connection with the line on the Peterborough Railway, and established an office in one of our circular tents lent them for the purpose; this, I need hardly say, proved a great convenience to many.

I should fail in my duty did I not mention the very great pleasure and profit afforded to all ranks in camp by the Cobourg Young Men's Christian Association who, at considerable cost to themselves, erected a building on the ground, and supplied, gratis to all, an abundance of reading and a liberal stock of writing materials, with all necessary facilities for correspondence; and I am happy to say that very many of the men availed themselves of this kindness, and also attended in large numbers the evening religious meetings held in the Association building. I would recommend that an appropriation to assist and encourage this object should annually be placed in the Militia estimates, and that steps should be taken to give such certainty and permanence to these rooms as would make them a part of our camping system.

I beg to close this imperfect report by recommending that the month of June be *fixed* for the drill period in this section of the Dominion. All interests considered, no other month of the year is as convenient for the employer and employed, and no other month affords as good practical results in respect to the comfort of the men and the economy of the time set aside for the training. I have said that this month should be *fixed*, that is, the members of the force should, months before, know when and where the drill is to take place, so that arrangements may be made early, and the doubt and uncertainty of the past few years removed.

Accompanying are the target practice returns and a summary of the field states at your inspection on the 2nd July.

I have the honor to be, Sir,

Your obedient servant,

W. SMITH, Lt.-Col. 40th Batt.,

Commanding Camp.

The Deputy Adjt.-General,

Military District No. 3, Kingston, Ont.

MILITARY DISTRICT, No. 4.

DEPUTY ADJUTANT GENERAL'S OFFICE,
BROCKVILLE, 18th December, 1874.

SIR,—Pursuant to General Orders, dated 3rd January, 1874 I have the honor to submit this my annual report on the operations of the Active Militia in this District for the current year. I also enclose "Abstract Inspection Report" and "Brigade Target Practice Returns."

The total numbers which have performed the Annual Drill for 1874-75 are as follows :—

Officers 141, N. C. officers and men 1684, horses 226.

Total officers and men 1825.

Relieved by General Orders and special authority, from performing the annual drill, 453 officers and men.

A Brigade Camp was formed at Ottawa on the 22nd June, composed of the following corps and strength.

	N. C. Officers		
	Officers.	and men.	Horses.
Staff.....	6	6	6
<i>Cavalry.</i>			
Prescott Troop.....	3	42	42
Ottawa do	3	42	44
<i>Artillery.</i>			
Ottawa Field Battery.....	6	66	69
<i>Infantry and Rifles.</i>			
2 & 5 Cos., 18th Battalion.....	6	66	2
1, 2, 3, 4 & 5 Cos., 41st Battalion.....	15	188	3
2, 3, 5, 6 & 7 Cos., 42nd do	15	210	4
3 & 6 Cos., 43rd do	6	67	—
1, 2, 4 & 7 Cos., 56th do	13	156	2
1, 2, 3, 4, 5, 6 & 7 Cos., 59th do	22	295	4
	<hr/>	<hr/>	<hr/>
	95	1138	176

Total officers and men..... 1233.

The following corps performed the drill by special permission or under the orders relating to City corps.

	N. C. Officers		
	Officers.	and men.	Horses.
<i>Gananoque Field Battery.</i>			
In Camp at Local Head-Quarters.....	5	60	50
<i>1, 2, 4 & 6 Batteries, Ottawa.</i>			
Brigade Garrison Artillery at Local Head Quarters	15	156	—
<i>Governor General's Foot Guards.</i>			
(Special organization) do do say....	26	330	—
	<hr/>	<hr/>	<hr/>
	46	546	50
Total officers and men	592		
do do in Brigade camp.....	1233		176
	<hr/>		<hr/>
Total number drilled.....	1825		226

The following Batteries and Companies were allowed by General Orders, or by special permission, to dispense with drill for the present year.

	Officers	N. C. officers and men.
Nos. 3, 5 & 7 Batteries, Ottawa Brigade		
Garrison Artillery, say.....	9	126
Nos. 1, 2, 7 & 9 Cos., 43rd Battalion.....	12	168
Nos. 3, 5 & 6 Cos., 56th do 	12	126
	33	420
Total officers and men.....		453

Having witnessed for many years the great waste of ammunition by men being sent to the targets without sufficient (in many cases none whatever) instruction in position and aiming drill or the theoretical principles of Musketry Instruction, I deemed it best to order the course of Target practice to be confined to ten rounds per man, five to be fired at 200 yards and five at 400 yards, which number was accordingly fired by each man in camp. The great number of misses at these short ranges, is, I think, sufficient proof that the arrangement was a wise one, and trust it will meet with your approbation.

In addition to the tabular inspection returns, and target practice abstract herewith submitted, I have the honor to bring before your notice each corps in the District.

Cavalry.

Prescott Troop, Major Walsh, (on leave). Officers in camp, Lieut. Raney and Cornet Satchell; Ottawa Troop, Captain Sparks.

By special permission I secured the services of Lt.-Col. Lovelace to take charge of this arm of the service while in camp, consequently the two troops were formed into a squadron and placed under that officers command, to whose efficiency and exertions, ably assisted by the zealous officers of the respective troops, is due, for the marked improvement and general efficiency attained. Both officers, non-commissioned officers and troopers are zealous workers, clean and soldierly. The horses are very fair, and improvement in drill as detailed in tabular return very satisfactory.

Artillery.

Ottawa Field Battery,—Captain Stewart.

This Battery mustered in its usual efficient manner, and carried out the ordinary camp duties, taking part in all field days, route marches etc., but owing to the large number of rafts in the Ottawa River, it was impossible to carry out the usual course of shot and shell practice. The inspection of this corps was made by the Assistant Inspector of Artillery.

I may here mention that on my recommendation, Lieut. Harris, O. B. G. A., was appointed Veterinary-Surgeon for this encampment. His services were highly appreciated, and by the inspection and treatment of all horses in camp, prevented any claims for sickness or injury, consequently much trouble and expense was doubtless saved. Now that we have such a large number of horses going through drill annually, I think a Veterinary-Surgeon should be appointed to either the cavalry or artillery of the District.

Gananoque Field Battery, Captain McKenzie.

This corps is in possession of part of the necessary equipment only, viz :—Three guns and one Howitzer with carriages and limbers, (no caissons). Harness for twenty four horses, saddlery for the non-commissioned officers and clothing complete. As these stores were not issued until towards the end of the summer, permission was given for the annual drill to be performed in camp at local head-quarters. The camp was formed on the first day of September, and continued for twelve days, during which, shot and shell practice was carried out at 1,000 yards and 1,700 yards. Best shot in Battery, Gunner Birmingham.

The inspection was made by the Assistant Inspector of Artillery, accompanied by the Brigade Major of the Division, the latter officer reported everything correct regular and satisfactory.

Previous to the encampment I personally inspected the harness and store rooms, and found the harness correctly put up and properly cared for and other stores in good order. Captain McKenzie deserves special mention for the energy displayed in the organization of this Battery.

Ottawa Brigade Garrison Artillery.—Lieut.-Col. Egleson.

The city Batteries (Nos. 1, 2, 4 and 6) performed the drill under the general orders relating to city corps, at local head-quarters; Nos. 3 and 5 Batteries being rural corps, had special permission to dispense with drill for the present year; No. 7. Battery performed no drill. I inspected the four batteries on the 11th December, (extension of time being authorized). The men paraded clean and soldierly, and performed proving in fours and manual exercise indifferently. A detachment from each Battery performed big gun drill satisfactorily.

I noticed an improvement in the physique of the men, and the *morale* is evidently improving. The officers are zealous, and I have no doubt but the whole Brigade will be efficiently organized in time for next year's annual drill.

The Band of twenty-six musicians is very efficient and reflects much credit on the corps.

Owing to the impossibility of the officers leaving their civil occupations to attend the school of gunnery, promotion has come to a stand, which is operating very injuriously. If an instructor were sent to the corps from "A" Battery for a few months, and if the assistant inspector of artillery could, during that period deliver a few lectures to the officers, there is no doubt but they could prove their efficiency sufficient to ensure their promotion, I therefore trust that some means may be devised to overcome this difficulty.

I am not in favour of corps performing drill at local head-quarters, but where instruction in big gun drill is necessary, this cannot well be avoided in this district. But as Garrison Artillery require to understand Battalion drill as well as big gun, I think that an annual drill performed occasionally in brigade camp would be advantageous to the corps, as well as to the District at large.

I take the liberty of again calling attention to the very inadequate Drill Shed accommodation at Ottawa. The armories are very open and the roofs leak in winter, the drill room is quite too small, and from its peculiar construction is not adapted to the purpose intended. The force at the capital is, I think, deserving of much better accommodation.

Infantry and Rifle Corps.

The Governor General's Foot Guards (6 comps.) are organized under special regulations, and communicate direct with head-quarters; but I presume that they are on the numerical strength of this District, consequently I have added their number to the total strength. Although I have not officially inspected this corps, I have seen sufficient of it to know that it is well organized, and presents a fine soldierly appearance on parade.

18th Battalion (Inft.) County of Prescott, (6 companies.)—Lieut.-Col. Urquhart.

This Battalion has not mustered since September, 1871 (at which time it was one of the best in the District) consequently it is now very much disorganized, a special report on this subject was forwarded some time ago.

Nos. 3 and 5 companies were present in camp this year, and were attached for drill and discipline to the 42nd Battalion, I may add that, these two companies were present at the previous Brigade Camp.

41st Battalion, Brockville Rifles (6 companies.)—Lieut.-Col. Cole.

This battalion was present in camp, except No. 6 company which failed to join. This I attribute more to the officers than the men, several of whom assembled but could get no officer to take charge. This has been fully reported, and as an effort has been made to secure a change of Officers without avail, no doubt the company will have to be disbanded.

The five companies mustered fairly, but like the generality of corps were largely composed of recruits. The physique however, was, so far as I could judge, better than last year. This may be said of all corps in camp. The drill as detailed in tabular return was very fair and general improvement satisfactory. There was an efficient Band attached.

42nd Battalion, Brockville Infantry (7 companies.)—Lieut.-Col. Buell.

Five companies of this corps joined the camp, Nos. 1 and 4 Companies failing to do so. These last two companies have however, been re-organized, and there is every reason to believe that in future they will be present when required.

This battalion was likewise largely composed of recruits, but maintained its former reputation for cleanliness and soldierly appearance. No. 7 Company (Peubroke) deserves special mention for their general appearance and efficiency. The drill, as detailed in tabular return, was fair, and general efficiency satisfactory. There was a good band attached.

43rd Battalion, County Carleton Infantry, (6 companies.)—Lieut.-Col. Bearman.

Only Nos. 3 and 6 Companies joined the camp. The remaining companies were relieved from performing the present year's drill by general orders. These two companies were attached to the 42nd Battalion for drill and discipline, and united with the two companies of the 18th Battalion for rations. The men are not clean or soldierly in their habits, and there appears to be a want of *esprit-de-corps*. I fear the officers do not sufficiently inculcate (by advice and example) discipline and implicit obedience to orders. The improvement in drill, however, was much more satisfactory than on some former occasions. There was an efficient band with these companies.

56th Battalion, County Grenville, "Lisgar Rifles," (7 companies.)—Lieut.-Col. Jessup.

Nos. 1, 2, 4 and 7 Companies joined the camp, Nos. 3, 5 and 6 Companies were relieved by general orders from performing the present year's drill.

The interior economy of this battalion is good, and although composed like all other corps, of many recruits, a certain amount of *esprit-de-corps* is always maintained. The drill, as detailed in tabular return, was fairly executed. No. 7 Co. (Spencerville) was particularly good. No band was present this year.

59th Battalion, Stormont and Glengarry Infantry. (7 companies.)—Lieut.-Col. Bergin.

This corps turned out with every company full, but were composed principally of recruits. The progress in drill was steady and fair, and through the energy of the officers the men improved very much in cleanliness and soldierly appearance. The drills as detailed in tabular return, was fairly executed. There was an efficient band attached.

The whole force attended divine service on the Sunday in camp. His Lordship the Bishop of Ontario, assisted by the Rev. Dr. Jones, kindly held a special military service on the field for all Protestants, at which time the Rev. Dr. Jones distributed gratuitously to the men, about seven or eight hundred hymns and responses.

The Rev. Father Pallier held a special service in St. Joseph's Church for the Roman Catholics.

The duties in camp were carried out (so far as practicable) in accordance with the regulations for the annual drill for 1872-73. Many persons visited the camp during the

period, including several Ministers of the Crown, viz : Honorables Messrs Mackenzie, Scott, Ross (Minister of Militia), and others who I cannot name; also Lieut.-Colonels Powell, Fletcher (Military Secretary), Macpherson, Wily, Brunell, Ross, and many others.

On the 1st July (Dominion day) the Brigade was inspected by the Acting Adjutant-General, Lieut.-Col. Powell, at which time there was a general field day and march out.

This was witnessed by a large concourse of people, and I think passed off satisfactorily, showing conclusively that the short period of drill had been utilized to the fullest extent.

I notice a general falling off in the average shooting of the brigade, which is doubtless attributable to the large number of recruits who receive no preliminary drill or instruction in the theoretical principals of musketry. I cannot well see how this may be obviated under our present system of drill, unless sending more competent instructors to the several companies, and distributing an annual money grant as prizes *direct* to the companies, under such regulations as will induce the greater number of non-commissioned officers and men to attend practice at their company head-quarters. Ammunition should be supplied, and no man allowed to take more than one or two prizes, and the officers excluded altogether. I think some such system as this would induce a large percentage of the men to practice. At present only a very few men who have the name of being "crack shots" attend the prize meetings of the organizations now in existence.

Best shot in District during this year's course, Private W. Atcheson, No. 1 Company, 56th Battalion, 32 points.

District average figure of merit 9,76—(For names of best shots and other averages I refer you to the District Target Practice Returns.)

The health of the men while in camp was, on the whole, excellent. Two accidents of a rather serious nature however occurred—one man had his ear shot off, and one got his own bayonet run through his leg while skirmishing. This latter was a very unusual occurrence, and could not be attributed to carelessness. I at the time convened Boards of officers to enquire into the particulars of these cases, whose reports have already been forwarded.

The General Hospital at Ottawa proved of great value to us, four severe cases had to be sent there, for which the charges were very moderate.

The discipline on the whole was fair, but it was necessary to have a regimental court martial on one man, who was sentenced to thirty days imprisonment at hard labour. This sentence was carried out in the common gaol of the County of Carleton.

It being actually necessary that the men have a meal after reaching camp on the first day, I think authority should be given to issue a sufficient quantity of rations for that purpose. As many companies do not require the full ration on the last day, the officer commanding the camp might be authorized to issue on that day such quantity as he may consider actually necessary. By this arrangement the twenty five cents in lieu of rations on the first day would cover the deficiency of rations on the last day, and the stoppages would ensure the Department against loss.

The present forage cap is neither suitable for summer or winter, and as it is held in utter contempt by the great majority of the men it becomes a serious matter of discipline to enforce its use.

It becomes my painful duty to report the death, on the 28th November, of Lieut.-Col. Duncan MacDougall, District Paymaster of this District, and favourably known throughout Ontario as having occupied several important positions in connection with the Active Militia, during a period of about nineteen years.

Major Mattice, Brigade Major, and the following officers who were appointed temporarily to serve on the Staff, viz : Captain Butterfield, Supply Officer; Captain Weatherley, Musketry Instructor; Captain Jones, Camp Quarter-Master, and Lieutenant Supple, Orderly Officer, rendered me valuable assistance during the encampment.

During the past few years there has been so much said and written on the subject of improving the Militia system, that one might well be deterred from alluding to so important a matter, but as has heretofore been the custom, in compliance with the instructions of the

late Adjutant-General, and as I think considerable improvement can be made without any radical change in our present system or organization, I venture to submit for consideration the annexed crude memorandum.

I have the honor to be, Sir,

Your most obedient servant,

W. H. JACKSON, Lieut.-Col.,

Deputy Adjutant General, Military District No. 4.

The Deputy Adjutant General of Militia.
Ottawa.

Memorandum.

Since the departure of the Imperial troops, the Active Militia in the greater part of Canada have had no pattern soldier to copy, and if this state of things is allowed to continue for a long period, the force must necessarily, under our present system of short drills, very much deteriorate. In order to obviate this difficulty, so far as practicable without a large increase of expenditure, the following is suggested.

Abolish the present system of company drill instruction and care of arms, in lieu of which, give each captain (who should be bound, as at present, to provide a properly fitted up armory) fifty dollars per annum.

Appoint from the regular army, one paid non commissioned officer (married if possible) to each corps or battalion, as drill instructor and caretaker. It would be his duty to take general supervision of all stores, and keep all arms, &c. clean; to be constantly in uniform, moving about between the several company head-quarters, cleaning and regulating the whole of the Government stores at each visit.

The appearance of even this small number of regular soldiers constantly moving about the country, would naturally foster and keep alive a military spirit among our rural population, as well as act as a pattern for the volunteers. The expense would be but little, if any, in excess of the present system, and a large annual saving would be effected by preventing deterioration in battalion stores. Considerable drill and target practice would doubtless be carried out at company head-quarters, which at present is wholly neglected, and there is no doubt whatever but the efficiency of the force would be much increased. The system to apply to all arms of the service.

In order that these instructors might not lose their soldierly appearance, habits and efficiency, it is proposed that they be assembled annually, and attached to "A" and "B" Batteries for one month, to go through a course of drill and instruction.

An increase of pay to the rank and file, would, in the opinion of a great majority of the officers, facilitate recruiting, as also tend to secure a better class of men. In fact, it appears to many that if the force is to be maintained wholly by volunteering that this is actually necessary.

W. H. JACKSON, Lieut.-Col.,
Deputy Adjutant General, Military District No. 4.

MILITARY DISTRICT No. 5.

HEAD QUARTERS, MONTREAL,

16th December, 1874.

SIR,—I have the honor to report that all the corps in the District not precluded from drilling by the General Order of June 2nd, 1874, have, with the exception of the companies named below, performed the annual drill for 1874-75, as follows:—

1ST BRIGADE DIVISION.

The St. Andrew's Troop of Cavalry, and 11th Battalion "Argenteuil Rangers," drilled

in camp at St. Andrew's under the command of Lieut.-Col. Bacon, Brigade Major. These corps went into camp on the 29th June, and drilled for 12 days. The camp was pitched on a suitable piece of ground on Mr. Simpson's farm, where a good supply of water was available; good order and discipline was maintained during the camp. The corps mustered: Cavalry, 3 officers, 40 non-commissioned officers and men and 43 horses; 11th Battalion, 17 officers and 198 non-commissioned officers and men. Officers and men presented a fine soldierly appearance at inspection. The cavalry were well mounted; they drilled as a squadron, and went through the movements and sword exercise in a creditable manner. The infantry showed good proficiency in drill; the parade, field movements and skirmishing were well done. The rations were of good quality, and gave satisfaction. 20 rounds per man were fired at target practice.

The City Corps in Montreal drilled at their own headquarters, and mustered stronger than they did during the previous year; a healthy spirit exists this year in the Montreal force—the corps are all full, and two additional companies each are offered to be raised for the 1st Battalion (or Prince of Wales' Rifles) and 6th Battalion (Hochelaga Light Infantry). The corps belonging to Military District No. 5, viz.: Troop of Cavalry, Brigade Garrison Artillery, No. 1 Company Engineers, 1st Battalion Prince of Wales' Rifles, 3rd Battalion Victoria Rifles and 6th Battalion Hochelaga Light Infantry, paraded under the command of Lieut.-Col. Bacon in the afternoon of the 14th November, for the inspection of the Major-General commanding the Militia. They turned out strong considering the busy season, and looked well and soldier-like; the General was pleased to compliment them upon their appearance. The bands of the Garrison Artillery, 1st, 3rd and 6th Battalions were present, and added to the effect of the parade. These bands are all in an efficient state.

The Field Battery of Artillery did not parade, owing to the illness of the officer commanding, and one of the subalterns; this cause has also prevented the battery from performing field drill. The corps has gone through gun drill in all its details.

The strength of the City Corps at annual drill is as follows:—

	Officers.	N. C. Officers and Men.	Horses.
Cavalry	2	28	30
Field Battery	3	72	...
Brigade Garrison Artillery	15	192	4
No. 1 Company Engineers.....	2	40	...
1st Battalion Prince of Wales' Rifles....	18	244	5
3rd Battalion Victoria Volunteer Rifles.	13	193	4
6th Battalion Hochelaga Light Infantry.	13	175	3
Total.....	66	944	46

Independent Companies.

The Aylwin Infantry Company drilled at its own head quarters, and also the Wakefield Infantry Company; they were both inspected by Lieut.-Col. Bacon on the 21st and 28th September respectively, and reported efficient. Their strength was:—

Aylwin Company, 2 officers and 46 men

Wakefield Company, 2 officers and 34 men.

2ND BRIGADE DIVISION.

A brigade camp of all the corps in the 2nd Brigade Division (with the exception of the St. John's Battery of Garrison Artillery) was formed at Laprairie on the 14th September. The camp was under the command of the Deputy Adjutant-General of the District. The tents were pitched on the rising ground above the barracks. The staff officers, were efficient in the discharge of their duties. The thanks of the commanding

officer are given to Major Hon M. Aylmer, Brigade Major ; Lieut.-Col. McLeod Moore, Camp Quarter-Master ; Captain Smith, Supply Officer ; Major Maclaren, Orderly Officer ; and Captain Atkinson, Instructor of Musketry, for their valuable services in carrying on the duties. The officers commanding corps gave their willing aid in maintaining order and discipline through the camp. The liberal scale of rations allowed by the department was found ample for the sustenance of the men. The quality of the rations furnished was good. The corps made good progress in drill ; special attention was given to the instruction of the infantry in skirmishing, advance and rear guards, and guard mounting. The target practice was efficiently carried through under the superintendence of the Instructor ; ten rounds per man was fired. The three troops of cavalry were under the command of Lieut.-Col. Lovelace, and were well mounted. The good progress made by these troops, as shown at the field day, held on the last day of the camp, proved that the officers and men had profited largely by the instruction given by their commander. The Shefford Field Battery, under the command of Major Amyrauld, marched into camp in full strength, with their complete camp equipage, a distance of fifty-six miles, over rough roads. The officers and men of the battery were unceasing in their attention to drill and duty. The gun practice was very good, particularly at the long range ; the battery was inspected by Lieut.-Col. Strange, R.A., Inspector of Artillery, who expressed himself well pleased with the efficient state of the corps.

On the day before breaking camp a field day was held. The brigade movements were well done ; the skirmishing and firing showed that the officers and men understood the object of that important part of drill. The want of good buglers was greatly felt on this occasion ; this want is felt throughout the District.

The weather for part of the time was wet and cold. The end of September is too late in the season for holding camps, — besides, it interferes with the harvest.

The following is the strength of the corps in camp :—

	Officers.	N. C. Officers and men.	Horses.
Huntingdon Troop of Cavalry.....	3	35	38
Missisquoi do	3	35	38
Brome do	3	35	38
Shefford Field Battery	5	60	56
21st Battalion.....	4	46	..
50th do	16	122	4
51st do	25	302	5
52nd do	21	213	4
60th do	18	222	4
79th do	26	248	5
Total	124	1,318	192

The only corps in this Division that drilled at its head quarters was the St. John's Battery of Garrison Artillery. This battery is in a good state of efficiency ; it was inspected by Lieut.-Col. Strange, who will no doubt report as to its state. 3 officers and 40 non-commissioned officers and men performed the annual drill. A course of target practice was gone through with : 30 rounds per man were fired.

3RD BRIGADE DIVISION.

The annual drill of corps in this Brigade was performed in three camps, in October, at the following places :—Melbourne, Cookshire and Stanstead. The camp at Melbourne was composed of three companies of the 54th Battalion, under the command of Lieut.-Col. Lord Aylmer, numbering 12 officers and 106 non-commissioned officers and men. The camp was in good order, the men looked well, and at inspection showed good progress in drill. Target practice was carried on ; 15 rounds per man were fired. This battalion is famed as a good shooting corps. The waist belts of two of the companies are old—some

of them unfit for service. Two companies of the battalion were not allowed by the General Order of June 2nd to drill this year, and one company failed to muster for drill.

The camp at Cookshire was composed of nine companies of the 58th Battalion, and one company of the 53rd Battalion, mustering in all 30 officers and 406 non-commissioned officers and men, under the command of Lieut.-Col. Cook of the 58th. The camp was held in a fine field on the farm of the officer commanding the camp; a clear brook running through the farm supplied the camp with good water. The camp presented a good appearance—everything in order about it—the companies were full and are composed of active able-bodied men, mostly farmers. At inspection battalion drill was fairly performed, but skirmishing had not been practiced; this most necessary part of drill seems to be lost sight of by many of the corps, owing, no doubt, to a lack of knowledge of the practice and principles of the drill on the part of the officers. Target practice was carried out: 10 rounds per man were fired.

The camp at Stanstead was formed of cavalry, four troops, viz., the Cookshire, Sherbrooke, Stanstead and Compton Troops. They work together as a provisional regiment, under the command of Major Taylor, who commanded the camp. Lieut.-Col. Lovelace was drill instructor. The strength of the camp was 11 officers, 155 non-commissioned officers and men, and 166 horses. The members of these troops are all able, active and intelligent men. They are well mounted; some of the horses were very fine. The corps made a fine appearance at inspection—troop and squadron movements and sword exercise were performed very creditably. The men went through a course of target practice, of 10 rounds per man. The swords and belts of the Sherbrooke Troop are old and unfit for service; I beg to recommend that they be exchanged for new ones. The weather was cold and wet during the camp, and the horses suffered from exposure at night; the season was too late for camping—October weather cannot be depended on.

It would be well if all the troops in the District were formed into a regiment, to be known as the "5th District Regiment of Cavalry." The regiment could easily assemble in camp at some central place for the annual drill. Such a camp would give the officers and men a more thorough and extended knowledge of cavalry drill and duties than when working in small bodies.

Recapitulation of strength of corps at annual drill by Brigades :—

FIRST BRIGADE.

	Officers and Men,	Horses,
Cavalry.....	73	73
Artillery.....	282	4
Engineers.....	42	00
Rifles and Infantry.....	955	16
Total.....	1,352	93

SECOND BRIGADE.

Cavalry.....	114	114
Artillery.....	108	86
Infantry.....	1,273	27
Total.....	1,495	197

THIRD BRIGADE.

Cavalry.....	166	166
Infantry.....	554	7
Total.....	720	173

TOTAL DRILLED IN THE DISTRICT.

	Officers and Men.	Horses.
Cavalry	353	353
Artillery.....	390	60
Engineers.....	42	00
Rifles and Infantry.....	2,782	50
Total.....	3,567	463

List of companies that were not allowed to drill by the General Order of the 2nd June, 1874:—

- No. 4 Company, 11th Battalion.
- Nos. 2 and 5 Companies, 50th Battalion.
- Nos. 1 and 2 do 54th do
- Drummondville Company.
- Eardley Company,

seven in all.

The following companies were permitted to drill, but failed to muster for annual drill:—

- Sherbrooke Battery Garrison Artillery.
- No. 2 Company, Engineers, Montreal.
- No. 8 do 11th Battalion.
- Nos. 3 and 4 Companies, 21st Battalion.
- No. 8 Company, 50th Battalion.
- Nos. 1, 2, 3, 4 and 5 Companies, 53rd Battalion.
- No. 3 Company, 54th Battalion.
- No. 8 do 58th do

13 Companies in all.

The reasons given for the non-attendance of the rural companies at camp, are that the late harvest prevented the men from mustering for drill; but no excuse can be given for the failure to drill of the Sherbrooke Battalion and No. 2 Company, Engineers, Montreal.

GENERAL REMARKS.

State of the Arms, Accoutrements and Clothing.

The arms and accoutrements are in a fair state and serviceable order, with the exception of a few rifles in each of the country corps that need repairing. The most economical way of getting them repaired would be to send an armorer through the District, and have the work done at the armouries. If battalion sheds and armouries were erected at the headquarters of battalions, and the arms and stores placed there under the charge of a paid officer, the arms would be better kept than they possibly can be, scattered about as they are in the company armouries. A paid adjutant or instructor to such country battalion would be a benefit to the force; such an officer could take the responsibility of looking after the arms and stores, and make the system of drill more uniform and efficient through the battalions.

Clothing.

The serge trousers issued now are supposed to last three years, but it is found by experience that they will not last over two years' service in camp; the consequence is, that in the third year the men are without military trowsers. Another cause of complaint is, that new men joining a corps will not take an old pair of trousers; no objection is made to wearing an old great-coat or tunic. Serge trowsers would be required to be renewed every two years to corps that perform their annual drill in camp. The serge

cap in use is not liked, it is unshapely and gives no protection to the eyes. The best head dress, if it was not too expensive, would be a light helmet, it would last longer than the forage cap.

It is noticed in some of the corps, that newly appointed officers are often dilatory in procuring their uniforms, swords and belts; it would be well if an order was issued, defining a time after their appointment to provide themselves with their proper equipment.

Drill Sheds.

The corps in Montreal suffer at present for want of a drill shed. The corps have had to drill in such rooms and places as their commanding officers were fortunate enough to get their corps into; in many cases at a distance from the armouries, obliging the men to go a long way for their arms, march to their drill rooms, and then back again to the armoury with the arms. Notwithstanding these discouragements, the city corps have maintained their organization with spirit, and performed their drill efficiently and with increased strength. A cheap form of roof, with a double row of supports, could be put on the drill shed, but so far the corporation have not shown any disposition to re-roof the building. It is to be hoped that a proper shed or sheds will be erected, to enable the corps to perform their drill for 1875.

A gun and drill shed is required at Granby for the Shefford Field Battery and headquarters of the 79th Battalion. The village corporation have offered willingly to do their share of the work and expense of building the shed; they are waiting now the action of the Department of Militia and Defence on their application for a grant of money.

Rifle Associations.

There are ten Rifle Associations carried on efficiently in the District. These Associations have been proved by twelve years' experience to be one of the best means of keeping alive the volunteer movement, and of teaching the men the value of the excellent weapon placed in their hands. A large proportion of the competitors at the Quebec Provincial Matches are from the 5th District, and some of the most successful at the Dominion Matches at Ottawa were from the border men of the District. One of them, Ensign Wright, of the 50th "Huntingdon Borderers," carried off the Dominion prize; and Lieutenant Whitman, 60th Battalion, Missisquoi Infantry, took the Governor General's medal.

I take this opportunity of reporting, for your favourable consideration, the very able and cordial support received by me from the Staff Officers of the District, and to express my heartfelt thanks to them for their efficient aid in carrying on the work of the District: Lieut.-Col. King, Brigade Major; Lieut.-Col. Bacon, Brigade Major; Major Hon. M. Aylmer, Brigade Major, and Major Amyrauld, District Paymaster.

I have the honor to be, Sir,

Your obedient servant,

JOHN FLETCHER, Lieut.-Col.,

Deputy Adjutant General, Commanding Mil. Dis. No. 5.

MILITARY DISTRICT No. 6.

MONTREAL, 11th December, 1874.

SIR,—In forwarding you my report for the present year, on the state of the Militia in Military District No. 6, under my command, I have little or no change of importance to note.

In the 4th Brigade Division, the battalion of Beauharnois, under Lieut.-Col. Rodier; the Beauharnois Company (Independent), Captain Beaudry; the St. Jean

Baptiste Independent Company, Captain Simpson, have not performed their drill for this year.

The 65th Battalion "Voltigeurs de Mont Royal," under Lieut.-Col. Beaudry, have performed their annual drill at their own headquarters. They were inspected by me on the 24th November last. There were present at inspection—236 non-commissioned officers and men, and 16 officers. Many of the men wanted part of their uniforms.

The movements gone through at inspection were,—the general salute, marching past, manual and firing, breaking into column and wheeling into line, closing column on the right, and opening column from the right company.

These movements would have been better performed had the volunteers in Montreal a good drill shed. This battalion was forced to drill in a small room of the old barracks, and the day I inspected it we took possession, for the occasion, of the large hall on the Bonsecours Market. Without this change of locality it would have been impossible for the battalion ever to have formed into line in the small room of the old barracks.

It is a great pity that a great city like Montreal should be without a drill shed.

The old drill shed was the *point de ralliement* of the volunteers in bye-gone days. There they met every evening, either for drill, hearing of the bands, or for other purposes—but still, there they met. Then the "uniform" could be seen every evening. In those days one could feel that there existed such a thing as a Volunteer Force in Montreal. Since the fall of the drill shed the spirit of "Volunteerism" seems to have been crushed with it. The use and advantage of the drill shed were never so well understood as now that it is no more.

On the 16th July last, the 76th Battalion, Lieut.-Col. Rodier, was inspected at Ste. Martine. They performed their drill in camp. There were present at inspection—189 non-commissioned officers and men, and 17 officers. General movements; drill fair.

On the 30th November last the Independent Infantry Company of Laprairie, Captain Brosseau, was inspected. Present at inspection—41 non-commissioned officers and men, and three officers. This company is very efficient and well drilled.

The nature of the movements at inspection were,—General salute, manual and firing—proving and inspecting a company, counter marching, company square, forming right and left, wheelings. This company is certainly a credit to the force.

The volunteer spirit is still alive within the hearts of the inhabitants of the flourishing village of Laprairie, for offers are made for immediately raising a whole battalion, and also a "troop of cavalry," if the Government will consent. I strongly recommend Government to accept these offers, and I feel assured that one of the finest and most efficient battalions and "troop of cavalry" can be raised in that section of the country.

On the 17th July last, I inspected the Joliette camp, under command of Lieut.-Col. Hanson, Brigade Major. This camp was formed of two Provisional Battalions and two Independent Companies.

The Joliette Provisional Battalion of four companies, under command of Major Shepherd. Present at inspection—146 non-commissioned officers and men and 13 officers.

Three Rivers Provisional Battalion, under command of Major Lambert. Present at inspection—144 non-commissioned officers and men, and 13 officers.

Independent Companies of Rawdon—No. 1, Captain Quinn. Present at inspection—40 non-commissioned officers and men, and three officers; No. 2, Captain Sharp. Present at inspection—41 non-commissioned officers and men, and three officers.

Nature of movements at the inspection of the camp: General salute, marching past, manual and firing, column and line movements, skirmishing. I regret to have to report one serious accident at this camp. One poor young man was lost by drowning. He went to bathe without permission—fell in deep water and was lost. The general conduct of the different corps at this camp was, I am happy to say, very good.

In the 6th Brigade Division, the 55th Battalion, Lieut.-Col. King, was inspected on the 7th July last.

The battalion drilled in camp, was composed of six companies; but one, the No. 5,

Captain Blanchard, did not drill. Present at inspection—non-commissioned officers and men, 194, and 16 officers.

Nature of movements: General salute, marching past, manual and ring, column and line movements, skirmishing. General conduct of corps, good.

The four companies of the Provisional Battalion of St. Hyacinthe drilled at their own respective headquarters, and were inspected at different epochs in the month of October last.

Present at inspection in the No. 1 Company, Captain Doherty—40 non-commissioned officers and men, and two officers.

No. 2 Company, Captain Morin—34 non-commissioned officers and men, and three officers.

No. 3 Company, Captain Sylvestre—40 non-commissioned officers and men, and three officers.

No. 4 Company, Captain Paternaude—37 non-commissioned officers and men, and two officers.

Nature of movements: Squad and company movements, manual and firing, skirmishing. The arms and accoutrements are good, but clothing is wanted.

On the 5th of November last the Company of Captain Beaubien was inspected. Present at inspection—non-commissioned officers and men, 40, and two officers.

On the 6th November the Company of Captain Pratte was inspected at St. Gregoire. Present at inspection—non-commissioned officers and men, 35, and three officers.

On the 4th November the Company of Nicolet, Captain Giroux, was inspected. Present at inspection—non-commissioned officers and men, 36, and three officers.

On the 7th November the Company of Becancour, Captain Landry, was inspected. Present at inspection—non-commissioned officers and men, 40, and two officers.

On the 8th November the Company of Gentilly, Captain de Foy, was inspected. Present at inspection—non-commissioned officers and men, 39, and two officers.

On the same day the company of St. Gertrude, Captain Moussette, was inspected. Present at inspection—non-commissioned officers and men, 40, and two officers.

Five other Independent Companies, that is to say, the Companies of Wolfeston, Captain Baron; of Wotton, Captain Richard; of Arthabaskaville, Captain Quesnel; of St. Norbert, Captain Roy; and of Bulstrode, Captain Dauth, have not as yet performed their drill for this year.

It is useless to repeat here all I have said in former reports upon the urgent necessity of enforcing the ballot; still I cannot refrain from remarking here that in a case where a volunteer company cannot be kept up to its nominal strength, the captain should be allowed to ballot from the reserve for the men wanting to complete the number.

I remain, Sir,

Your obedient servant,

A. C. DELOTBINIERE-HARWOOD, Lieut.-Col.,
Deputy Adjt.-General, Mil. Dis. No. 6.

The Deputy Adjutant-General at
Headquarters, Ottawa.

MILITARY DISTRICT No. 7.

QUEBEC, 12th December, 1874.

SIR,—I have the honor to forward herewith enclosed, in the absence by sickness of the Deputy Adjutant General Commanding Military District No. 7, the tabular report of inspections of Corps for annual drill of 1874-75. These inspections were made by

the Deputy Adjutant-General and the Brigade Majors, whose reports in writing are hereunto annexed. I have refrained from making a detailed report of the brigade camps which took place this summer, as I was not personally concerned in any of them, and that the inspections of these different camps were made by the Deputy Adjutant-General in person, who was in position to judge of the beneficial results likely to accrue by their future formation.

I have also included the reports made from time to time by the Brigade Majors since the 1st of January, 1874. I beg to state that during the divisional camps of 1872, an inspection of the whole of the arms of the division was made by the Armourer Sergeant attached to "B" Battery School of Gunnery, who noted all the deficiencies and repairs necessary to be made to those arms. Since then no orders have been received to have them returned into stores for repairs.

Deficiencies.

A good many articles issued to volunteer corps have been lost or injured, and this may be attributed greatly to the carelessness and inexperience of raw recruits. Most deficiencies have been caused during the several camps of exercises, and in going and returning from these camps; and no means have been found available for the recovery of the same, in consequence of the men being paid before leaving camp. The captains of companies have been unable to recover missing articles, and therefore are held responsible for deficiencies. The only means, if I may be allowed to suggest to prevent further losses of Government property, would be to build, at each battalion head-quarters, suitable armouries where all the arms and other stores belonging to the battalion would be kept and safely guarded by proper care-takers appointed and paid by the Government.

Musketry Instruction.

The period for musketry training is extremely short, and very little time can be consecrated to the preliminary drill. I would recommend that in future militia corps should be made to undergo the recruit training at musketry instruction, and not be allowed to fire at any but the following distances, viz: 50, 100, 150 and 200 yards, five rounds at each distance. Any man proving himself a good shot, and making 36 points, to be allowed to pass in the second class and to fire at greater distances. The general average heretofore made by corps will convince the most sceptical of the necessity of improving the training of our militiamen at target practice. Up to this period no marked advantage has been derived from target practice in camp or at head-quarters, and crack shots who have been able to give themselves the luxury of extra ammunition, have solely reaped benefits. This individual firing I do not consider advantageous, and likely to create emulation among the militia force in general. Some means must be obtained to put within reach of every militiaman the many advantages hitherto in the hands of their more fortunate comrades. Good shots in remote rural parts who could compete at the different rifle meetings are prevented from doing so on account of heavy expenditure to be incurred in travelling there and back.

Gaspé Battery of Garrison Artillery.

Before concluding my report I beg to remark that the battery of Garrison Artillery at Gaspé Basin, although formed for more than a year, has not yet received guns, stores and ammunition necessary to carry on their artillery exercises. One officer and three non-commissioned officers have been through the Gunnery School and obtained first-class certificates. I can fairly say that with regard to intelligence, physique and efficiency in

squad and company drill, this battery is second to none in the Dominion. I would recommend that it should be equipped as soon as convenient, as it is now the only available battery of artillery in the 7th Brigade Division.

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

T. J. DUCHESNAY, Lieut.-Col,
Acting for Deputy Adjutant-General,
Military District No. 7.

The Deputy Adjt.-General of Militia,
Headquarters, Ottawa.

MILITARY DISTRICT. No. 8.

HEAD QUARTERS, FREDERICTON, N.B.
21st December 1874.

SIR,— In compliance with the instructions contained in General Orders (14) of the 3rd June last, I have the honor to submit this, my report, on the state of the militia of the District under my command, for the military year 1874-75.

The total nominal strength of the force in the District, as reduced in General Orders above quoted, is 150 officers, and 2,028 non-commissioned officers and men.

One corps having been under 30 non-commissioned officers and men at the drill of the year 1873-74, has not completed its annual drill for 1874-75, not having been entitled to pay for the same.

The total actual strength of the force, when mustered at the time of the annual drill for 1874-75, was 148 officers, and 1,897 non-commissioned officers and men.

There are no officers, and 89 men wanting to complete corps at above shewn nominal strength.

The Active Militia of the District consists of the following corps, which at the time of the annual drill turned out as follows :—

Corps.	Officers.	Non-Commissioned Officers and Men.
<i>8th Regiment of Cavalry.</i>		
Lieut.-Col. Saunders (7 troops)	21	278
<i>Newcastle Field Battery of Artillery.</i>		
Brevet-Major Call	5	70
<i>Woodstock Field Battery of Artillery.</i>		
Captain Donnell	4	70
<i>New Brunswick Brigade, Garrison Artillery.</i>		
Lieut.-Col. Foster (5 Batteries).....	21	199
<i>New Brunswick Engineer Corps.</i>		
Captain Perley	1	32
<i>62nd Battalion, St. John Infantry.</i>		
Lieut.-Col. MacShane (6 Companies)	16	163

Corps.	Officers.	Non-Commissioned Officers and Men.
<i>67th Battalion Carleton Light Infantry.</i>		
Lieut.-Col. Upton (10 Companies) 9 companies drilled	30	411
<i>71st Battalion of Infantry, York.</i>		
Lieut.-Col. Marsh (5 Companies)	18	228
<i>73rd Battalion Infantry, Northumberland.</i>		
Major Sheriff (5 Companies)	13	180
<i>74th Battalion of Infantry.</i>		
Lieut.-Col. Beer (4 Companies)	14	160
INDEPENDENT COMPANIES.		
<i>Dalhousie Infantry Company.</i>		
Captain Barbarie	2	31
<i>St. Stephen Infantry Company.</i>		
Captain Hutton	2	35
<i>St. George Infantry Company.</i>		
Captain McGee	1	40
Total	148	1,897

There have been several offers of new companies to complete any deficiency in the quota of the District.

The annual drill was performed in accordance with General Orders (13 and 14) of the 2nd and 3rd June, 1874, for the most part in brigade camps, of which there were three— at St. Andrews, Shediac, and St. John respectively.

In considering the steps taken during the past year to ensure the better efficiency of the Active Militia, it must be remembered that this was amongst the important subjects adverted to by His Excellency the Governor General, in his speech from the Throne on the opening of the last session of Parliament, and the following unquestionable improvements have since been effected :—

(1.) An Act passed "to establish a Military College in one of the Garrison Towns of Canada," which provides for "the education of cadets and officers of militia in military knowledge and scientific pursuits connected with the military profession."

(2.) The daily pay of the rank and file has been increased from 50 cts. to 60 cts. during the prescribed period in camp.

(3.) The brigade camp system, which had been discontinued for one year, 1873-74, is now re-established, while such corps, chiefly those in cities, as it may be considered impracticable to assemble in camp, are permitted to perform the annual drill at local head quarters, under special orders for their guidance.

Having put myself in communication with officers in command, I ascertained that the end of June would be the most convenient time to assemble the corps of the western and eastern counties, and St. Andrews and Shediac respectively were decided upon as the most suitable places for camps; while the Brigade of Garrison Artillery, and the 62nd St. John Battalion requested to be allowed to assemble in camp at St. John about the 23rd of July, that being the only place in the District at which the former corps could perform its shot and shell practice, and the time for assembly in other camps, above referred to, would not have suited the latter corps. St. Andrews and Shediac proved

to be admirably adapted for assembly of troops in brigade camps, having, at both places, good facilities for transport, and grounds available for drill and field manœuvres on an extended scale.

Besides this, owing to the abundant supply of excellent water, and the heat of these places situated on the sea coast not being so great as at inland places where our camps have heretofore been held, the sanitary condition of the troops was all that could be desired.

It was only to be regretted that the Newcastle and Woodstock Field Batteries of Artillery were prevented from joining these camps, in consequence of delay in re-enrolment of men and horses in the former case, and in the latter, delay in transport of guns and equipment from Quebec, on its being changed from a Garrison to a Field Battery.

It must be stated, however, that both these corps subsequently performed their drill and practice in the most satisfactory manner at isolated camps. *Vide* Inspection Report hereto appended.

Lieut.-Colonel Otty, Brigade Major, was appointed Brigadier at Shediac. That officer's report is also appended hereto—and I took command at St. Andrews.

I now proceed to refer to the above named camps in detail, and to the corps of each Brigade Division separately.

1ST BRIGADE DIVISION.—Brigade Major, Lieut.-Colonel Inches.

Camp Tilley, St. Andrews.

Brigadier Lieut.-Colonel Maunsell, Deputy Adjutant-General; Lieut.-Colonel Inches, Brigade Major; Captain McKenzie, Supply Officer; T. H. Hogg, Esq., 71st Battalion, Musketry Instructor; Quarter-Master H. Emery, 67th Battalion, Camp Quarter-Master; T. P. Robinson, Esq., Orderly Officer.

67th Battalion, "Carleton Light Infantry," Lieut.-Colonel Upton; 71st "York" Battalion, Lieut.-Colonel Marsh; St. George Infantry Company, Captain McGee; St. Stephen Infantry Company, Captain Hutton.

The corps from York and Carleton Counties, having proceeded from their headquarters by European and North-American and Canada Railways, respectively, arrived at their destination at five o'clock p.m., on the date ordered for assembly: 30th June (several of the country companies having left their company headquarters on the previous evening to enable them to do so).

The Charlotte companies were conveyed by steamboat.

The usual instructions for pitching tents, mounting guards, detailing piquets, &c., were carried out, and the troops settled down to camp life in the most orderly manner, shewing that the experience derived from previous camps had not been lost on them. Company drill commenced next morning, followed by battalion drill.

I may here state that the camp was styled "Camp Tilley," in honor of His Honor the Lieutenant-Governor, who has at all times manifested a deep interest in the militia, and, besides being a frequent visitor at the camp, entertained in the most hospitable manner, all the officers of the brigade at his residence at St. Andrews.

On the 1st July, Dominion day, the corps paraded as strong as possible, and being formed as a brigade in line, a *feu de joie* was fired, and, afterwards, some simple brigade movements were creditably performed, considering the short time then in camp.

Officers commanding corps were directed to see that their men were exercised as much as possible in squad and company drill, preparatory to battalion drill, and subsequently in battalion drill preparatory to brigade drill and field manœuvres, and I attribute, in a great measure, the success that attended their efforts in carrying out these directions, to the presence of a large number of Military School cadets, who have given valuable proofs of their ability to impart instruction in drill. I must state, however, that the absence of one guide per company, on the strength of officers thereof being reduced to two per company, was felt in some instances in which the non-commissioned officers were not qualified to perform the duties of guides.

The camp was beautifully situated on a table-land near Joe's Point, overlooking the bay, about two miles from the Town of St. Andrews, which place is a well known military position, and, it may be added, when Fenian marauders threatened to invade New Brunswick, St. Andrews was their selected point of attack. Invasion, however, was prevented by the preparations of defence there made.

Not only was the site of the camp all that could be desired in a sanitary point of view, as regards facilities for transport, and affording an excellent parade ground for each corps and for the brigade, but permission was obtained through the Honorable the Surveyor General to exercise the troops in different directions over a large extent of open country of varied features.

Field manœuvres were commenced on the 8th of July, and on the 9th the brigade was exercised in the presence of His Honor the Lieutenant-Governor, the Hon. Dr. Tupper, M.P., and a large number of people of the place, when the following movements were performed in a manner which shewed that much attention had been paid to the preliminary drills. The brigade had been formed in line of quarter columns, facing the south-east on the grounds adjoining the camp, and on receiving intelligence of the landing of a supposed enemy on the beach in front, skirmishers, with their necessary supports, were quickly thrown out from the right (the 67th Battalion), while the rest of the brigade were deployed; and a rapid advance was made, and attempt was then made on the part of the enemy, to turn our left flank, and at the same time to gain a high position in that direction. To defeat their object a change of front was at once made by the brigade, fresh skirmishers were thrown out from Charlotte corps, and a steady fire was opened upon the enemy, who, being unable to accomplish either of their desired objects, hastily retreated towards Rocky Point, on the banks of the St. Croix River, where they expected to receive reinforcements. Our advance was first in line, and afterwards, on approaching broken country, in fours from the left; fresh skirmishers were again thrown out from the 71st.

A lengthened march was made in that direction (the west), and on again coming in contact with the enemy on the commons (so-called), a well directed fire, first from the skirmishers, and then from the brigade in line, produced the desired results, viz., the impossibility of an enemy, even of superior strength, holding this position in our front.

During these manœuvres—thus briefly described—the men displayed much intelligence in taking advantage of the local features of the ground, and the officers in acting with promptitude, even when not within hearing of the brigadier, on observing a signal to advance or move in some required direction. And, I must add, that although the men had been kept under arms for several hours on this occasion, and had a somewhat long march, they returned to camp apparently but little fatigued, and not a man fell out of the ranks.

On the 10th of July the brigade having been formed as on the preceding day, in line of quarter columns, marched in column of route, with the customary advance and rear guards, to take up a position to defend St. Andrews from attack on the north-eastern coast, in the neighborhood of O'Neill's farm.

On reaching the open country, near the new hotel, the advance guard having become a line of skirmishers, with its support, was prolonged and reinforced, and the brigade formed into mass of quarter columns, and subsequently deployed, when the skirmishers opened fire, and a steady advance was made until the high ground near the railway was reached, where the brigade in line opened fire.

The position was an admirable one, and the way in which the 67th Battalion had thrown out its skirmishers and supports, and the St. Stephen corps had performed the duties required of it as a rear guard, received a word of commendation from the Brigadier.

Subsequently the troops were put through a variety of movements in brigade drill, in line, column, echelon, &c., to test their steadiness, and to mark the difference between drill and field manœuvres, requiring accuracy in the former, while in the latter "accidents" of ground should be studied rather than mere precision.

On our return to camp His Honor the Lieutenant-Governor presented the money prizes kindly contributed by friends of the brigade for the best shots at target practice.

And here I must bear testimony to the careful manner in which the Musketry Instructor (Mr. Hogg,) himself a skilful marksman, carried out the target practice regulations, and with excellent results. That officer's report is enclosed herewith and peaks for itself.

A canteen had been opened in camp on the day of assembly under the usual regulations, not allowing the sale of spirituous liquors, but finding it desirable it was removed, men being able to purchase in town such articles as they required for their comfort. The field officer of the day (Lieut.-Colonel Raymond) reporting on the subject, and having adverted to the satisfactory state of the camp as regards order and discipline, added "I think it is clearly demonstrated that the men of this country do 'not require ale or beer (not being accustomed to it at home) which in many cases only 'creates a thirst for strong drink.'"

The tents were struck at an early hour on the morning of the 11th, and the troops returned to their homes in the same orderly manner which had marked their stay in camp during the whole period of training. The following brigade order was read on parade previous to the breaking up of the camp.

"CAMP TILLEY."

SAINT ANDREWS, 10th July, 1874.

Brigade Orders by Lieut.-Colonel Maunsell, D. A. G., Brigadier.

(No. 6.) "Camp Tilley" will break up to-morrow, the different corps composing it having completed their annual drill and target practice.

The Deputy Adjutant General commanding, offers his sincere thanks to the officers, non-commissioned officers and soldiers, for the prompt and cheerful manner in which duties have been performed and orders have been obeyed, while the conduct of the men has been most exemplary, not a single instance of crime having been reported to him.

Where all have done their best, and done it so well, it appears invidious to make any distinction; but having commanded three camps in succession—at Fredericton, Woodstock and St. Andrews—in which the 67th and 71st Battalions have assembled their full authorized strength, the Brigadier must here advert to the fact, and will report favorably thereon, as reflecting high credit upon the Brigade Major, Lieut.-Colonel Inches, Lieut.-Colonels Upton and Marsh, and those under their command, as well as affording another proof (if such were needed) of the loyalty and patriotism of the people of Carleton and York Counties.

The efficient corps from Charlotte County, under command of Captains McGee and Hutton have been attached to the 71st Battalion for drill purposes, with the best results.

The numerical strength of corps permitting it, a brigade comprising four battalions, Lieut.-Colonel Raymond, and Major Morris commanding two temporarily formed Battalions, has been exercised with advantage in drill and field manœuvres.

The medical officers report the sanitary condition of the troops as "most satisfactory," owing to the healthy situation of the camp, the excellent rations, and the abundant supply of good water.

Finally, in offering his best thanks to the staff, from the Brigade Major downwards, for a continuance of their valuable assistance and support, Lieut.-Colonel Maunsell hopes that as these brigade camps are annually becoming more and more appreciated socially by officers and men, affording, as they do, opportunities of seeing acquaintances and making friends, the practical knowledge of the routine of camp duties here acquired, obedience enforced, discipline maintained, may be productive of much good.

By order,

(Signed,) J. A. INCHES, Lieut.-Colonel,
Brigade Major.

"CAMP APPLEBY."

Woodstock Field Battery.—Captain Donnell.

Circumstances prevented me from inspecting this corps with Lieut.-Colonel Foster on the completion of the annual drill. But having seen the battery on parade on the 2nd September, a few days after its assembly, I have much pleasure in bearing testimony to the remarkable progress in drill then made, and in concurring with that officer in his remarks as to the excellent class of men of which the corps is composed, and as to the superior horses, for which, as Col. Foster states, the County of Carleton is celebrated.

Lieut.-Colonel Foster adds, that "after he had made a careful inspection of the battery, it was put through a variety of field movements, all of which were executed in a style highly creditable to the officers, non-commissioned officers, and men, and the progress made in such a short time was far in advance of what he had expected to have seen." Colonel Foster "attended the ball practice on the afternoon of the 9th, and morning of the 10th, at a place about two miles above Woodstock, and had an opportunity of seeing some good exhibitions of standing gun drill. The ball practice, as the accompanying report will shew, was good, but the locality would not admit of shell practice."

Lieut.-Colonel Foster also adverts to the very handsome presents given by friends of the battery in general, and Mr. Appleby, M. P. in particular, to be competed for at the target practice.

67th Battalion, Carleton, Light Infantry.

Nos. 6 and 7 Companies, Captains Bossé and Baker, owing to the long distance of the local headquarters of these companies from camp it was not deemed expedient to order them to attend it, much to the disappointment of both officers and men. The Brigade Major, Lieut.-Colonel Inches, subsequently inspected them on completing their annual drill, and that officer reports favorably as to the efficiency of these companies.

2ND BRIGADE DIVISION.—Lieut.-Colonel Otty, Brigade Major.

CAMP SCOUDOUC.

A brigade, composed as follows, assembled in a camp of exercise at Shediac on the 3rd of July.

Brigadier Lieut.-Colonel Otty, Brigade Major; Lieut.-Colonel McCulley, Brigade Major; Lieutenant Ewing, Garrison Artillery, Supply Officer; Captain F. B. Hazen, 62nd Battalion, Orderly Officer; Captain E. Arnold, 74th Battalion, Musketry Instructor; Quarter Master Hallett, 8th Regiment of Cavalry Camp, Quarter Master.

8th Regiment of Cavalry, Lieut.-Colonel, J. Saunders; 73rd Battalion, Major Sherriff; 74th Battalion, Lieut.-Colonel E. Beer.

On the 13th of July I inspected this camp and the different corps composing it.

The Brigadier, Lieut.-Colonel Otty, had exercised great judgment in his selection of the site for the encampment, it being all that could be desired, a most picturesque place overlooking Shediac Bay, about four miles from the town of Shediac, on the main road to Buctouche, with a wood close to the camp, affording shelter for the cavalry horses, and having an abundant supply of excellent water. The grounds for parade and field manoeuvres were very extensive.

Besides the ability displayed by Lieut.-Col. Otty in handling troops on parade, I noticed with much pleasure that great attention had been paid to the practical instruction of corps in the routine of camp duties.

At inspection parade, after the usual marching past, deployments, &c., the brigade was exercised in most interesting and instructive field manoeuvres, in a manner creditable alike to officers and men.

It is but just, however, to make special mention of the great improvement in drill displayed by the 8th Regiment of Cavalry, Lieut.-Col. Saunders. Lieut.-Col. Otty's report with respect to this camp will be submitted at an early date. The following is Lieut.-Col. Otty's Brigade Order, on the breaking up of the camp.

"CAMP SCLOUDOC."

SHKDIAC, 13th July, 1874.

Brigade Orders by Lieut.-Col. Otty, Commanding.

(No. 8.)—The Deputy Adjutant-General commanding the District desires to express to the troops assembled at Camp Scoudouc, his gratification for the manner in which, at his inspection to-day, the troops manœuvred on the field, and for the soldier-like appearance of the officers and men, as well as for the report received of their exemplary conduct during their stay in camp. Lieut.-Col. Maunsell noticed with much pleasure that great attention appears to have been paid to the practical instructions of corps in the routine of camp duties.

The Brigadier commanding the camp takes this opportunity of thanking the officers and men under his command, for the willingness and alacrity which has been invariably displayed in carrying out the discipline and interior economy of the several regiments composing the brigade. His thanks are particularly due to the brigade staff, for the efficient manner in which they have performed their several duties, and hopes that should another brigade be under his command he may have as efficient aid as he has had on this occasion, and he may have officers as well qualified to assume command of their respective corps, and as steady and efficient men to carry their orders into effect.

By Order.

(Signed,) C. McCULLEY, Lieut.-Colonel.

Brigade Major.

In connection with the better efficiency of the 8th Regiment of Cavalry assembled at this camp, I again respectfully submit the following suggestions as deserving special consideration—(1) the want of a fresh issue of saddlery, *vide* Report 1873, page 26, and (2) the necessity for the issue of a medicine box, furnished with medicines for horses, Report, 1873, page 32.

"CAMP DUFFERIN," ST. JOHN.

A brigade composed as follows assembled in camp at St. John, on the 23rd July :—
Brigadier Lieut.-Col. Maunsell, Deputy Adjutant-General; Lieut.-Col. Otty, Brigade-Major; Ensign Smith, 62nd Battalion, Supply Officer.

New Brunswick Brigade Garrison Artillery, Lieut.-Col. Foster; 62nd Battalion Infantry, Lieut.-Col. MacShane.

The authorities at headquarters are well aware of the difficulties attending the performance of the annual drill of city corps in general, and those of St. John in particular; they are clearly pointed out by the Acting Adjutant-General in the Report for 1873, page 8—and it is there stated, besides, that a "preference is shewn for drill on different days during the year as circumstances may permit." However, to carry this out successfully the erection of a suitable drill shed is the needful thing, and the question of a site therefor in a central locality has to be decided. It is the more necessary, moreover, at the present time, as the premises in the Custom House at St. John, heretofore at the disposal of the Active Militia, being required by the Customs Department, have to be delivered over to the Collector of Customs at an early date. I may add that Captain Parley, New Brunswick Engineers, has recently submitted a valuable plan for the erection of a drill shed at St. John, and memorandum relating thereto, all of which may, I hope, be favorably considered by the authorities at head-quarters, and terminate in a satisfactory solution of the matter.

The camp of the Brigade of Garrison Artillery, formed on the barrack grounds at St. John in 1872, having proved most satisfactory in every particular, on general orders for the annual drill this year being published, the officers commanding both artillery and infantry grasped the opportunity to assemble at the same place, and the 23rd July was

decided upon as the time of assembly. In compliance with orders issued, the respective corps assembled on that date, and drill was duly commenced.

Being unwilling to withdraw the garrison artillery from their legitimate duties—shot and shell practice—and the infantry having, necessarily, to occupy much time at rifle practice, the range being about four miles from camp, there were but few opportunities for brigade drill. On one of these occasions (on the 30th July) His Honor the Lieutenant-Governor was present.

After inspection in line the troops marched past in quick time, in column and quarter column, and afterwards in quarter column at the double.

Some simple brigade movements were then performed as satisfactorily as could be expected under the circumstances. The artillery subsequently proceeded to shot practice, and the infantry to battalion drill, with all of which the Lieutenant Governor expressed himself much pleased.

On the 1st August the brigade marched from camp, in column of route, a distance of three or four miles, rain preventing a longer march. The different denominations of the brigade were marched to their respective places of worship on the 25th July, and 1st August, respectively, the Church of England party attending divine service at St. Paul's Church on the former date, and Trinity on the latter.

Lieut.-Col. Foster, in his report hereto appended, referring to the manner in which duties were performed in the artillery, &c., in which I concur, states: "During the whole period of its existence the objects for which the camp was formed were carried out in the most systematic manner, and I believe with highly satisfactory results.

"The shot and shell practice extended over a period of six days, and, as the accompanying report will show, was highly creditable to the corps.

"Several handsome prizes for the annual competition were presented, a list of which, with the names of the donors, is annexed:

Colonel Foster adds: "from the commencement of the camp to its close, every officer, non-commissioned officer and gunner did his duty."

The following is the Brigade Order on the breaking up of the camp:—

"CAMP DUFFERIN."

ST. JOHN, 2nd August, 1874.

Brigade Orders by Lieut.-Colonel Maunsell, Deputy Adjutant-General Commanding.

(No. 1.)—The St. John Brigade Camp will break up to-morrow, at the conclusion of annual drill and target practice of the different corps.

The Deputy Adjutant-General Commanding desires to express his satisfaction with the manner in which duties have been performed, and discipline has been maintained, as well as with the steadiness on parade of the troops, considering the brief period allotted for drill.

That the Active Militia of St. John should assemble in camp but little below its full numerical strength (in one instance, that of the artillery, the full strength is present) at this busy season is proof of the desire existing, on the part of members of the force, for information in the knowledge and practice, not of drill alone, but of those various camp duties, the correct performance of which is of the greatest importance to the soldier in the field.

The target practice of the 62nd Battalion has been carried out by captains of companies with good results; that of the artillery, at all times remarkable for its accuracy, has been excellent, and it is only to be regretted that Lieut.-Colonel Jago, who has done much for the efficiency of the brigade, is prevented from witnessing it.

It is due to that officer to say that, so strong was his desire to attend this camp, he expressed his willingness to forego his leave of absence, at no small personal sacrifice to enable him to do so.

In conclusion, Lieut.-Colonel Maunsell offers his cordial thanks to Lieut.-Colonels

Foster and Macshane, for the way in which they have discharged the responsible duties of their respective commands, and to the staff, particularly to the Brigade Major, Lieut.-Colonel Otty, for a continuance of his valuable assistance and support.

By Order.

A. C. OTTY, Lieut.-Colonel,
Brigade Major.

I cannot close this report without stating my conviction that the barrack field at St. John, being so near to the worst part of the city (morally) is not a desirable place for the assembly of a camp. It was, however, as already shewn, impracticable this year to form a camp for the St. John corps at any other place.

But, as a general rule, it is of great advantage to troops to be encamped at some distance from a city or large town; at such places commanding officers are not troubled with applications for "passes" from parades or roll calls, and crime is conspicuous by its absence.

New Brunswick Engineer Corps.—Captain Perley.

Inspected by Lieut.-Colonel Otty, Brigade Major, on the 13th November, during my temporary absence on leave. That officer reports favorably respecting the efficiency of this corps. The "manual and firing exercises and company drill executed fairly."

On the retirement of Major Parks, who has done much for the efficiency of this corps, Captain Perley has succeeded to the command. A practical engineer by profession, energetic in whatever he takes in hand, qualified for the post in other respects, the Engineers will, I trust, continue to improve under this officer.

3RD BRIGADE DIVISION. —Brigade Major, Lieut.-Colonel McCulley.

"CAMP TEDDERS."

Newcastle Field Battery of Artillery.—Brevet Major Call.

This battery was inspected by Lieut.-Colonel Foster and myself on the 21st August, and is referred to in the following terms, by that officer:—

"As this was the first time he had seen the battery, and having been informed that a large number of its present members were recruits, and that nearly all the horses were new at the guns, he was quite unprepared for such an exhibition of proficiency in drill as he saw presented. The various field movements were executed in splendid style, and would have been highly creditable to officers and men of much greater experience."

Lieut.-Colonel Foster states, in which I entirely concur, that "Major Call is an excellent officer, and with the aid of such competent subalterns as Lieutenants Mitchell, Smith and Ramsay, with Surgeon Benson, and such a superior class of non-commissioned officers and men, the battery must hold a high position in the Active Militia of the Dominion."

"Accompanied by Brigade Major McCulley he attended the shot and shell practice at a point about two miles above Newcastle. The practice was very good, as will be seen by the accompanying report. Several handsome prizes given by the officers and friends of the battery were competed for, and the Brigade Major and himself were permitted to add to the list."

"He made a careful inspection of the guns, limbers, waggons, and stores, and found all in sound condition; but the gun carriages, limbers and waggons, are in want of two good coats of paint."

Lieut.-Colonel Foster in conclusion, offers some excellent suggestions with respect to the erection of a drill shed at Newcastle, &c., all of which I beg to support.

It affords me great pleasure to add my testimony to that of Lieut.-Col. Foster in stating that I consider this was the most satisfactory inspection of this battery since its first organization.

Besides having a zealous and efficient officer at its head, and being fortunate in

securing the services of the senior captain of the 73rd (on his retirement from the battalion) as a subaltern officer. The non-commissioned officers of this corps belong to a superior class, and, as a result, discipline is maintained, and the drills are systematically performed.

In connection with this camp it is also a pleasure to record the increased interest manifested by the citizens of Newcastle, in the welfare of the corps. From the Collector of Customs downward, they seemed to vie with each other in their liberality in giving prizes for good shooting, &c.

No. 7. Battery Garrison Artillery.—Brevet Major Gillespie.

This corps proceeded, its full authorized strength, to the brigade camp at St. John, and performed the prescribed drill and practice at that place.

73rd Battalion.—Major Shirriff.

This corps performed its annual drill at "Camp Scoudouc," except Nos. 2 and 3 companies which, as a special case, were permitted to drill at local head-quarters, and were subsequently inspected by Lieut.-Colonel Otty, during my temporary absence on leave, and pronounced efficient.

In the retirement of Lieut.-Colonel Ferguson, the corps has lost the services of a thoroughly practical and energetic commanding officer, one who was ever ready to carry out the "regulations" to the letter, while not neglecting the interests of the battalion. Major Shirriff succeeds to the command.

Dalhousie Infantry Company.—Captain Barberie.

Inspected by the Brigade Major, Lieut.-Colonel McCulley, on the 13th August, and is referred to by that officer, in the tabular report enclosed herewith.

Artillery.

(1.) In submitting the accompanying report from Lieut.-Colonel Jago, of the Artillery, I desire especially to point out the following subjects, adverted to by that officer, who states :—

I cannot help expressing regret that the only two field batteries in this district are both armed with the smooth bore nine pounder gun, a weapon long ago considered unsuited for the support of infantry armed with the Snider Rifle.

(2.) Lieut.-Colonel Jago anticipates pernicious effects from the General Orders of August 15, 1874, directing that all uniforms, &c., of volunteers should be returned into their armories after the inspection of the annual drill.

With regard to the working of this order on country battalions of infantry he does not venture to offer an opinion ; but he wishes to call the attention of the Major-General Commanding, to the fact that a body of artillerymen can never hope to be made effective by 12 days' annual drill in camp only.

For teaching practically the lessons learned by weekly drills in their drill rooms, he considers the time sufficient or as nearly so as can be obtained without a great increase of expense. Further returns of the shot and shell practice forwarded with Col. Foster's report, and with which he has every reason to feel gratified, are the result of the patient weekly drilling of recruits at standing gun drill, pointing drill, fuse and shell instruction, &c., equally with the twelve days in camp.

The men of the different battalions appear also to like the weekly drills, and they were usually fairly attended.

When it is considered drills are all voluntary (the 12 days having been performed,) it appears to him a pity that obstacles should be thrown in the way of the men receiving instructions which cannot fail of at least doing some good.

Lieut.-Colonel Jago adds :—" I hardly like to bring again before you the desirability

in my opinion of arming the Garrison Artillery with revolvers. With the utter state of defencelessness of the Garrison Artillery man in case his position is attempted to be carried by storm, we are all aware.

"Whether a battery would not be likely to fight the guns longer when the men had the consciousness of possessing a handy and reliable weapon about their persons admits, I think, of no question, and it appears to me in view of the rapid increase of population in our cities, there might unfortunately come a day when the magistrates would gladly avail themselves of the services of a trained body of men armed with revolvers."

Target Practice.

The annual course of target practice was carried out with good results, under regulations somewhat similar to those published in General Orders (14), 1872; 200, 400 and 600 yards being the ranges, and the targets being the same size as usual, with square bulls eye and centre.

The question as to the desirableness of adopting Wimbledon targets at the annual target practice of the Active Militia is, I think, deserving consideration. These targets have been adopted with advantage by our New Brunswick Rifle Association.

It is to be regretted that it is impracticable during the limited period of the annual drill, to have sufficient position and aiming drills to warrant a high "figure of merit" in each corps.

It is also to be regretted that the battalion and company money prizes for the best shots have not been granted this year. As stated in my last report, 1873, the amounts though small, \$10 and \$5 respectively, had been granted for two years in succession, except in the case of the artillery, who received money prizes for shot and shell practice during many years past, and the prizes were closely contested, and when won were much valued, accompanied as they were with badges. I am happy to be enabled to report that no accident has occurred during any course of target practice in my district, the rules framed for the guidance of officers commanding corps to prevent accident having been strictly observed. The accompanying return shows the "figure of merit" and names of best shots in the district.

School of Military Instruction.

The attendance at the Military School, at Fredericton, has been very good, 66 cadets having obtained 2nd class certificates. Of these, 39 belonged to the Active Militia at the time of their admission to the school; some of the others have since joined the force; but five, however, are officers in it.

It is true the majority of the officers of this district are already in possession of certificates of fitness, and the Brigade Major and myself have done all in our power to ensure the attendance at the school of the remainder, pointing out to them the superior advantages of Military School training to that obtained by other means to qualify them for certificates granted by Boards of Examiners.

In the command of the school I have been ably assisted by Lieut.-Colonel Otty, Brigade Major, and the quickness with which intelligent and educated cadets mastered what they had to learn is worthy of note, reflecting credit upon themselves and the instructors. I may add that a few cadets remained the full time—90 days—before being enabled to qualify, and one cadet failed to secure the required certificate.

Rifle Associations.

There is but little to add to the remarks submitted in my report for 1873 on this subject.

Lieut.-Colonel Bear has been re-elected President of the New Brunswick Provincial Rifle Association, and he is assisted in his duties as such by the same efficient secretary, Captain and Adjutant O. R. Arnold.

The annual match of this association, held at Sussex during the first week in September last, was as successful as usual.

The county associations continue to improve.

The only thing to be regretted, I conceive, is that in all rifle matches the number of competitors is not, as a rule, in fair proportion to the number of active militiamen in the district.

In fact that but few except "crack shots" consider it worth their while competing.

The following associations held competitions this year, the returns of which will shortly be transmitted:—

New Brunswick Provincial Rifle Association.

Charlotte County do

St. John do do

Carleton do do

York do do

Northumberland County do

I have the honor to be,

Your most obedient servant,

GEORGE J. MAUNSELL, Lieut.-Colonel,

Deputy Adjt.-Gen. Commanding Mil. Dis. No. 8.

Lieut.-Colonel W. POWELL,

Deputy Adjt.-General, Headquarters.

(A)

SAINT JOHN, N.B., Dec. 22nd. 1874.

SIR,—I have the honor to forward to you the report of Lieut.-Col. S. K. Foster, commanding New Brunswick Brigade of Garrison Artillery, on the inspections of the different batteries in the Province for this year.

I have to thank this officer for kindly undertaking this duty for me, and thereby enabling me to enjoy my leave of absence in England.

From the report I gather that the whole of the batteries in the district are in an effective condition, and that the different camps were conducted in a manner that must prove beneficial to officers and men.

I cannot, however, help expressing my regret that the only two field batteries in your district are armed with the smooth bore nine pounder gun, a weapon long ago considered unsuited for the support of Infantry armed with the Snider Rifle.

I agree most thoroughly with Col. Foster in the necessity of the gun carriage being painted at stated periods, in order to ensure the preservation of the wood, and I beg to recommend that all gun carriages, which are kept under cover, be painted every two years, and also that carriages exposed to the weather be painted annually.

I cannot, however, omit in this letter, adverting to the pernicious effects I anticipated from the General Orders of August 15, 1874, directing that all uniforms &c., of volunteers, should be returned into their armories after the expiration of the annual drill.

With regard to the working of this order on country battalions of infantry, I do not venture to offer an opinion, but I should wish most respectfully to call the attention of the Major-General Commanding to the fact that a body of artillery men can never hope to be made effective by 12 days' annual drill in camp only.

For teaching practically the lessons learned by weekly drills in their drill room, I consider the time sufficient, or as nearly as can be obtained without a great increase of expense, but the returns of the shot and shell practice, forwarded with Col. Foster's report, and with which he has every reason to feel gratified, are the result of the patient weekly drilling of recruits at standing gun drill, pointing drill, fuse and shell instructions, &c., equally with the twelve days in camp.

The men of the different batteries appear also to like the weekly drills, and they were usually fairly attended.

When it is considered that these drills are all voluntary (the 12 days having been performed), it appears to me a pity that obstacles should be thrown in the way of the men receiving instruction, which cannot fail of at least doing some good.

I hardly like to bring again before you the desirability, in my opinion, of arming the Garrison Artillery with revolvers. With the utter state of defencelessness of the Garrison Artillery man, in case his position is attempted to be carried by storm, we are all aware.

Whether a battery would not be likely to fight the guns longer when the men had the consciousness of possessing a handy and reliable weapon about their persons admits, I think of no question, and it appears to me in view of the rapid increase of population in our cities, there might unfortunately come a day when the magistrates would gladly avail themselves of the services of a trained body of men armed with revolvers.

I have the honour to be, Sir,

Your most obedient servant,

DARELL R. JAGO.

LIEUT.-COL. G. J. MAUNSELL.

Deputy Adjutant-General.

(B)

SAINT JOHN, N. S., December 17, 1874.

SIR,—On the 9th day of September last, in accordance with instructions from your office, I made inspection of the Field Battery of Artillery under the command of Captain Donnell, in camp at Woodstock, for its annual drill.

After I had made a careful inspection of the battery, it was put through a variety of field movements, all of which were executed in a style highly creditable to the officers, non-commissioned officers, and men; and the progress made in such a short time, was far in advance of what I had expected to have seen.

I attended the ball practice on the afternoon of the 9th, and morning of the 10th, at a place about two miles above Woodstock, and had an opportunity of seeing some good exhibitions of standing gun drill. The ball practice, as the accompanying report will shew, was good, but the locality would not admit of shell practice.

The battery is composed of an excellent class of young men, belonging to the town of Woodstock and its surroundings. At the inspection were Captain Donnell, Lieutenant Dibblee and Kearney, Surgeon Smith, 75 non-commissioned officers and men, and 40 horses (of a superior quality), for which the County of Carleton is celebrated.

Several very handsome presents were given by friends of the battery, to be competed for at the target practice, one of which, an elegant pitcher, was given by Mr. Appleby, M. P. for the County. At its presentation to the winner, Mr. Appleby expressed his intention of making a similar gift annually.

I would urgently recommend the appointment of a Quarter-Master to each of the Field Batteries.

Respectfully submitted,

S. K. FOSTER, Lieut.-Colonel,

Com. N. B. B. G. A.

The Deputy Adjt.-General of Militia,
Military District No. 8.

(C)

SAINT JOHN, N. S., December 17, 1874.

SIR,—I have the honor to report that in obedience to orders, Batteries Nos. 1, 2, 3, 7, and 10, of the New Brunswick Brigade of Garrison Artillery performed their annual drill on the Barrack Square in this city, for the current year.

During the whole period of its existence, the objects for which the camp was formed were carried out in the most systematic manner, and, I believe, with highly satisfactory results.

The daily routine of duty, subject to such alterations as the changes of the weather might necessitate, was as follows :—

Morning from 6 to 8 A. M. Marching Drill.

“ “ 10 to 12 “ Gun Drill.

Afternoon “ 3 to 5 P. M. Gun Drill.

The shot and shell practice extended over a period of six days, and, as the accompanying report will shew, was highly creditable to the corps.

Several handsome prizes for the annual competition were presented, a list of which, with the names of the donors, is annexed.

From the commencement of the camp to its close, every officer, non-commissioned officer, and gunner did his duty.

Respectfully submitted,

S. K. FOSTER, Lieut.-Colonel,
Commanding N. B. Brigade Garrison Artillery.

The Deputy Adjt. General,
Military District No. 8.

List of prizes for the annual competition of the New Brunswick Brigade Garrison Artillery for 1874 :—

The Lieutenant-Governor, money prize,
The Provincial Secretary, money prize,
The Mayor of St. John, money prize,
The Deputy Adjutant General, Military District No. 8, money prize,
Mrs. Jago, silver cup and money prize,
The Officers of Artillery, silver cup and money prize,
Lieut.-Colonel Thurgar, silver cup and money prize,
Lieut. Colonel Thurgar, silver medal and money prize,
J. D. Robertson, Esq., merschaum pipe, value \$25,
Hilyard & Ruddick, box champagne,
William Breeze, Esq., box claret.

S. K. FOSTER, Lieut.-Colonel, &c.

(D)

SAINT JOHN, N.B., December 17th, 1874.

SIR,—On the 21st day of August last, in the absence of Lieut.-Colonel Jago, I had the pleasure of being present with you, at your annual inspection of the Field Battery of Artillery, under the command of Captain and Brevet-Major Call, in camp for its annual drill, a short distance from the Town of Newcastle.

As that was the first time I had seen the battery, and having been informed that a large number of its present members were recruits, and that nearly all the horses were new at the guns, I was quite unprepared for such an exhibition of proficiency in drill as I saw presented. The various field movements were executed in splendid style, and would have been highly creditable to officers and men of much greater experience.

Major Call is an excellent officer, and with the aid of such competent subalterns as Lieutenants Mitchell, Smith and Ramsay, with Surgeon Benson, and such a superior class of non-commissioned officers and men, the battery must hold a high position in the Active Militia of the Dominion.

Accompanied by Brigade-Major McCulley, I attended the shot and shell practice at a point about two miles above Newcastle; the practice was very good, as will be seen by the accompanying report. Several handsome prizes, given by the officers and friends of the battery, were competed for, and the Brigade-Major and myself were permitted to add to the list.

I made a careful inspection of the guns, limber waggons and stores, and found all in good condition; but the gun carriages, limbers and waggons, are in want of two good coats of paint.

At the request of Major Call, I examined a piece of ground which had been granted by the magistrates of the county, on which a drill shed and the battery accommodations could be erected at a moderate expense. The site is an excellent one, and as the battery is well worthy of every assistance from the Government, I would strongly recommend the subject to its most favorable consideration.

If the Government would supply the battery with riding saddles for the lead and centre off horses, and the new pattern gun carriage, such as those supplied to the Woodstock Field Battery, the gun detachment would all be mounted, and a reduction of eight wheel horses, and one line of carriages, would be made.

A sufficient amount of ammunition, for all ordinary purposes, can be carried in the gun limber boxes.

In conclusion permit me to say that, to the teaching of Sergeant Hughes, late of the Royal Artillery, is the battery very largely, if not wholly, indebted for its present state of efficiency.

Respectfully submitted.

S. K. FOSTER, Lieut.-Colonel,
Commanding N.B. B. G. A.

The Deputy Adjutant-General of Militia,
Military District No. 8.

(E.)

SIR,—Having been appointed Musketry Instructor to the volunteers assembled in "Camp Tilley," near the Town of St. Andrews, in July, 1874, I beg to submit the following report:—

The firing commenced on Thursday, the 2nd day of July, at the local rifle range, situate on the shores of St. Andrews Bay, and was conducted strictly in accordance with the regulations laid down for the guidance of the instructor. Four sets of targets had been provided, and the butts completed and rendered secure to the markers, under my own supervision.

Two companies from the 67th and 71st Battalion, respectively, paraded each morning for target practice, and, on arriving at the range, were divided into two squads, when the firing commenced at 200 yards, and continued, without intermission, at the various ranges 200, 400, and 600 yards, until the total 15 rounds, five rounds at each target, had been completed. This generally occurred about noon-day, when two additional companies arrived on the ground, and in like manner finished the prescribed practice, thus completing four companies daily.

As the practice continued from day to day, I could not fail to observe that those companies which had greatest opportunities for position and aiming drill, invariably obtained the highest figure of merit, and I can thus speak confidently of the benefits to be derived from said drill. It was my custom to address each company briefly, on arriving at the ground, in regard to the general principles of rifle shooting, and in addition to this I found that by personally instructing each marksman as he came to the firing point, very good results were obtained, and without, in the least, impeding the practice.

The appended recapitulation will show the figure of merit for the brigade, for each battalion, as well as for each company, with such further results of the target practice at "Camp Tilley" as, I trust, may prove satisfactory.

I find by comparing this detailed statement with that of "Camp Woodstock," held on July, 1872, the average figure of merit stand thus:—

Camp Tilley.....	16.35
Camp Woodstock.....	10.53

I am happy to report that no accident, even of the slightest kind, occurred during the practice of the brigade.

In closing my report, I beg to state my appreciation of the very valuable aid received from the Assistant Instructor, Sergeant John McMullin.

I have the honor to remain,

Your obedient servant,

THOS. H. HOGG,

Musketry Instructor, "Camp Tilley."

To Lieut.-Colonel Maunsell, Deputy Adjutant-General,
Province of New Brunswick.

MILITARY DISTRICT, No. 9.

HEADQUARTERS, HALIFAX, N.S.

December 21st, 1874.

SIR,—I have the honor to inform you that the quota of Active Militia required to be furnished from the district under my command, was fixed at 4,284. Under the present regulations reducing the effective strength of corps, the total nominal strength of the force, were the respective corps complete to their established strength as authorized, would be 237 officers, and 3,180 men.

The total actual strength of the force which mustered at the annual drill for 1874-75, was 212 officers, and 2,572 men.

Corps of the established strength of 37 officers and 480 men have been relieved from training this season.

Corps of the established strength of 4 officers and 80 men have been absent from training this season.

The Active Militia in this district consist of the following corps which, at the time of the annual training, turned out as under:—

	Officers.	Men.
Kings County Troop Cavalry.....	2	40
Halifax Light Brigade.....	5	79
1st Brigade Halifax Garrison Artillery	20	243
2nd do do	17	226
Lunenburg Battery (not trained).....	00	00
Mahone Bay Battery.....	2	39
Digby Battery.....	2	34
63rd Rifles (Halifax).....	20	229
66th Battalion (Halifax)	28	326
68th Battalion (Kings County).....	31	350
69th Battalion (Annapolis)	28	364
72nd Battalion (Annapolis).....	22	240
75th Battalion (Lunenburg—one company not trained). 17		192
78th Battalion Highlanders (not trained).....	00	00
Victoria Provisional Battalion.....	18	210
Cumberland Provisional Battalion (not trained).....	00	00

The annual drill was performed in accordance with General Orders (14) of 3rd June, 1874, and (15) of 12th June, 1874, as in document A and B herewith enclosed. Annual inspection reports are also enclosed.

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

J. WIMBURN LAURIE, Colonel,
Deputy Adjutant General, Commanding
Military District No. 9.

The Deputy Adjutant-General Militia, Ottawa

(A)

The Halifax Brigade consisting of.

Halifax Light Battery.....	Captain Graham
1st Brigade Halifax Garrison Artillery	Lt.-Col. Mitchell
2nd do do	Lt.-Col. McPherson
63rd Rifles.....	Lt.-Col. Pallister
66th Infantry.....	Lt.-Col. Bremner

performed their annual training at brigade headquarters. Owing to various circumstances no brigade drill was performed during the present year, but the force attended one evening brigade parade.

The Light Battery practiced at 1,700 yards range, with their six pounder Armstrongs. The target, a half barrel with flag staff, was shot away early in the day, and as there was none available to replace it, the remainder of the practice was continued on the raft on which it had been placed. It would in future be advisable to supply a relay of targets for the practice of this battery.

One of the Halifax Harbor Batteries was kindly placed at my disposal by the Lieut.-General commanding the troops for the annual shot and shell practice of the Brigade of Garrison Artillery, and the majority of the batteries performed the regular practice; but, through some misunderstanding, the guns in the battery were dismantled preparatory to re-armament, before the whole of the batteries had gone through this practice.

The rifle target practice of the several corps was, in each case, performed as usual under the immediate supervision of a field officer.

The several corps composing this brigade were inspected by me regimentally. I was thus enabled to devote more time to the details of inspection than if they had been inspected in brigade.

The appearance of both of these corps is becoming more and more soldierly, both in uniforms, appointments and general turn-out.

The commanders of corps are zealous and efficient, and they are well seconded by their officers, and great credit is due to them and to all ranks for the results attained.

The battalion drill was very creditably performed, but more practice in skirmishing is required.

AYLESFORD CAMP.

The 68th, 69th, 72nd Battalions and Kentville Troop of Cavalry performed their training in brigade camp at Aylesford, during September, under the command of Lieut.-Colonel Milsom. I inspected them the day after their arrival in camp, and again at the conclusion of the training.

Owing to the non-issue of forage caps to the corps of Infantry, the appearance of the men was not as soldierly as it should have been, all sorts of head gear being worn, and there were a good many young lads in the ranks. It is right I should mention that Lieut.-Colonel Starratt and the officers and men of the 69th shew a good deal of *esprit de corps*, taking great pride both in turn-out and in drill.

These corps worked very fairly in brigade, both in battalion movements and in skirmishing.

The Kentville Troop of Cavalry deserve especial credit for their turn-out. Captain Ryan and his officers and men must have worked unremittingly, and this corps shewed the advantage of having an instructor who had been well trained in the regular army.

The 75th Battalion trained in regimental camp at Mahone Bay, and the Mahone Bay Battery of Garrison Artillery encamped with and was attached to this battalion. As this battalion has no trained Adjutant, Lieut.-Colonel Milsom himself superintended and took charge of the instruction, and the results of the training under such a thoroughly competent instructor were most surprising; the progress made by, and steadiness of the men were most creditable to them, and to Lieut.-Colonel Milsom who took so much pains with them.

The Victoria Provisional Battalion trained in regimental camp at Baddeck, Cape Breton, and was inspected by the Honorable the Minister of Militia, who expressed himself well pleased with the appearance and training.

I spent some days in the camp and was much gratified with the willingness and desire to learn of the men, and generally with the zeal on the part of the officers; but as many of the men only speak Gaelic and do not understand English, it is necessary to interpret all orders and explanations to them, and the progress is, therefore, not so rapid.

The Digby Battery of Garrison Artillery was inspected by Lieut.-Colonel Milsom. He reported the men attentive, and that the shot and shell practice was fairly performed.

The Lunenburg Battery of Garrison Artillery, and No. 2 Company, 75th Battalion, were absent from camp at Mahone Bay, although duly warned to attend.

The 78th Highlanders and Cumberland Provisional Battalion were relieved from annual training this season, under instruction from headquarters.

(B)

Arms.

The arms in possession of the several corps were, with very few exceptions, issued in 1869; they have therefore been five years in use, and should now receive a thorough overhaul by a competent armourer; a recommendation to this effect was forwarded by me in October, 1872, after consultation with Lieut.-Colonel French.

Accoutrements.

The city corps keep belts and pouches in a very soldierly manner, and some rural battalions deserve great credit for their attempt to pipe-clay belts and polish pouches, but in camp the conveniences for this work are scant, and the whole proceeding is so novel to officers and men, that it is a matter of great difficulty to accomplish satisfactory results, and as the present pattern of accoutrements has a very slovenly appearance if not properly cleaned, it is worthy of serious consideration whether accoutrements more suitable to the circumstances of the Dominion forces and to the training of the corps, when called on to perform, should not be supplied.

Uniform.

The cloth tunics supplied will certainly wear twice as long as the serge trowsers, and I would again urge that trowsers should be supplied every two and tunics every four years; and further, that a reasonable money allowance should be made to men or corps that make their clothing last beyond the regulation time, as an inducement to the officers and men to keep the clothing in good order.

The forage cap at present issued is most unsatisfactory; it does not cover the head from sun or rain, and as generally worn is slovenly in appearance—it is discarded the moment parade is over, and a straw hat or something with brim or shade substituted—a neat cap with peak would be a great improvement.

Training.

I would refer to my remarks in last years report on the subject of instructors for corps, and the best means of carrying out the training, and I would especially dwell on the urgent need of affording preliminary drill to officers and non-commissioned officers, previous to the mustering of the battalions that train in camp. At present the men do not derive the full benefit they should from the time they give to drill, as the officers on whom the instruction devolves (even when previously trained), are quite out of practice at the commencement of the training, and the non-commissioned officers know no more than the men, consequently, although they wear badges and draw higher pay, they exercise but little authority or influence, and are of little help at the training.

J. WIMBURN LAURIE, Colonel,
Deputy Adjutant-General, Commanding Military District No. 9.

MILITARY DISTRICT No. 10.

HEADQUARTERS, WINNIPEG, Dec. 20, 1874.

SIR,—Since my last annual report considerable changes have taken place in the Militia force in this Province, one Troop of Cavalry and six Companies of Rifles having been struck off the establishment of the District, leaving a total of fifteen officers and 295 non-commissioned officers and men, as the quota at present authorized.

Of the companies thus removed they existed only as paper companies, with one exception; of those still maintained, their equipment and organization remains in the same condition as at my last report.

Strength and Enumeration of Local Corps.

The authorized strength of the local corps in this District, is as fo

	Officers.	N. C. O. & Men.
"Headingley" Mounted Rifles	3	55
"Winnipeg" Field Battery	3	75
"Lisgar" Rifle Company	3	55
"Mapleton" "	3	55
"Poplar Point" "	3	55
Total	15	295

Of these corps, the only one which has been enabled up to the present date, to per form the drill for the present financial year, has been the Winnipeg Field Battery, which paraded for inspection after twelve days of consecutive drill, with the following strength, viz:—

Officers.	N. C. O. & Men.
2	52

The Headingley Mounted Rifle Corps has not as yet been supplied with clothing or equipments, and has, therefore, not been inspected.

The three Rifle Companies above enumerated, showed at my last inspection subsequent to my annual report, an actual strength on parade of 7 officers and 129 non-commissioned officers and men.

The inspection of the Winnipeg Field Battery was most satisfactory; although but partially equipped and uniformed, the general appearance of the corps, and the steadiness of the men in the ranks was soldier-like.

I respectfully request that for the ensuing year that authorization for pay for horses for the annual drill be granted for this corps, and that it be fully equipped and uniformed.

Recommendations as to the Establishment of the Active Militia Force.

I have hardly any suggestions to make relative to the Active Force of the Province, beyond those embodied in my report of the 2nd of last January, nor have I found any reason to change my views relative to the suggestions which are therein, and in previous reports from time to time, I have had the honor to present to your notice on the subject.

I would, however, remark that I think the time has now arrived when it would be feasible to organize several corps in various parts of the Province, which would be maintained efficiently.

School of Instruction for the Province.

The want of a School of Instruction, and the distance of this from the other Provinces where schools are established, is a difficulty which I respectfully suggest might be obviated by establishing a school here, in connection with the force on service, where certificates could be obtained; no expenditure of any great amount need be involved in this method beyond the pay of an Adjutant and Sergeant Instructor, to be taken from the force on service. The duties of Commandant of the school could be assumed without extra pay, by the Deputy Adjutant General of the District. The school need only be open for a limited period during the year.

Should the suggestion be entertained, I shall have the honor, if desired, of reporting fully on this subject.

Dominion Forces on Service in the North-West.

The reduction lately effected in the force on service here, has of course considerably altered the establishment of the corps comprising it, and it stands at present as follows:—

	Officers.	N. C. O. & Men.
Battery of Artillery	2	48
Provisional Battalion of Infantry	10	140

being a total of two hundred of all ranks.

The terms on which the reduction was effected, viz: a gratuity of two months net pay, and a sum of money equivalent to the cost of transport to the headquarters of the District of their enlistment, was so acceptable to the men, that nearly double the number of men authorized volunteered for discharge, the preference was, therefore, given to men of the longest service, and, of these, to those of the best character.

Expedition to the Q'Appelle Lakes.

Apart from the ordinary services of the troops this year, an expedition to the lakes of the Q'Appelle on the occasion of an important treaty with the Cree and the Cjibbewa tribes, is of some military interest, not only from the fact that a point in the interior was reached much farther to the westward than has ever previously been attained by any of Her Majesty's Forces, but that the expedition demonstrated the fact that Infantry can with facility and rapidity be marched over the plains without any large supporting bodies of cavalry, or heavy waggon trains, as in the case of expeditions in the United States.

As the marching is creditable to the troops employed, and the experience gained is likely to be of utility in the future, I embody a brief account of this expedition.

On the 13th of August last, notification was given me by the Honorable Mr. Laird, Minister of Interior, that a party (previously authorized from head quarters) would be required to proceed to Fort Q'Appelle with the least possible delay, to be present at the treaty above referred to.

On the 17th, transport for provisions, &c., having been in the meantime selected, the detachment marched from Winnipeg, the strength and composition being as follows:—

	Total.
Officers—Staff 2, Artillery 1, Infantry 5	8
N. C. O. & Men—Artillery 12, Infantry 93	105
	113
Scouts (half breeds) mounted	4
	117

The officers comprising the party were, Lieut.-Col. Osborne Smith, C. M. G., commanding; Surgeon A. Codd, Dominion Forces, Lieut. Cotton, Dominion Artillery, acting as transport officer, Ensign G. W. Street, Provisional Battalion, acting Adjutant, Captains A. Macdonald and W. M. Herchmer, Lieut. J. Allan, and Ensign de Cazes, of the Provisional Battalion.

The whole being divided into two companies.

One seven pounder mountain howitzer was taken with the party, dismounted, and stowed in a cart.

Beyond the camp equipage and provisions, (the latter of which had to be calculated to last for the march to Q'Appelle, the halt there, and the return as far as Fort Ellice, where I had arranged that supplies should meet us on our return), transport had to be provided for ammunition and the mountain howitzer; the total transport employed, including chargers of mounted officers, being twelve double waggons, fifteen carts, and forty-six horses. Of these, three waggons and seven horses were the property of the Militia Department, the remainder were hired.

A small drove of beef cattle accompanied the party, by this means transport was economized, and fresh meat was procurable constantly.

The scale of rations was as follows, daily per man:—

	Lbs.
Biscuit when served out	1½
Flour " "	1½
Fresh meat " "	1½
Bacon " "	1

Tea 1 oz., sugar 2 oz., beans, desiccated vegetables, pepper, salt, and baking powder, in sufficiency. On occasions of heavy marches, or bad weather, an extra half or quarter ration of one or more articles was given.

The paucity of transport rendered it impracticable to carry more than a limited supply of oats, and for twenty-eight days the horses were, without exception, on grass feed.

Tents, in the prescribed proportion were carried with the detachment. Besides the ordinary field kits, each man was supplied with two pairs of moccasins.

Sixty rounds of ammunition (small arm) per man, and the first reserve, was taken with the detachment, and a reserve of five thousand rounds sent to Fort Ellice. Forty rounds of common case was carried for the howitzer.

On the line of march the men were only compelled to carry their rifles, waistbelts, ball bags, canteen, bayonet and haversack.

The route on the march to Q'Appelle, which, in consideration of the question of wood and water, and grass feed for the horses, I thought best to take, was the comparatively little used trail south of the Assiniboine, which is crossed by fording that river at a place called the Grand Rapids, about one hundred and forty miles from Winnipeg; from this crossing the trail takes to the southward of Fort Ellice, and strikes the Q'Appelle Valley fifty-six miles to the east of Fort Q'Appelle; this point was reached by the detachment on the 5th of September. Here we were joined by His Honor Lieut.-Governor Morris, and the Honorable Mr. Laird, Commissioners for the treaty, and on the eighth we arrived at the place of destination.

During the negotiations for the treaty, and until the payments to the Indians were completed, the troops remained camped on the banks of the Q'Appelle river, about a quarter of a mile from the Hudson Bay Co.'s Fort.

During these ten days the duties were severe, as in addition to the camp and horse guards, a guard was maintained on the quarters of the Commissioners at the Fort, and a daily guard furnished, which remained under arms at the treaty marquee during negotiations.

On the 18th of September we left Fort Q'Appelle, crossed the Assiniboine River and Valley on the 24th, and arrived at Winnipeg on the 5th of October, thus making the entire actual distance of three hundred and thirty-three miles, in sixteen days and a half, inclusive of a day nearly entirely occupied by taking on supplies, and crossing the river at Fort Ellice, being an average of twenty miles and one third a day, at a rate of one mile in $17\frac{1}{2}$ minutes.

The following table of distances and time was kept and checked in the most scrupulously careful manner by officers regularly told off, every second of a halt being carefully noted, and the whole tabulated daily by Ensign Street, the Acting Adjutant:

MARCHING TIME FROM THE BARRACKS, WINNIPEG, TO FORT Q'APPELLE.

Date.	Time of Marching.		No. of Miles.	Remarks.
	Hours.	Min.		
1874.				
August.....	17	1 30	5	Left Barracks, Winnipeg, at or about 4:20, P.M.
	18	3 50	13	Camp, Headingly.
	19	6 05	23	Marched off at 6.25 A.M. Halted for night, 5.20 P.M. Camp Poplar Pt.
	20	4 55	16	do 6.40 A.M. do 3.30 P.M.
	21	5 27	20	do 7.30 A.M. do 5.10 P.M.
	22	3 40	13	Halted at 2.30 P.M.
	23	4 05	14	Marched off at 7.20 A.M. Halted for night, 4.10 P.M.
	24	6	22	do 6.00 A.M. do 4.20 P.M.
	25	3 15	11	do 5.50 A.M. Crossed Assiniboine, at Grand Rapids.
	26	4 47	15	do 6.10 A.M. Halted for night, 12.05
	27	4 50	17	do 6.20 A.M. do 2.55 P.M. Sand Hill Creek
	28	3 10	11	Halted for day at 11.15 A.M.
	29	7 23	25	Marched off at 6.05 A.M. Halted for night, 6.00 P.M.
	30	7 07	24	do 6.45 A.M. do 6.45 P.M. } Beaver Creek.
	31			Did not march. Very hot day.....
September..	1	4 55	18	Marched off at 5.55 A.M. Halted for night, 1.32 P.M.
	2	5 26	19	do 6.00 A.M. do 4.10 P.M.
	3	4 30	17	do 6.00 A.M. do 2.30 P.M.
	4	3 30	12	do 6.45 A.M. do 10.45 A.M. Very hot.
	5	7 03	25	do 5.53 A.M. do 4.05 P.M.
	6	5 33	18	do 6.07 A.M. do 3.40 P.M.
	7	2 15	08	Half day march.
	8	1 45	05	Arrived at Q'Appelle at 9.00 A.M.
		101 01	351	Average time per mile, $17\frac{1}{2}$ minutes. * Average number of miles per day, $17\frac{1}{2}$.

* The 17th August and 31st same month, and 7th and 8th September, are calculated as one day's march in this average.

MARCHING TIME FROM FORT Q'APPELLE TO WINNIPEG.

Date.	Time of Marching.		No. of Miles.	Remarks.
	Hours	Min.		
1874.				
September...	18	3 55	13	Marched off at 12.30 P.M. Halted for night, 5.00 P.M.
	19	7 03	24	do do 6.55 A.M. do 6.05 P.M.
	20	5 29	19	do do 7.00 A.M. do 1.55 P.M.
	21	4 58	18	do do 7.00 A.M. do 3.00 P.M.
	22	5 50	21	do do 6.50 A.M. do 4.20 P.M.
	23	7 25	26	do do 6.30 A.M. do 6.00 P.M.
	24	2 20	07	do do 9.10 A.M. do 5.35 P.M.
				Took in Supplies at Fort Ellice and crossed Assinaboine.
	25	4 40	15	Marched off at 7.00 A.M. Halted for night, 4.35 P.M.
	26	5 55	21	do do 7.00 A.M. do 5.20 P.M.
	27	7 40	27	do do 6.45 A.M. do 6.10 P.M.
	28	4 23	14	do do 8.17 A.M. do 2.20 P.M.
				Crossed Little Saskatchewan River.
	29	5 50	20	Marched off at 7.10 A.M. Halted for night, 4.30 P.M.
	30	6 35	23	do do 7.30 A.M. do 5.25 P.M.
October.	1	6 33	23	do do 7.05 A.M. do 6.50 P.M.
	2	6 20	22	do do 7.00 A.M. do 4.40 P.M.
	3	6 23	22	do do 7.05 A.M. do 4.25 P.M.
	4	5 10	18	do do 7.15 A.M. do 3.10 P.M.
				Marched into Barracks.
		96 29	333	Average time per mile, 17½ minutes. Average number of miles per day, 20½.

Memo.—On the return march the northern or Totojon route was taken, thus accounting for the difference in total distance to and from Q'Appelle.

Notwithstanding the rapid marching, the troops so far from being affected by fatigue appeared to gain daily in health and marching power.

No horses were lost or injured on the march.

No accident occurred.

Crime and irregularities were entirely absent.

The hearty support and co-operation of the officers was all that a commanding officer could desire, and I respectfully trust that the names of those employed may be favorably noted.

I beg especially to bring to the notice of the Major General commanding, the names of Lieutenant Cotton of the Dominion Artillery, and of Ensign Street of the Provisional Battalion, the former of these officers as Transport Officer, and the latter as Acting Adjutant were of the greatest assistance to me throughout.

The experience of this, the first march, I believe, on record, of British troops on the prairies, shows that infantry, even with the very improvised transport we had, can be expeditiously and economically moved from point to point. No horses, except as was done in this instance, should be used that are not either country bred or thoroughly acclimatized, where oats cannot be procured; or losses as disastrous as those experienced in a late expedition by a civil force, are certain to be met with.

Marching on the prairies and the plains is exceptionally difficult. In wet weather the adhesive nature of the soil and dry grass blades is very trying; in dry weather the soles of the boots get so polished in marching over the grass, that the wearer slips as though on ice, at all times the hard wiry grass cuts through the toe of the boot, as though with a knife. The best of "ammunition" boots should alone be issued, with the toes capped with fine sheet copper—an ample supply of moose moccasins should be taken with the quartermaster's stores.

The largest ration (in reason) that can be carried, should be allowed to the men.

No spirits should be taken, but a large ration of tea should be given.

In the spring and autumn, when feathered game is generally abundant, scouts, officers not on duty, and a few men who are fair shots, should be encouraged to start a little in advance, though keeping sight of the column, and shoot—by this means it is estimated that from two, to two and a half tons of pinnated grouse (prairie hen), geese and wild ducks were killed during the Q'Appelle march, and proved a valuable addition to the fare of the men.

A keg of water should be carried in every cart or waggon.

Two-horsed waggons, not loaded over sixteen hundred weight, appear best suited to prairie travel for troops—mules, of which we had two or three teams, are bad in soft or boggy ground.

The great difficulty of finding the requisites of wood, water and grass feed at the same place at convenient distances to equalize the day's march, is always present; but if mounted officers choose to exert themselves by a little galloping, these can often be found a mile or two to the right or left of the beaten trail, even when the scouts declare they do not exist.

Some stringent legislative regulation should pass, even extending to corporal punishment, in cases of grossly mutinous conduct on the part of hired teamsters. Wilfully destroying wheeled transport, or driving off horses to a distance from camp, may not only delay a march, but be disastrous to the party.

A large proportion, if not all, of the officers should be mounted; on the return march from Q'Appelle several of the officers procured ponies, and from their being mounted were of great utility in choosing camping places.

Where feed is not good, horses are most apt to stray; and hobbling, although to be avoided as much as possible, should on such occasions be resorted to.

A drove of beef cattle proportioned to strength of party, and chances of replenishing, is the most advantageous method of "carrying" meat. Salt, to corn unused portions after killing, for following days consumption, should be taken. Bacon and smoked shoulders are preferable on grounds of economy of transport, to pork; the barrels and brine are dead weight and useless.

Drums and fifes or bugles, should always be taken for marching on prairie land; nothing is so monotonous or fatiguing as a wide expanse of plain, unbroken often by tree or shrub, to march over; when men and horses are "fading down," a cheery march from the band lifts them along surprisingly. It is well worth while to devote transport for band instruments, and to let the bandsmen occasionally exchange their arms for them.

The "Bell Tent," of Dominion Militia pattern with high wall is, I consider, the best for troops on a prairie march, as better resisting the force of a storm, and giving more accommodation in proportion to weight than any other.

A communication from His Honor the Lieutenant-Governor, on the part of himself and Commissioners, was forwarded on the return of the troops, thanking them for their services; a copy of this has already been forwarded by me to headquarters.

Guard in Aid of the Civil Power.

On the 17th November, 1874, I was served with a requisition for a guard in aid of the civil power, in consequence of an apprehended attack on the gaol in Winnipeg; this guard has since that date been maintained.

Health of the Troops in Garrison.

Although typhoid fever at one season of the year was very prevalent in Winnipeg and the vicinity, the general health of the troops has been good during the past year.

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

W. OSBORNE SMITH, Lieut.-Colonel,

Deputy Adjt.-Genl., Military District No. 10, Commanding

Dominion Forces in North-West.

The Deputy Adjutant-General, Head-quarters, Ottawa.

MILITARY DISTRICT No. 11.

HEADQUARTERS, VICTORIA, B. C., Dec. 24th, 1874.

SIR,—I have the honor to forward herewith my report of the annual inspection of the corps in this Military District, from which you will perceive that I commenced with the inspection of the corps at New Westminster on the 30th of November.

This company was five short of its establishment through men having left the district recently, but Captain Edmonds reported that there would be no difficulty in replacing them, which I have requested him to do without delay.

The arms, clothing, and accoutrements were in good order, and the men presented a very smart and soldier-like appearance on parade.

The weather being most unfavorable I was obliged to hold my inspection in the drill shed, which being small, afforded me but slight opportunity of judging of their improvement in company's drill since my last inspection, and prevented me from seeing them skirmish. This I much regretted, as I am given to understand they have been chiefly practised in this drill during the past season. Such movements as were practicable, however were well performed, and I was much pleased with the progress they had made in the manual and firing exercises, which reflected a good deal of credit both on the men and officers, by whom they were instructed.

I was unable to get back from New Westminster so as to hold my inspection of the the Victoria corps at an earlier date than the 5th of December, the steamer having ceased to make semi-weekly trips, thereby necessitating a delay of an entire week at that place.

This is always the case during the winter months, and may be urged as an additional reason for the expediency of altering the inspection season in this Province, as recommended in my letter of the 12th October last on this subject.

On the 5th December, I paraded the two Victoria companies on Beacon Hill, on which occasion, His Honor the Lieutenant-Governor was present, and having accompanied me through my inspection, expressed himself highly pleased with the appearance of the men, and the manner in which the various movements were subsequently executed.

The clothing and accoutrements were in good order, and the arms (with a few slight exceptions to which attention was called) were clean and well taken care of.

After having marched past His Honor the Lieutenant-Governor, which was very creditably performed, the two companies were put through the manual and firing exercises by Captain Pooley, and subsequently drilled as a battalion by Captain Roscoe, in both of which the officers and men acquitted themselves most satisfactorily.

No. 1 company then skirmished with No. 2 in support, and after executing several movements in a highly creditable manner and expending ten rounds of blank ammunition per man, they retired on the supports and were marched home to the drill shed by the senior officer, Captain Roscoe, presenting a very soldier-like appearance while marching through the city, headed by their band of ten performers, who have also made considerable progress since last inspection.

On the 8th of December, I proceeded to Nanaimo and held my inspection there on the 10th instant.

The weather being also unfavorable there for an open air parade, I was obliged to assemble them in the Mechanic's Hall, which was kindly lent for the occasion, and has in fact been temporarily placed at their service as a drill hall pending other arrangements.

This company had only had the advantage of an instructor's service for six weeks previous to the inspection, and I was most agreeably surprised at the state of efficiency to which they had attained in so short a period.

Their arms, clothing and accoutrements were in excellent order, and they presented quite a smart appearance on parade.

I had them sized, told off and proved by Ensign Harvey, and the arms piled and unpaired, which was very well done.

They were then put through the manual and firing exercises by Captain Bryden, and the bayonet exercise by Lieutenant Prior, all of which were well executed.

The hall being very small I was unable to see much marching or company drill performed by them.

What little was done however gave me much satisfaction under the circumstances.

The instructor—Gunner's Mate Samuel Gill, of Her Majesty's Ship *Myrmidon*,—was not present, he having been obliged to return to his ship a week previous to my arrival at Nanaimo, but I have much pleasure in testifying to his ability as a drill instructor, and the pains, I am warranted by the result in concluding, he must have bestowed on the company to have brought them so quickly to such efficiency.

It also shows that great attention must have been bestowed by both the officers and men of this corps for which I must accord them their full share of credit.

This company is as yet provided with no rifle range beyond two hundred yards, so, although many of them have completed their annual practice by firing forty rounds at this distance, I have not thought it necessary to send in their practice returns or show their figure of merit.

They have an admirable site for a six hundred yard range which only requires some clearing, and I have requested Captain Bryden to make an estimate of the cost, which when completed will be forwarded for your information, and the sanction of the Hon. Minister of Militia and Defence.

I would also strongly and respectfully recommend that a sum of money be granted to this corps for assistance in the matter of the erection of a suitable drill shed, the Mechanics' Hall being entirely too small for the purpose, even were it possible to obtain the use of it at all times.

The board and wages of the drill instructor, Gill, amounted to somewhat more than I anticipated, but as his services were only available for six weeks instead of two months as applied for in my letter of the 13th June, it still comes within the sum therein recommended by me or the full year's drill allowance as sanctioned by a letter from the Acting Adjutant-General, dated Ottawa, June 1st, 1874.

Cost of drill instruction at Nanaimo:—
 Instructor's pay at \$25 per month; board at \$27 p. month
 1½ months require an additional appropriation, as the entire drill instruction pay for the current year has already been all but expended.

The number of men who mustered for inspection in the different localities was necessarily very small, owing to the inconvenient season selected for this purpose, to which I drew attention in my letter of the 12th October, before referred to, and for the same reason a considerable proportion of the men have been unable to complete their annual drill or firing practice for the current year, as they were absent from their company's head-quarters the greater portion of the time.

The drill shed at Victoria will, I expect, be completed by the end of this month, and I shall remove my office into it as soon as possible and have the stores which are now in possession of the Hudson Bay Company and Messrs. Sprout & Co., also transferred there immediately, so as to save the expense of rent and storage, and enable the store-keeper to make the proper returns, which up to the present has been quite impracticable, as a great portion of them are inaccessible without the expenditure of an immense amount of labor, which will be unnecessary once they are in the new building.

I look with much interest, however, for a reply to my letter of the 20th November on the subject of stoves and fuel for the building, as I think they will be most essential to the stores and armories particularly, the climate here, in winter, being exceedingly damp.

I regret that the letter from the Deputy Adjutant-General at headquarters, dated the 14th November, authorizing me to proceed with the organization and enrolment of the Seymour Artillery at New Westminster, did not reach me until after my return from making my annual inspection there, as it will now necessitate my making another trip for that special purpose.

This however I intend doing next steamer and have notified Lieut. Scott to that effect.

I have the honor to be, Sir,

Your obedient servant,

C. F. HOUGHTON, Lieut.-Colonel,

Deputy Adjutant-General, Military District No. 11.

The Deputy Adjutant-General,
Headquarters, Ottawa.

REPORT ON THE ARTILLERY OF THE PROVINCE OF ONTARIO.

KINGSTON, ONT., December, 1874.

SIR, — I have the honor to inform you that in accordance with instructions received, I inspected the following Batteries of Artillery in this Province, viz :

Hamilton Field Battery
Welland Canal “
Ottawa “
Kingston “
Durham “
Wellington “
Gananoque “
London “
Toronto “
Napanee Garrison Battery
Toronto “
Cobourg “

My inspection had special reference to the actual efficiency of the batteries, their numerical strength of men and horses appearing in the returns sent in by the Deputy Adjutant Generals of Districts, whose inspection was simultaneous, or within a day or so of mine.

With this end in view, after a minute inspection of men, horses, harnessing, &c., each Field Battery was called upon to march past at a walk and trot, and to perform a few simple field manœuvres under its own officers.

The non-commissioned officers and men were then examined individually and collectively in gun drill and a knowledge of ammunition, and the driving tested in limbering up and coming into action.

I regret not having had an opportunity of inspecting the batteries at their annual gun practice, and my report is necessarily deficient in this respect.

The only opportunity I had, viz : in the case of the London Field Battery at Port Stanley, was frustrated by unavoidable circumstances.

The Toronto Field Battery whom I had also hoped to have inspected at this exercise, performed their practice before going into camp, a custom which I hope will in future be discontinued, having in view the number of recruits to whom for want of sufficient preliminary drill such practice must be almost worthless.

I have now the honor to submit the following detailed report on the several batteries above mentioned :—

Hamilton Field Battery.

Inspected at Niagara Camp, 27th June, 1874, Captain Smith and Lieut. McMahan. Guns and carriages kept in very good order, but latter require painting. Horses

very good. Harness iron work rather rusty, with a good many straps deficient, principally side reins. Driving generally very good, but the drivers required instruction in fitting harness, and in many cases were unable to work their horses on the bit.

The marching past and field manœuvres under Captain Smith were very well executed.

The non-commissioned officers and men appear to have been carefully instructed, and are well up in gun drill but are somewhat deficient in a knowledge of ammunition. On the whole the present efficient state of this battery reflects great credit on its commanding officer, and it is to be hoped that his efforts may soon be seconded by properly qualified officers.

Welland Canal Field Battery.

Inspected in Niagara Camp, 27th June, 1874, Lieuts. King and McCracken. Guns and carriages in good condition; required repainting and slight repairs. Horses—a good many appeared to be too small for their work, but as they had two days before inspection performed the arduous task of marching 26 miles to camp on a hot day without any casualties, exception can hardly be taken in this particular.

Harness—not so clean as it might have been, with several deficiencies.

This battery has not drilled since 1872 and there were a large number of recruits in the ranks and among the drivers, in consequence the gun drill was badly performed, and very little could be done in field manœuvring.

Marching past was, however, very well performed, and I have great hopes that with the increased facility for drilling afforded by a drill shed about to be built for this battery at Port Robinson, their turnout next year will leave little to be desired, as the greatest zeal appears to animate all ranks, and both officers are well up in their duties.

Ottawa Field Battery.

Inspected at Camp, Ottawa, 30th June, 1874, Captain Stewart, Lieuts. Billings and Savage. Guns and carriages in good condition, but require repairs and painting. Horses very good. Harness clean and well fitted, and in consequence the battery looked very well on parade. Driving good. Marching past and field manœuvres under Captain Stewart very well performed, but the subaltern officers and sergeants did not appear to know their positions or duties.

The non-commissioned officers and men were well up in gun drill, but deficient in a knowledge of ammunition.

It would appear greatly conducive to the efficiency of this battery, were promotion among its non-commissioned officers to be regulated by efficiency and not altogether by seniority.

Kingston Field Battery.

Inspected at Camp, Kingston, 1st July, 1874, Major Kirkpatrick, Captains Graham and Wilmot. Guns and carriages in good condition, but require painting. Horses with a few exceptions very good. Harness not so clean as it ought to have been, with several deficiencies. Marching past and field manœuvres were well executed, and the non-commissioned officers and men were well up in gun drill.

This battery had the advantage of a Sergeant Instructor from the School of Gunnery, and a number of the men had been attached to "A" Battery, but I noticed the battery subaltern officers and sergeants appeared to be unable to instruct their men, and in consequence the latter appeared at a disadvantage.

Durham Field Battery.

Inspected at Camp, Cobourg, July 2nd, 1874, Captain Graham and Lieut. McLean. This battery had only just received its equipment. Guns and carriages require repairs

and painting. They have no ammunition wagons, and the equipment was very deficient. The horses were very good. The harness was new and well fitted.

Considering it was their first appearance with guns and horses, this battery presented a very creditable appearance on parade.

All ranks seems to have exerted themselves to the utmost, and in consequence the driving, marching past, and field manœuvres were very efficiently performed.

Great progress has been made in gun drill, which is to be hoped will be perfected during the winter.

Both officers have received Gunnery School Certificates, and are competent to instruct.

A Sergeant Instructor from the School of Gunnery was attached to this battery during the drill.

Wellington Field Battery.

Inspected at Camp, Guelph, 3rd July, 1874, Captain Macdonald, Lieuts. Nicholl and McRae. Guns and carriages in good condition. Harness nearly all new and well fitted. Horses with one or two exceptions very good.

Marching past and field manœuvres under Captain Macdonald and the subaltern officers, very well performed. Non-commissioned officers and men very well up in gun drill.

Two of the officers, and nearly all the non-commissioned officers, have obtained Gunnery School Certificates, and are able to instruct their men, so that, as might be expected, this battery is in a very efficient state.

I noticed, however, as in all the other batteries, a want of knowledge among the gunners of the ammunition and stores they are required to use: and it is to be regretted that this battery was not afforded any opportunity of performing its annual practice.

There appears to be no proper gun sheds where the equipment can be kept, or an opportunity afforded for the instruction of the men during the winter months.

Gananoque Field Battery.

Inspected at Camp, Gananoque, 11th September, 1874, Captain McKenzie, Lieuts Mitchell, Britton and McCammon. The first time this battery has turned out with guns, having received the latter from Ottawa Field Battery, but without waggons. Gun carriages require painting and repairs, and the equipment is very deficient. Harness new and generally well-fitted, but was not so clean as it ought to have been. Horses rather undersized, but apparently active and fit for work. Marching past well executed, and considerable progress has been made in field manœuvres. Gun drill well performed, and both officers and men appeared to have paid much attention to this particular. Captain McKenzie and Lieut. Britton, have obtained Gunnery School Certificates, and are competent to instruct.

It is to be hoped that this battery will continue to improve its efficiency by occasional drills during the winter months, and I should recommend that next year it should join a brigade camp for annual drill.

A Sergeant Instructor and two drivers were attached to this battery from the School of Gunnery, and contributed much to its efficiency by their instruction.

London Field Battery.

Inspected at Camp, Port Stanley, 18th September, 1874, Lieut.-Colonel Shanly, Lieuts. Peters and Williams. Guns and carriages and equipment in good condition, but the latter is deficient in some particulars. Horses very good. Harness in good condition, but deficient of side reins, and no curb bits are used; harness well fitted.

Field manœuvres under Lieuts. Peters and Williams, fairly well performed considering the nature of the ground which was limited in extent. Gun drill good, both non-commissioned officers and men appearing to understand their duties.

The subaltern officers are able to instruct their men.

This battery marched from Camp London, the day before inspection, 33 miles, for the purpose of performing their annual gun practice at Port Stanley.

I would hope that a similar opportunity may be afforded to all the Field Batteries in this Province, as the value of such practical training is indisputable.

Toronto Field Battery.

Inspected at Camp Holland Landing, 8th October, 1874. Captain Gray, Lieuts. Denison, Wright, and Green.

Guns, carriages, and equipments in good condition.

Horses generally undersized and not very good, owing to the time of year reported to be unfavorable for obtaining good horses, latter being much required for farming work.

Harness very clean and bright considering incessant wet weather while in camp, and generally well fitted, but no bits or side reins were used.

Marching past and field manœuvres under Captain Gray and the subaltern officers very good, but the driving was indifferent.

Non-commissioned officers and men efficient in gun drill with a good knowledge of ammunition.

Officers and non-commissioned officers able to instruct their men.

The Battery marched to camp from Toronto, 38 miles, in about 14 hours, with a halt of two hours, and returned in about the same time.

I have been informed that no injury to the horses or casualty occurred, but the distance seems excessive for untrained horses with strange and perhaps ill-fitting harness.

Napanee Garrison Battery.

Inspected at Napanee, 12th September, 1874. Captain Hooper, Lieuts. Henry and Abram.

This battery is composed of men of good physique and well uniformed.

I inspected them in the manual exercise which was well performed; the firing exercise not so good; company drill indifferent.

The non-commissioned officers and men were fairly up in gun drill, but owing to their having only one 32-pound gun on a standing carriage with a few handspikes and no equipment of drill stores or means of mounting and dismounting, no extended drills could be carried on, and there was little knowledge shown of ammunition.

Had this battery performed its annual drill in barracks at Kingston, with the advantage of drill stores and instructors, and a possibility of actual gun practice, a different and much more satisfactory result might be looked for, and I would strongly recommend that such may be arranged for next year.

The officers were able to instruct in gun drill.

Toronto Garrison Battery.

Inspected at Toronto, 9th October, 1874. Captain Gibson.

This battery paraded without arms so that I was unable to inspect them in manual and firing exercise.

They had not been instructed in company drill and their squad drill was very indifferent.

At standing gun drill, however, the battery appeared very efficient, and the non-commissioned officers were able to instruct their men.

Owing principally to the want of actual gun practice, there appeared to be little knowledge of ammunition or stores, and for want of proper material no instruction in mounting or dismounting ordnance, or in fact, in anything but gun drill had been attempted.

As in the case of the Napanee Battery I should recommend that this battery perform its annual drill in barracks, either in Kingston or in Toronto.

Cobourg Garrison Battery.

Inspected at Cobourg, 20th November, 1874, Captain Dumble. Appearance of battery on parade very good, uniforms being in good order and men of good physique.

Manual exercise very good; firing exercise indifferent; no opportunity of seeing the battery at company or squad drill, weather being unfavorable.

Standing gun drill very good. The Sergeants are able to instruct; no knowledge of ammunition or stores.

Like the other Garrison Batteries, no means of learning any other drills (except mortar drill) or of performing annual practice, recommendations as to annual drill the same as for the Napanee and Toronto Batteries.

CONCLUDING REMARKS.

Practice.

The general deficiency previously noted in knowledge of ammunition and stores can hardly be overcome by instruction during the limited time allowed for the annual training, when both officers and men have other and more pressing duties to perform.

Such knowledge is only to be acquired by careful training supplemented by deliberate and systematic target practice.

This very important part of the annual training of Batteries of Artillery does not seem to have had proper attention paid to it, and I am not aware of any orders, excepting those for annual drill of 1872-73, relating to the proper number of rounds to be fired, nor of any rules regarding the time of such expenditure.

I would strongly recommend that three days at least at the conclusion of the ordinary drill be set apart for gun practice, exclusive of the time required to march to and from the practice ground.

I trust that next year this subject may receive increased attention, for it must be borne in mind that excellence in this particular, joined with capability of movement is the only true criterion of efficiency.

Clothing.

The clothing has generally appeared to be complete and in good order, but I would strongly urge the issue of one pair of cloth trousers with straps, or of booted overalls, to each driver and mounted non-commissioned officer. The present issue of serge trousers without straps being quite unsuited to mounted duties. In many batteries I noticed drivers without either whip or spurs. The latter do not appear to be issued by Government. They are very essential and I would strongly recommend their issue.

Painting, Repairs, &c.

I should recommend immediate steps being taken for the repairing of carriages, &c., of such batteries as may require it, for the execution of necessary repairs, and for the completion of the proper equipment of small stores, &c.

Harnessing, Driving, &c.

Careful instruction seems to be much needed in the minor details of harnessing, driving, riding, &c. These, though very essential, are apt to be overlooked, and I can only propose as a remedy for these and other similar defects, that greater inducements be held out to officers and non-commissioned officers to attend the School of Gunnery, where, alone, such details can receive the attention they require. The issue of pay according to rank while at the School of Gunnery, would, I think, be greatly conducive towards the desired result.

Garrison Batteries.

From my inspection of the three Garrison Batteries previously mentioned, I am quite able to concur in the opinion expressed by Lieut.-Col. French in his last report, as to the expediency of bringing all garrison batteries into forts for proper instruction in artillery exercises and for discipline.

Should, however, that not be found practicable, the efficiency of these batteries would be greatly increased by issuing to each of them two 18-pounder siege guns on travelling carriages. They could then join a Brigade Camp and perform annual gun practice.

In concluding my report on the inspection of the above mentioned batteries, I have the honor to inform you that, from what I have observed, I am led to thoroughly endorse the recommendations made by Lieut.-Col. French in his last report, pages 38 and 39, Annual Report for 1873, relative to this subject.

I would also beg to state my unqualified satisfaction with the general appearance and efficiency of these batteries, and with the zeal and *esprit-de-corps*, which appears to animate all ranks, leading them to great exertions in endeavoring to perfect themselves in their sometimes arduous duties.

I have the honor to be, Sir,

Your obedient servant,

D. T. IRWIN, Major,

Commandant, School of Gunnery, & Asst. Insp. of
Artillery for Province of Ontario.

The Deputy Adjutant General,
Headquarters, Ottawa.

REPORT ON THE ARTILLERY OF THE PROVINCE OF QUEBEC.

CITADEL, QUEBEC, 31st December, 1874.

SIR,—I have the honor, in submitting my annual report, respectfully to inform you that I have little to add to the remarks and recommendations made in my reports for the last two years, except that the casemates of the Citadel of Quebec are, as you are no doubt aware, being placed in a state of thorough repair as well as those at Point Levis.

I beg to submit a copy of my last year's report on armament (A) which was not published, only adding to it the recommendation that the 9-pounder muzzle loading rifle gun of 6 cwt. might, advantageously, be substituted for the 9-pounder gun of 8 cwt. for Field Artillery.

I wish especially to draw your attention to the difficulties that beset a very excellent battery of respectable, intelligent and physically fine men, under command of Major Slous (1st class certificate "B" Battery Gunnery School), at Gaspé. The commanding officer and 12 non-commissioned officers obtained permission to join the Quebec Gunnery School last winter. After making arrangements for that object, the commanding officer and three non-commissioned officers only were permitted to join. The others having given up their winter employment, complained to me, through their commanding officer, that they had suffered seriously in consequence.

The battery is, further, much discouraged in consequence of not being supplied with guns with which, to my knowledge, they were informed they would be supplied two years ago. The expense I represented would be very little, if any, as there are plenty of 24-pounder smooth bore guns and carriages to spare at Quebec, which, with a few rounds of ammunition for practice, the Superintendent of the Marine and Fishery Department offered to send down, without cost, if authorized.

A large proportion of the uniforms served out to this corps are too small for the men, who are very much above the average in physique.

I need not remark upon the advantage of having an armament, of even smooth bore guns, at Gaspé Harbor, that would cost nothing and not deteriorate, the drills and exercises being the same as for the $\frac{6\frac{1}{2}}$ pounder converted Palliser rifled guns, for which the smooth bore guns could be subsequently exchanged if thought advisable, the iron carriages being suitable for either nature and not deteriorating from exposure to weather, &c., as before stated.

The same remarks as to armament apply to the excellently trained artillery detachment at Grande Isle Quarantine Station, under the command of Captain F. Montizaumbert, (1st class certificate "B" Battery Gunnery School.) They have only two 12-pounder smooth bore guns and one unserviceable 18-pounder, while the battery under Major Drumm, at St. Johns, Province of Quebec—a point of importance, commanding the Richelieu River, at the junction of three railroads—has only one gun. None of the above guns are sighted. All these corps offered to throw up batteries and mount guns if supplied from those in store at Quebec and Montreal.

Herewith enclosed :

Tabular return of inspection on the form supplied (No. 106 a) which is not, you will observe, suitable for Artillery or Engineer corps.

(B.) Report submitted by officer commanding Shefford Field Battery.

(C.) Report of officer commanding No. 1, Engineer Company, Montreal.

T. B. STRANGE, Lieut.-Colonel
Inspector of Artillery,
Province of Quebec.

(A)

Armament.

In view of the repeal of the Canada Defence Act by the Imperial Government, at the request of the Dominion, it is, I presume, futile to consider the nature of the rifled armament for Quebec proposed as a gift from the Imperial Government, or to speculate on the possibility of the Act being repealed. It only remains to consider the lowest cost of an efficient armament, *vide* last year's (1872) Militia Report, page xxix.

"The heaviest guns mounted on the Citadel at Quebec are four 7-inch breech-loading rifle guns on the salients, there are five more with carriages and platforms, and 200 rounds per gun in charge of the storekeeper at Quebec; and one dismantled where the platform was left incomplete by the Royal Engineers, by whom the carriages were laid in the salient of barrack bastion, which commands Dorchester Bridge head and a wide sweep of country. The trifling expense of filling in the concrete alone remains to be authorized.

Two of these guns having been sent to Kingston, I would recommend that the remaining three should be mounted, one on the salient of each fort at Point Levis, where no guns as heavy could be brought against them over land.

The important fortress of Quebec could be re-armed at a comparatively trifling cost, by selling the greater proportion of obsolete smooth bore guns for old iron, and substituting the Palliser converted $\frac{4\frac{1}{4}}$ pounder muzzle loading rifle guns. The old cast iron carriages, platforms, side arms, stores, shot, shell and ammunition could still be used with these guns, which retain their 32-pounder calibre and exterior form. Such an armament, simple, serviceable, incapable of injury by rough handling or climate, requiring no complicated drill, would fulfil all requirements, and if well posted, prevent or render it entirely hazardous for any enemy to attempt establishing batteries on the land, and St. Charles River front.

The building of a graving dock at Quebec which would, I presume, be available for the Royal Navy, point more closely than I can do to the necessity of protecting such an establishment from the fortress that commands it. The rise and fall of tide in St. Charles

River would be an advantage, giving a wet and dry dock at will, while the exchange of the 24-pounder smooth bore on the lower lines for $\frac{64}{32}$ Palliser, as proposed, would give complete defensive command.

The latter river could not be entered by iron clads except at a few hours at high tides, when they would run the risk of being left in the mud.

To cope with heavy iron clads on the St. Lawrence, such as are not, however, at present to be found in any Cis-Atlantic Navy, a few 12-ton muzzle loading rifle guns would be required, one on the King's Cavalier would give an all round fire with a perfect command over the deck of any vessel. Indeed a $\frac{64}{32}$ pounder shell striking the deck would, from the Citadel, be quite capable of knocking the bottom out of any iron clad, as they are, of course, unarmed below water, to say nothing of the effects of a bursting shell between decks.

A few rifled guns on the lower lines would be, however, necessary to keep vessels from getting inside the distance at which the Citadel guns could not be depressed. A few torpedoes commanded by guns would, it is hoped, prevent any ordinary floating enemy from bombarding the town.

The Volunteer and Militia Coast Artillery of Great Britain are almost entirely armed with $\frac{64}{32}$ Pounder Pallisers,* and the Government of India has also decided on a Palliser armament.

The Colony of Victoria, New South Wales, has purchased 20 of the $\frac{64}{32}$ Pounder converted Palliser, as proposed for Quebec; but they probably were compelled to pay for carriages and travelling platforms, &c., an expense which we can avoid by adopting the armament proposed.

Any other description of rifled guns would necessitate the purchase of new carriages and platforms, at a cost ten times greater than that of the proposed armament.

Take for example the 7-inch muzzle-loading rifles as the least expensive Garrison Gun—

Gun.....	£503	5	1
Sights.....	7	5	9
Carriages.....	140	8	0
Traversing Platform.....	230	5	0
Total.....	£881	3	10

or \$4,288 33, exclusive of racers and the cost of laying them.

30 Guns at £881 3 10 each, £26,435 15 0—\$128,656.97. Compare this to £4,098 12 5—\$19,945.97, the cost of the proposed armament of, say 30 $\frac{64}{32}$ Pounder M.L.R. Guns, at £136 12 5 each, including sights, and from which may be deducted the probable amount to be realized by the sale of old guns.

It will be necessary to examine the old guns to find the exact number unserviceable, but it may be roughly estimated as follows, viz :

At Quebec alone 173 tons 16 cwt., at £4 2 6 per ton—£716 18 6.

The above prices are taken from No. 2 balance sheet of the Woolwich price lists, which is 15 per cent. above cost price, but the old guns will probably realize more than the price laid down in consequence of the rise in iron.

The same remarks apply to Kingston, St. Helen's Island, and other places in the Dominion where there are a considerable number of old guns, the sale of which would go towards paying for an efficient armament.

The existing supply of iron carriages, on which time and climate produce no effect, would serve to mount the new rifle guns.

At Quebec alone the number is as follows :

Carriages 64, platforms 33, all suitable for $\frac{64}{32}$ Pounder muzzle-loading guns.

* Since this report was submitted, I am informed that the Volunteer Garrison Artillery at Halifax, N.S., have also been supplied with them by the liberality of the Imperial Government,

I beg to refer you to my letter dated 8th April, 1873, informing you that the pillar percussion fuzes supplied for the 7th B. L. R. Guns are obsolete, and the number of tin cups below regulation; also the percussion fuzes with the 7-pounder Mountain Guns are not suitable. The Laboratory percussion fuze marked II is now supplied for the 7-pounder. M.L.R., and the General Service Percussion in lieu of Pillar fuzes.

The small quantity of ammunition in charge of the Militia Batteries that I inspected was in good order, except a few rounds of blank 24-pounder in the old and ruinous magazine at St. Johns, P.Q., which were unserviceable.

The temporary magazine in that barracks contains both heavy gun ammunition and small arm. -

It is dangerous and contrary to regulation to place the latter, which contains detonating composition, with the former.

The guns in charge of the St. John's Battery and Grosse Isle are not sighted: it would be impossible to make correct practice with them. If authority was given, the Ordnance Armourer from "B" Battery could easily perform this service. There are two small arm armourers paid on "B" Battery muster rolls, and render no service to the Battery, and are not under my control. I suggest that their pay, \$1.50 each, should be drawn from some other source.

The guns and carriages at St. Helen's Island were lacquered and painted by the detachment "B" Battery (in 1873), but there are not sufficient men at my disposal to perform this service at Quebec except to a very limited extent.

Wooden carriages are preserved by painting and filling up cracks, and the bores of the guns are prevented from corrosion by lacquering in accordance with regulations.

With regard to the ventilation of magazines at Quebec, which are not, however, in my charge, I beg to refer to recommendations in letter dated 11th July, 1872.

I fully concur in the remarks of Lieut.-Colonel French, late Dominion Inspector of Artillery, pages xxxviii and xxxix, Militia Report for last year (1872), in which he points out "the advisability of commencing even on the smallest possible scale the manufacture and repair of those warlike stores most needed for the defence of the country." I recommended the same 17th May, 1872, and 21st June, 1872.

There are two rates of payments for warlike stores purchased from the Home Government. No. 1 balance sheet shows cost price. No. 2 balance sheet seems to be the rate charged to foreign nations for the purchase of warlike stores, and Colonies seem to be placed on the same footing, with an addition of 15 per cent. to the rate laid down in No. 2 balance sheet, which in the case of R. L. G. Gunpowder, is nearly double the cost price, viz:

No. 1 balance sheet gunpowder per 100 lbs., at £2 10 11½; No. 2 balance sheet, £4 7 4½.

In addition to this 100 per cent., there is the fact, that for making up cannon* and small arm cartridges, repairing small arms, gun-carriages, &c., there are numbers of public buildings lying idle; the use of these rent free would be a sufficient set off to the increased price of labor in this country, particularly if it be borne in mind that the labor of children is employed to a large degree in certain of the minor operations. In the long winter season when labor is abundant, work could be carried on, and discontinued in summer.

I would, in conclusion, submit that the establishment of an arsenal on a small scale may be pressed on the attention of the Government, especially since a higher percentage than that heretofore charged is likely to be put on warlike stores, in consequence of the rise in the price of coal and iron in England.

T. B. STRANGE, Lt-Colonel,

Inspector of Artillery, Province of Quebec.

*19,309½ lbs. powder have been made into cannon cartridges at the Quebec Laboratory by the non-commissioned officers "B," Battery, without cost to Government. These cartridges have been distributed for use in the Dominion, including Ontario and New Brunswick.

(B.)

[Forwarded to the Deputy Adjutant-General at Headquarters, for submission to the Major-General Commanding. Major Amyrauld is an excellent officer and obtained a 1st class certificate at "B" Battery Gunnery School, Quebec.

T. B. Strange, Lieut.-Colonel, Inspector of Artillery.]

MONTREAL, 10th November, 1874.

SIR, — I have the honor to report that in compliance with district orders, the Shefford Field Battery, under my command, mustered at Granby in full marching order at noon on the 14th September last, to proceed to camp at Laprairie.

I had obtained previously the tents and blankets required, and as the battery has not been supplied with ammunition waggons, I placed the tents and all the baggage in four waggons which I provided, along with the provisions necessary for the subsistence of the battery during the march.

I kept a party of four men and an intelligent non-commissioned officer ahead to procure forage and wood at the halting places previously selected, with also instructions to examine and enquire about the bridges, to leave a man behind if any bridge was thought unsafe, until the battery came up.

The battery moved out of Granby at noon on the 14th September and we reached Abbotsford at 2:30 p.m. where we halted to feed the horses and the men had their dinner.

We left Abbotsford at 4:30 p.m. and moved towards St. Césaire. About two miles east of that village I found a bridge over a rivulet, one man of my advance guard who reported the bridge unsafe. I examined the bridge with my officers and decided to cross over it. I, however, for greater safety, unhooked the four leaders of each gun before crossing.

There is a ford on the right of the road and in one hour's work roads could have been cut down the banks.

The road from Granby to Chambly is an old Government macadamized road, the main artery of traffic from Montreal to the eastern townships previous to the building of railways, and is kept in good repairs by the municipalities who have now charge of it. But the bridge above mentioned, to the village of St. Césaire, the road was originally planked as it was thought the bottom too soft for macadamizing. The planks are now all gone and in spring and fall that part of the road is impassable. In an emergency, however, the road could be made practicable by covering it crossways with rails, plenty of which could be found along the road. At St. Césaire I sent the tents and baggage ahead, and we arrived at Rougemont, our camping place for the night, at 7:30 p.m. and found the tents pitched in an orchard north of road, on dry ground, and all provision made by my advance party.

We left Rougemont with all our camp equipage properly packed, at 7:30 a.m., immediately after breakfast, and passing through St. Marie, Richelieu, and crossing the Richelieu River at Chambly Centre on a very good toll bridge, and reaching the old French Fort on at 10:30 a.m. There the horses were picketed and it being quite warm I gave leave to the men to bathe in the Basin before dinner.

After dinner, the horses being fed, we left the old Fort at 1:30 p.m., and leaving Chambly village and the Montreal road to the right, followed the road up the Montreal River which we crossed over a very good wooden bridge at an old grist mill, then passing through Brosseau's and Laprairie village we marched into camp at 5:30 p.m.

Just before reaching Laprairie we had to cross a temporary bridge over the rivulet on the route to St. Lambert which caused me considerable anxiety. The leaders were unhooked, gunners and drivers dismounted, and we got over safely.

Thirty minutes after marching into camp the tents were pitched, the horses feeding, and the men at their supper.

I issued on the next morning the following standing orders for drill, &c., &c. :—

6 a.m.—Reveille.

6½ to 7½ a.m.—Parade { Gunnery fort drill.
Drivers stable duties.

8 a.m.—Breakfast.

9½ to 11½ a.m.—Parade { Gunnery gun drill, &c., &c.
Drivers driving drill with limbers.

12 to 12½ p.m.—Parade, drivers stable.

12½ p.m.—Dinner.

2 to 4 p.m.—Parade, under commanding officer.

5 to 5½ p.m.—Parade, drivers stable.

5½ p.m.—Tea.

7 to 8 p.m.—Lecture on gunnery, ammunition, &c., &c., by commanding officer to non-commissioned officers and gunners.

Instructions in harness fitting, &c., &c., to drivers.

As to the proficiency attained it is not for me to say, but I hope that when you inspected the battery you have found that my efforts in bringing my men into a state of efficiency have not been altogether lost.

The shot practice of the battery was carried on in your presence, and we have been highly pleased in hearing of your satisfaction at the result. The shells and fuzes not having been issued yet, I intend to call out the battery for shell practice as soon as I receive them. We have a good range at Granby. The behaviour of my men, their attention to their duties and disposition to learn, were all I could desire. The number of Gunnery School cadets I have in my battery was a great help to me, it gave tone to the whole corps and enabled me to enforce proper discipline without any difficulty. My non-commissioned officers being all Gunnery School cadets, acted as instructors during the camp.

The battery marched home from camp under command of Lieutenant Neil, and all the guns, stores, arms and equipments, harness, &c., &c., were returned into the armory, properly cleaned and in good order, on the 25th September, and the men were dismissed.

When in camp I lost two horses, one died of inflammation of the bowels caused by exposure, and the other was killed on the Grand Trunk Railway. Reports have been made and claims for compensation sent up and I hope it will be granted as it will make it difficult to obtain horses if the Government do not assume the responsibility of such accidents.

According to your desire I also send you with this report an itinerary (*not printed*) of the march of the battery from Granby to camp, with such report on the road as the time I had allowed me to make. The map shows quite a section of country. It was enlarged from a pretty good map in my possession on the scale of five miles to the inch. The map of Granby, and features of the ground are taken from a rough survey I made previously; the woods were indicated and the map corrected along the road from personal observation. The details on each place are rather incomplete but I could not gather any more in the time allowed me when marching with my battery.

I have the honor to be, Sir,

Your obedient servant,

T. AMYRAULD, Major.

Commanding Shefford Field Battery.

Lieut. Colonel Strange,
Inspector of Artillery,
Quebec.

(C.)

[Forwarded to the Deputy Adjutant-General, Headquarters, 9th January, 1875.

T. B. Strange, Lieut.-Colonel, I. of A.]

ST. HELEN'S ISLAND, December 7th, 1874.

SIR,—I have the honor to enclose diary of the training of the Engineer Company under my command.

The twelve drills for which they draw pay have been performed, and they are now drilling voluntary twice a week until a course of twelve more shall be completed.

The company musters forty-one of all ranks, and the conduct of the men while going through their training has been steady and attentive.

The want of a more suitable room for both drill and lecture purposes is greatly felt, as the one room in use answers the purpose very poorly in every respect.

This matter was represented at the completion of last years' training, and permission requested to return to the drill shed, Craig Street, where the room formerly occupied is better and more central.

The target practice for this year will be carried out as soon as practicable.

I have the honor to be, Sir,

Your most obedient servant,

JAS. A. DEVINE, Lieutenant,

Commanding 1st Company M. V. E.

To Lieut.-Col. T. B. Strange,
Inspector of Artillery and Engineers,
Citadel, Quebec.

APPENDIX No. 2.

REPORT ON "A" BATTERY SCHOOL OF GUNNERY.

KINGSTON, ONTARIO, 31st December, 1874.

During the year ending 31st December, 1874, five officers, 152 non-commissioned officers and men joined this school. The numbers from each battery in the Province will be seen on reference to the subjoined list :—

BATTERIES.	Officers.	Non-Com. Officers and men.	Total.
London Field Battery		12	12
Wellington do		13	13
Goderich Garrison Battery		2	2
Sarnia do			
Hamilton Field Battery		2	2
Welland Canal do		9	9
Toronto do	1	20	21
St. Catharines Garrison Artillery		6	6
Toronto do		17	17
Collingwood do			
Kingston Field Battery		50	50
Durham do			
Cobourg Garrison Artillery	1	1	2
Port Hope do			
Napanee do		3	3
Trenton do		1	1
Ottawa Field Artillery		3	3
Gananoque do		1	1
Ottawa Brigade Garrison Artillery		6	6
New Brunswick do	1		1
Winnipeg Field Battery	1	1	2
Artillery on duty, Manitoba	1		1
Total	5	147	152

The following short course certificates have been received during the past year :

	1st class.	2nd class.
Officers	6	0
Non-commissioned Officers and Men	16	20
Total	22	20
Shewing an increase on last year of	7	14

Fifteen non-commissioned officers and men received their discharge from the school for the purpose of engaging in the North West Mounted Police. During the past year four officers, fifty-nine non-commissioned officers and men joined the school for a short course of instruction.

1. The results of this, the third year of the existence of this school, have as regards the attendance and instruction of non-commissioned officers and men been very satisfactory, and I have uniformly found, during my inspection of the greater portion of the artillery of this Province, the good results attending the intermixture, in the ranks of the volunteers of non-commissioned officers and men who have received such instruction and experience in their duties and discipline. The non-attendance of officers in greater numbers for a short course of instruction is much to be deprecated, I attribute their reluctance in coming forward principally to the two following reasons, viz: 1st. The

necessary expense attendant on the purchase of a varied and costly uniform, and the necessity of providing sufficient barrack furniture to supplement the regulation table and chairs, it being borne in mind that for officers attending a course of instruction the pay is only \$1 per diem and rations; and 2ndly—the difficulty, and in some cases, the impossibility of officers and men, who may be engaged in professional or commercial pursuits, absenting themselves from their duties for so long a period as two or three months.

To obviate the above I would suggest as a remedy with regard to the former, that a serge jacket with appropriate facings, to cost about \$7 be substituted for the present expensive patrol jacket, and the use of the ordinary tunic at mess, instead of the shell jacket, left optional. That a few necessary articles of furniture be supplied to quarters for “Short Course” officers, and that the pay of such officers and non-commissioned officers, while at the school, be according to rank.

With regard to the latter I would recommend that, during the summer months, classes of instruction under the superintendance of a properly qualified officer from the School of Gunnery assisted by one or more sergeant instructors, be formed at Ottawa and Toronto, or elsewhere if required, and under rules to be hereafter laid down, at the close of say a two months course of three hours per diem, an examination practical and theoretical could be held by the Commandant School of Gunnery, and 2nd or 3rd class certificates awarded. The holders of these might afterwards qualify for a higher grade by attending one month's course at the school, for additional instruction in interior economy, discipline and riding, &c.

2. I would recommend the adoption of a 3rd class certificate, to meet the case of certain non-commissioned officers and men, who though capable to instruct in drills &c., are of inferior education, such certificates not to qualify the holder as fit for a commission.

3. An increase in the present Field Battery establishment of the Schools of Gunnery, has been previously recommended by the Inspectors of Artillery in Quebec and Ontario. As in “A” Battery there are at present 71 men belonging to different field batteries in the Province, the importance of providing adequate means for their instruction will be at once apparent.

4. I would recommend the enrolment of certain non-commissioned officers and men for three years' service in “A” Battery. The former would consist of sergeant-major, quarter-master sergeant, sergeant instructors, battery artificers, musicians, care-takers for forts, canteen steward, hospital sergeant, &c., &c. From the nature of their employments, these men are unable to join their own batteries for annual drill, &c., should not therefore be borne upon their strength, whilst the due performance of their duties demands a lengthened experience.

5. It being found that greater numbers of non-commissioned officers and men present themselves for admission for short courses of instruction during the winter, than during the summer months. I would recommend that at such periods the establishment of “A” Battery be increased, to be compensated for by a corresponding decrease during summer.

5. A rifle association has been kept up in the School of Gunnery during the past two years, an annual match being fired in the month of June, and aggregate prizes subscribed for the best scores made on a certain number of Saturday afternoons. Last year the association numbered 77 members.

6. A summer camp for a week in August was formed on the lake shore, about five miles from town, during which the battery was instructed in camp duties, ordinary drills and field gun practice. The officers performed a survey and a road sketch, opportunity was afforded for athletic sports, swimming, &c. The rations were brought out by the battery horses, &c. The conduct of the men was excellent.

7. During the past year all the officers and one non-commissioned officer, have been instructed in surveying, road sketching, reconnoissances and defence of buildings. Considerable progress has been made in the above studies.

I have the honor to be, Sir,

Your obedient servant,

D. T. IRWIN, Major,
Commandant School of Gunnery.

The Deputy Adjutant General,
Headquarters, Ottawa.

 REPORT ON "B" BATTERY SCHOOL OF GUNNERY.

CITADEL, QUEBEC, 31st December, 1874.

SIR,—I have the honour to forward a synopsis of the instruction carried out for the last three years in "B" Battery Gunnery School, and beg to state that not having a sufficient staff of assistants, I desire, with your permission to lower the standard of instruction by omitting from the "Long Course," mathematics, as applied to the higher gunnery problems, military history, and the construction of siege batteries, rafts and bridges, for which there is a difficulty in obtaining the necessary material, as well as working parties from the multiplicity of duties devolving on the small force under my command.

I need not in this report, I presume, refer in detail to the recommendations previously submitted with reference to the subdivision of the 174 of all ranks of "B" Battery into a brigade of 3 batteries of 80 each, one serving as a branch School of Gunnery at Montreal, which has already been at work for two years without any expense, as yet, to the Government beyond the pay of the officer and non-commissioned officer and 20 men of the St. Helen's Island detachment "B" Battery. It is scarcely necessary to refer to the facility with which cavalry and infantry drills could also be taught by such an establishment as proposed.

Herewith enclosed :

- (A.) Return of officers, non-commissioned officers and men, joined during the current year.
- (B.) Annual return of certificates granted and shewing the decimal proportion of credit gained.
- (C.) Synopsis of instruction—long and short courses.
- (D.) Examples of examination ; questions for the current year.

T. B. STRANGE, Lieut.-Colonel,
Inspector of Artillery, and Comdt. Gunnery School, Quebec.

Deputy Adjutant-General
of Militia, Ottawa.

(A.)

"B" BATTERY, SCHOOL OF GUNNERY.

Return of Officers, Non-Commissioned Officers and Men, joined from 1st January, 1874, to 31st December, 1874, showing the Military District, also the Corps in which each man is nominally enrolled.

CITADEL, QUEBEC, 31st December, 1874.

RANKS.	Corps in which enrolled.										REMARKS.	
	Military District, No. 5.					Military District, No. 7.						
	Shefford Field Battery.	Montreal Garrison Artillery.	Sherbrooke Battery Garrison Artillery.	Montreal Engineers, No. 1 Co'y.	Quebec Field Battery.	Late Beauce Field Battery.	Late Quebec Garrison Artillery.	Gaspe Battery Garrison Artillery.	"B" Battery Artillery.	Manitoba Military District No. 10.		Total.
Officers				1		1		1		*1	4	*Capt. Taschereau, commanding Artillery in Manitoba.
Non-Commissioned Officers and Men.....	10	3	27	....	16	2	12	3	31	....	134	There are no Artillery or Engineers in Military District No. 6.

The Deputy Adjutant-General,
Headquarters, Ottawa.

T. B. STRANGE, Lieut.-Col.,
Commandant G. S. Quebec.

(B).—" B " BATTERY

NAMES of OFFICERS, Non-commissioned Officers and Gunners and Drivers who 1874, showing the subjects of examination

SUBJECTS OF EXAMINATION.		Corps.	Class Certificate Granted.	Gunnery.	Artillery Material.	Shifting Ordnance.			
Decimal proportion of credit gained.				Decimal.	Decimal.	Decimal.			
Major	Slous, J	Gaspé G. A.	First	.80	.64	.84			
Captain	Taschereau, E.	Manitoba G. A.	First	.70	.63				
Captain	Huddle, A. O. R.	G. T. Brigade, G. A.	Second	The papers of these Officers average credit only of each					
Lieut	Whittaker, S.		Second						
Lieut	Wiesenbone, J. R.		Second						
Lieut	Elliott, T. W.		Second						
Lieut	Pangman, J.	Montreal G. A.	Second						
Lieut	Boswell, St. G. J.	Montreal Eng.	First	.80	.60	.75			
Lieut	Sheppard, H.	Late Quebec G. A.	First	.92	.91	.94			
Lieut	Duchesnay, E.	Late Beauce F. B.	First	.88	.55				
Sergeant	Kay, W.	Shefford, F. B., Art	Second	.73	.70	.80			
Corporal	Taylor, J.		Second	.90	.88	.84			
Corporal	Neil, U.		Second	.77	.66	.65			
Corporal	Ingalls, A. G.		Second	.80	.37	.90			
Corporal	Woolley, A.		Second	.47	.30	.73			
Bombardier	Erskine, J.		Second	.74	.42	.78			
Bombardier	Seale, G.		Second	.67	.58	.75			
Corporal	Tilton, O.		Second	.47	.50	.59			
Bombardier	Kirk, M.		Second	.86	.00	.75			
Gunner	Gardiner, G.		"B" Battery Art.	Second	.78	.00	.54		
Driver	Scott, A.	Gaspé By., G. A.	Second	.44	.00	.65			
Sergeant	B. ehervais, J.		Second	.81	.88	.88			
Sergeant	Carter, A.		Second	.85	.81	.84			
Sergeant	Patterson, W.	G. T. Brigade, G. A.	Second	.85	.75	.81			
Sergeant	Martin		Second						
Corporal	Noakes	Montreal Brigade, V. A.	Second	The papers of these Non-Com instruction, the average					
Sergt.-Major	Pendleton		Second						
Sergeant	Winne		Second						
Sergeant	Wilson		Second						
Sergeant	Riddle		Second						
Sergeant	Blackhall		Second						
Corporal	Holman		Second						
Acting Bombardier	Thompson, S.		Second				.73	1.00	.88
Acting Bombardier	Murphy, P.		Second				.40	.98	.58
Acting Bombardier	Richie, A.		Second				.80	.92	.66
Gunner	Hindle, J.	Second	.37	.92	.76				
Gunner	McDonald, A.	Second	.66	.92	.80				
Gunner	Dolan, P.	Second	.33	.96	.88				
Corporal	Walsh, P.	Second	.82	.92	.63				
Corporal	Dolby, A. J.	Second	.92	.51	.89				
Corporal	Laloux, E.	"B" Battery Art.	Second	.78	.31	.58			
Acting Bombardier	Elvin, R.	Second	.75	.56	.86				
Gunner	Duffy, P.	Second	.55	.39	.58				
Gunner	Fairley, A.	Second	.81	.30	.65				
Gunner	Langlois P.	Second	.74	.31	.40				
Gunner	Perry, R.	Second	.51	.48	.49				
Gunner	Baker, J.	Second	.97	.77	.87				
Gunner	Watson, J.	Second	.70	.50	.64				

The Deputy Adjutant-General,
Headquarters, Ottawa.

(C)

SYNOPSIS OF OFFICER'S SHORT COURSE, GUNNERY SCHOOL, QUEBEC.

PRACTICAL EXERCISES AND DUTIES.

 *Garrison Artillery.**Field Artillery.*

Arm drill	Field Gun drill
Company drill	Riding and driving drill
Heavy Gun drill, S. B.	Field Battery movements
do., Rifled	Disabled Field Ordnance, removal of
Mortar drill	Knotting and lashing
do., (removal on Trench carts)	Mounted Sword exercise
Gyn drill	Gun practice
Shifting Ordnance	Making up ammunition
Sling waggon	Examination of Ordnance
Knotting and lashing	Taking angles with Sextant for Range finding
Gun practice	Interior Economy
Making up ammunition	Stable and Regimental duties
Examination of Ordnance	Attending Courts-martial.
Taking angles with Sextant for Range finding	
Visiting (weekly) Artillery stores and district	
Interior Economy and Regimental duty	
Attending Courts-martial.	

Officer's will give their special attention to those subjects which belong to their own branch of Artillery service, but will be expected to have a general idea of the whole.

T. B. STRANGE, Lieut.-Col.,
Commandant S. G., & I. of A.

SYNOPSIS OF SHORT COURSE, GUNNERY SCHOOL, QUEBEC.

THEORY.

Gunnery, exclusive of applied Mathematics
 Knowledge of Artillery Material, such as exists in Citadel, Quebec
 Laboratory Operations as performed at Quebec
 Examination and Sighting Ordnance
 Elementary Fortification
 Minor tactics of Artillery, in connection with the other arms
 Range finding, use of Sextant and Prismatic Compass
 General knowledge of Militia Regulations, Queen's Regulations and Articles of War, as applicable to Militia.

T. B. STRANGE, Lieut.-Col.,
Commandant S. G. & I. of A.

SYLLABUS OF OFFICER'S LONG COURSE, GUNNERY SCHOOL, QUEBEC.

To be able to Instruct in

Gun drills } and practice
 Mortar drill }
 Gyn drill
 Shifting Ordnance.

To have a Good Knowledge of

Infantry drill
 Riding drill and Stable duties
 Field Artillery movements and positions
 Artillery Material and Stores
 Examination and Sighting Ordnance
 Laboratory Operations
 Construction of Siege batteries, rafts, and bridges
 Gunnery and applied Mathematics
 Fortifications and Sieges
 Military surveying and Reconnaissance
 Tactics of all arms, Strategy, and Military History of one Campaign
 Interior Economy, Regimental duty, and charge of Armament of the fortress.
 Queen's and Militia regulations, and Articles of War as applied to Canadian Militia.

T. B. STRANGE, Lieut.-Col.,
 Commandant S. G., & I. of A.

(D.)

OFFICERS' LONG COURSE.

GUNNERY SCHOOL, QUEBEC April, 1874.

Gunnery.

1. Define the terms energy of a projectile in foot lbs; energy in foot tons, and give the formulæ for finding the total amount of work stored up in a projectile, and per inch of circumference?
2. Why have solid shot been abandoned in favour of shell for rifle guns?
3. Find the charge and length of fuse in a 13 inch mortar at 1,800 yards.
4. Supposing a 12 lbs. projectile was substituted for that of 3 lbs. with the M. L. R. field guns, the charge of powder remaining the same, the initial velocity of the 9 Pr. being 1,400 feet, per second, and that of the 12 Pr. 1,300; find the remaining velocity of both projectiles at 2,000 yards; and explain the reason why the shot with the lowest initial velocity has the highest remaining velocity at the range given. What do you suppose was the reason for not adopting the most powerful projectile?
5. Could the charge of powder for the above M. L. R. field gun have been advantageously increased to 2 lbs. for the 12 lbs. shell?
6. Calculate the striking velocity, at a range of 1,000 yards, of a 9 inch Palliser shell 250 lbs. fired from a Woolwich rifle gun, with the initial velocity of 1,420 feet per second?
7. What thickness of iron armour would the above projectile penetrate at the range stated, not taking wood backing into calculation?

T. B. STRANGE,
 Inspector of Artillery and Comdt. S.

SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, April, 1874.

Field Gunnery.

1. Define the following terms :—Trajectory, line of sight, line of fire, point blank range, deflexion, derivation ?
2. What is meant by curved fire ?
3. What projectiles and fuses would you use respectively against troops in the open, troops behind a stockade, troops sheltered behind rising ground or in woods ; and how would you act against artillery whose limbers and horses were sheltered ?
4. Give the rough rule for calculating length of fuse for common and Shrapnel shell, (rifled guns,) take Shrapnel at 1,500 yards as an example ?
5. State the rules for calculating deflexion for wind across range, and for one wheel being on higher ground than the other ?
6. On first coming into action how would you regulate and correct the fire of your guns ?
7. State in detail the positions and duties of the members in action with 9 Pr. M. L. R. field guns, and the duties in case the gun detachments were reduced to five and six men by casualties ?

T. B. STRANGE, Lieut.-Col.,
Insp. of Artillery and Comdt. S. G.

SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, April, 1874.

Field Artillery.

1. Describe the method of preparing and fixing the different fuzes, time and percussion, for the 9 Pr. M. L. R. gun. What precaution is used when the shells are carried filled in the limbers ?
2. Give distances of close interval with six horses.

$\frac{1}{4}$	do	“	“
$\frac{1}{2}$	do	“	“
Full	do	“	“
3. State movements of the different divisions in forming column of divisions in rear of the right from line, (with diagram) ?
4. With four guns in action, change front half right on No. 3 for action. Shew the movement by a diagram ?

Harness.

1. Name the different parts of a set of wheel harness ?
2. How do you disengage a fallen shaft horse ?
3. What shift would you make if the off shaft was broken and no spare one at hand ?
4. What principal points are to be observed in adjusting collar, traces, belly band, breeching and side rein ?

T. B. STRANGE, Lieut.-Col.,
Insp. of Artillery and Comdt. G. S.

 SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, April, 1874.

Field Artillery Material.

1. Describe the construction system of rifling, sighting, weight calibre, and charge of the 9 Pr. M. L. R. field guns.
2. Describe its case shot, and common Shrapnell shell, their action and the fuzes used with them.
3. Describe a common friction tube, give its diameter, and that of the vent. What substitute could you make if the supply ran short on service.
4. What are the ingredients of service gun powder, in what proportion are they used, and what is the specific action of each?
5. Is there any advantage in using gun cotton for the bursting charges of shells? Would you prefer dry gun cotton, or shells filled with water, with a little gun cotton pulp in it? What modification of fuse would be necessary?
6. Name the different parts of the gun carriage and limber, the number and nature of rounds carried in it, together with the stores carried on it in marching order.

T. B. STRANGE, Lieut.-Col.,
Commandant S. G. Quebec.

 FIELD ARTILLERY.

GUNNERY SCHOOL, QUEBEC, April, 1874.

Tactics.

As the Commander of a single field battery in action, give your ideas as to the solution of the following questions, and illustrate by diagrams:—

- 1st. Where to fire?
- 2nd. When to fire?
- 3rd. What to fire at?
- 4th. What to fire?
- 5th. How replenish your limbers?
- 6th. When to move?
- 7th. How to move?
- 8th. What orders would you give to the officer in charge of your waggons?
- 9th. What advice to the officer in command of your escort?

T. B. STRANGE, LIEUT.-COL.,
Insp. of Artillery and Comdt. S. G.

 SHORT COURSE.

GUNNERY SCHOOL, QUEBEC.

Gunnery.

- 1st. Define the following terms:—

Trajectory.
Line of Fire.
Line of sight.
Angle of Elevation.
Angle of Clearance.

- 2nd. What is windage? Why is it necessary, and what are its advantages and disadvantages?
- 3rd. What sights are used with smooth bore guns? How are the tangent scales graduated?
- 4th. What is the rule for elevation of S. B. guns having a point blank range of 400 yards? What is the elevation required for 1000 yards?
- 5th. Give rough rule for finding length of fuze for S. B. common and Shrapnell shell. How many tenths of a fuze for a Shrapnell at 1,200 yards?
- 6th. Give the rule which regulates the charges for cast iron mortars. What is the charge for a 13 in. mortar at 1,100 yards?
- 7th. What are the different kinds of fire into which gunnery practice is divided? Enumerate the different kinds of horizontal fire?
- 8th. Where is the greatest strain on the gun, and why?
- 9th. Why is the strain upon the metal of a rifled gun greater than upon that of a smooth bore.

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G.

SHORT COURSE.

GUNNERY SCHOOL, QUEBEC.

Artillery Material.

- 1st. Into how many classes are projectiles divided?
- 2nd. What are the different conditions requisite in the construction of S. B. Common and Shrapnell shell?
- 3rd. Describe by aid of diagram a S. B. Shrapnell shell, its uses and most effective range, and what are its disadvantages as compared with a rifled Shrapnell?
- 4th. Enumerate and describe the miscellaneous projectiles and their uses?
- 5th. In what material are cannon cartridges made up, and why?
- 6th. Into what classes are fuses for S. B. ordnance divided? Enumerate the different time fuzes for S. B. shells, and at what rate does fuze composition burn?
- 7th. To what projectiles are wooden bottoms always attached, and why?
- 8th. What is the composition of gunpowder? The proportions of its ingredients, and what are its advantages over other explosive materials?

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G.

SHORT COURSE.

GUNNERY SCHOOL, QUEBEC.

Practical Artillery.

- 1st. How many orders of the lever are there? Describe them.
- 2nd. Detail the stores brought up by the different numbers in preparing for action with a 32 Pr. S. B. gun.
- 3rd. What is the disadvantage of using a gyn in siege operations? How many kinds of triangular gyns are there, and what weight is each adapted to lift?
- 4th. Detail the general duties at a gyn.
- 5th. Describe the method of dismounting a gun over the front of a carriage and mounting it by parbucking up the side.
- 6th. In case of a garrison gun carriage being disabled in action, describe the quickest method of shifting the gun to a spare carriage.
- 7th. Describe in general terms the method of mounting a 10 inch mortar.

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Gunnery.

1. Define the following terms :

- “ Axis of piece,”
- “ Line of sight,”
- “ Line of fire,”
- “ Trajectory,”

and shew, with the aid of a diagram, of what forces the latter is the resultant.

2. Define windage. Does it exist in all guns? What are its advantages and disadvantages?

3. Explain why an elongated projectile from a rifle gun will penetrate an iron clad better than a spherical shot fired from a gun of the same calibre, and striking with the same terminal velocity.

4. Give the formula for finding the energy of a shot striking, in terms of its weight and velocity.

5. The accuracy of spherical common shell will not be as great (especially at long ranges) as that of shot of similar calibre, fired with the same charge. Will this also be the case with elongated shot and shell fired from rifled guns? Give reasons.

6. Shew how you calculate the charge and length of fuse for mortars? Give charge and length of fuse for 13" mortar at 1,390 yards as an example.

7. Why does Shrapnell shell require a shorter time fuse than common shell? And give a rough rule to find length of fuse for ordinary S. B. guns.

8. How many tangent scales and sights are there for an ordinary smooth-bore siege gun? Are the degrees the same length; if not, why?

9. It is sometimes required to render captured guns available. Give a ready rule to find the length of a degree for a tangent scale for any gun.

10. How is the derivation or constant deflection of the projectile from rifled guns arranged for, and the accidental deflection right and left?

11. Supposing the 7" breech-loading gun gave an error of four feet to the right at a range of 1,500 yards, how would you set your tangent scale as regards deflection?

T. B. STRANGE, Lieut.-Col.,

Commandant Gunnery School, Quebec.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Artillery Material.

1. What do you mean by the term ammunition?

2. How many kinds of incendiary projectile are there? Describe them and their uses.

2. At what rate does fuze composition burn?

4. Into how many classes may ordnance be divided, and sub-divided? State the uses of each class, and the fuzes they will take.

5. State the most effective ranges for the various projectiles used with the 32 pounder S. B. Guns, and if your supply of case and grape ran short, what makeshift would you use on emergency, at close quarter?

6. Describe Pettman's general service fuze and its action; make a sectional sketch of it; has it any defect for siege purposes or coast defence?

7. Describe the segment and Shrapnell shell for rifled guns; give a sectional sketch of each; state the circumstances for which each are most applicable, and the fuzes you would prefer to use with each of them.

8. Describe the rifle gun mounted in the King's bastion its sights, ammunition, and small stores; its advantages and defects; and the service it is most suited for.

9. In what proportion are the component parts of gunpowder mixed? What are the various kinds and classes of service powder, and with what natures of ordnance are they used?

10. Do you know any curious fact, as regards initial strain and velocity, lately brought to light by the bursting of the inner tube of 35 ton gun at Woolwich with pebble powder?

11. What deduction may you draw from the above experiment, as regards the relative values of steel and wrought iron, in resisting the strain of explosive force?

12. What are the lines of least resistance due to the forms of S. B. cast iron ordnance; what is the cause of these planes of weakness; and has this construction been modified of late?

13. Explain the advantages of the Palliser system for converting guns, over that of Blakely, and the method adopted by various continental nations.

14. Describe in general terms the American method of casting heavy iron ordnance, and the advantage gained by it over the ordinary system.

T. B. STRANGE, Lieut.-Col.

Commandant Gunnery School, Quebec.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Practical Artillery, Cordage, &c.

1. Give an approximate rule for calculating the strength of new rope. As an example, find the breaking strain of a gun sling of six inch rope.
2. Describe how you would sling a budge barrel, or any barrel of gunpowder that was open for use.
3. Supposing you find a weak or damaged place in a rope, on which you expect a steady strain, how would you temporarily overcome the defect?
4. Leaving friction out of the question, give a rule to find the power of tackles, and state the powers of the following :
 - Ordinary gun tackle,
 - Heavy gun tackle,
 - Gyn tackle.
5. Is there any drawback to using a gyn in siege operations? Give reasons for or against its use, and calculate the mechanical power gained in terms of P. W., taking levers as seven feet, and diameter of windlass eight inches.

T. B. STRANGE, Lieut.-Col.,

Commandant S. G., Quebec.

NOVEMBER, 1874.

Heavy Gun Exercise and Shifts, &c., S. B. Ordnance.

6. In preparing for action with a smooth bore gun, on garrison carriage, give a detail of the stores brought up by each member, and his duties at the gun.
7. State what stores are not interchangeable for the same natures of the above guns and carriages, and how you know the right ones?

8. A standing carriage, bearing a gun of 56 cwt. or thereabouts, has been disabled while run back; describe the quickest way of shifting the gun to a new carriage, with no material but gun stores, and two short skids a yard long. Could you do it without the short skids? How many men would you want, and how long would it take? Detail the duties and position of members, with the aid of a diagram.
9. What is the readiest way of dismounting a 50 cwt. garrison gun, without any material but the gun stores? How long would it take with fifteen men?
10. Detail the general duties of the gunners in shifting ordnance.

T. B. STRANGE, Lieut.-Col.,
Commandant G. S. Quebec.

OFFICERS' LONG COURSE.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Artillery Material.

1. Classify the armament of the fortress in which you have been serving. State the number of projectiles per gun, for land and sea fronts, and how long do you calculate they would last in case of active operations?
2. What kind of armament would you suppose most likely to meet the requirements of modern war with the least cost? Give reasons for your opinion.
3. Describe the rifle guns mounted in the salients, their sights, fittings, and ammunition, their advantages and defects.
4. What are the proportions of the component parts of gunpowder, and what are the various kinds and classes of gunpowder in the service?
5. Would the result be different in two gun-cotton mines, one exploded by a slow match, and the other by a detonating tube, and could you explode a wet gun-cotton torpedo?
6. What ammunition should *not* be placed in a magazine, and why?
7. Describe the process of examining ordnance as you have seen it done.
8. What number of service rounds may be fired from a cast-iron serviceable gun without examination? Where do fissures in the metal first show themselves and what do you consider the nature and extent of flaws that would render a gun unsafe?

T. B. STRANGE, Lieut.-Col.,
Commandant S. G. Quebec.

GUNNERY SCHOOL, QUEBEC, October, 1874.

Fortification and Sieges.

1. Trace briefly the progressive stages of fortification and attack from the early ages to those of Vauban, including the siege of Ath, 1697.
2. What were the principle causes that led to the brief defence of most of the French fortresses in war of 1870-71?
3. State the leading points of difference in the attack and defence consequent upon the introduction of rifled guns and breech-loading small arms.
4. What do you consider the five most important principles of modern defence of fortresses?
5. How do the above principles apply to the fortress of Quebec and its defence?
6. Make a free-hand rough sketch from memory of the fortress of Quebec.
7. State in general terms the advantages and disadvantages attributed to the Moutrieff system compared with the modern structures of granite and iron.

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G. Quebec.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Field Fortification.

1. State what are the principal objects of field fortification, and describe what are the general means adopted to obtain those objects?
2. State approximately the thickness of parapet required, in earth—pine logs—or masonry to resist rifled field artillery?
3. Draw rough profiles to scale (10 feet to an inch), of hedges made defensible on level ground, on ground sloping downwards towards an enemy, as well as on ground sloping upwards towards the defenders, should it be absolutely necessary to hold such a position as the latter?
4. In loopholing walls what is the minimum height they should be towards an enemy?
5. In tracing a work, what are the principal points to be considered?
6. Draw to scale, 20 feet to an inch,—marking dimensions and lettering so as to describe the technical names of slopes—the profile of a field work on the most favourable slope for the action of field artillery, with a thickness of parapet sufficient to resist that of the enemy, the terreplein for a distance of 20 feet behind the crest must be defiladed from a distant hill, the enemy's fire descending at an inclination of one in six. The remblai must be proportioned to the déblai, allowance for the increase in bulk of excavated earth not being taken into the account being utilized for traverses?
7. Describe the preparation of a village as an advanced post for defense—with the aid of a sketch shew your arrangements for defending the house or building you had selected as the keep or central point—
8. In street fighting it is desirable to get from house to house by demolishing partition-walls. What would be the best way to utilize lithofracteur?
9. Make a sketch of a double lever bridge of pine spars, to span 40 feet of blown up arch of a masonry bridge; give a rough estimate of materials and tools required, no nails being available?
10. Empty casks are procurable from the Commissariat of every army that carries pork, flour, beer, wine or spirits. Describe in general terms the construction of a cask-raft, and calculate the floatation power of a cask-raft of thirty fifty-gallon casks, without taking weight of superstructure into calculation?
11. An advance on Montreal is threatened. You are desired to render the railway impassable in a few hours. Describe how you would effectually do the work, so as to get the smallest amount of blame for damage; supposing the rumoured advance turned out to be a canard, or supposing a subsequent retreat of the enemy rendered it advisable to re-open communication quickly?

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G. Quebec.

GUNNERY SCHOOL, QUEBEC, Nov., 1874.

Military Law, &c.

1. How many classes of Courts Martial are recognized in the service, and what are they?
2. Detail the form of proceeding of a Court Martial.
3. What remedy has a soldier who thinks himself wronged in any matter affecting his pay or clothing by the officer commanding his troop, battery or regiment?
4. How long can a soldier be kept in confinement before being brought in front of his commanding officer?

5. If a soldier has been confined and is subsequently made to do duty under arms, can he be punished for his offence?

6. What number of days confinement to barracks, and how many hours cells, can a commanding officer award?

7. Gunner Thomas Aitkens has been absent for 3 days from the 20th inst., and returned at 2 p.m., drunk, having lost his forage cap. Frame the charge that would be submitted to the commanding officer for investigation?

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G. Quebec.

OFFICER'S LONG COURSE,

GUNNERY SCHOOL, QUEBEC, November, 1874.

Military Surveying.

1. Plot the following bearings and distances to scale 100 yards to an inch :

From.	To.	Bearing.	Distance in Yards.
A	B	260°	190
C	B	35°	160
D	C	170°	60
D	E	265°	40
F	E	180°	50
F	G	199°	5
H	G	100°	30
H	I	240°	70

2. State briefly the general principles of making a military sketch, and the principal points to be noted in a reconnoissance report?

3. Submit your copy of the sketch made by the officers at Beauport Camp last Summer?

4. Describe Lieut.-Col. Drayson's method of range finding?

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G. Quebec.

OFFICER'S LONG COURSE.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Tactics.

1. Define the following terms for Infantry, Cavalry and Artillery formations : A rank, a file, fours, section, sub-division, division of artillery and what relation it bears to the battery, compared with that of the squadron and company to the larger unit of the other arms.

2. For parade purposes what is the extent of front of a squadron, a battery in line at full intervals, a company of 40 files; what intervals should be left between battalions in line of contiguous columns, squadrons, artillery, and other troops, and how is the dressing of artillery regulated with reference to infantry?

3. State the most important points for consideration by a battery Commander in the choice of a position, and the principles which govern the action of divisional, as well as of reserve or corps artillery in masses, on the march and in action, giving instances of the latter from the Franco-Prussian war.

4. Show by a diagram your disposition for an advance of the above corps d'armee in fighting order of march towards the frontier, by two parallel roads, sufficiently close together.

5. Suppose the advanced cavalry feeling the enemy falls gradually back on the advanced guard, which seizing a good position, with open ground in front, holds its own until the main body comes up, and the enemy draws off for the night. Shew with the aid of a sketch your arrangement of the corps d'armee, and the covering pickets, (supports and reserves not thrown out). State the strength of the pickets for a front of 1600 yards for each division : double sentries with an average beat of 50 yards are required ?

6. At daybreak the force must be drawn up for battle, with the aid of a sketch shew the general outline you would adopt, the sort of ground you would prefer. You are facing south perpendicular to your communications, those of the enemy running south-west ; in what direction would you expect the real attack ; how, when and where would you prepare to use your corps artillery and endeavor to develop a counter attack ; with what special object ? With a second sketch detail the formation for attack of one of your divisions on a front of 600 yards, skirmishers, supports, flank, battalion, brigade, and division reserves, according to the plan proposed by CAPTAIN HIME. Supposing in this case no strong features of ground break the general idea.

Give your reasons for everything.

T. B. STRANGE, Lieut.-Col.,
Commandant S. G., Quebec.

OFFICER'S LONG COURSE.

GUNNERY SCHOOL, QUEBEC, Nov. 1874

Military Law, &c.

1. What is the difference between Martial Law and Military Law ? State in general terms the persons subject to the latter.

2. Can Militia men be tried by officers of the regular forces and *vice versa*, and if so under what circumstances ?

3. What punishments can a commanding officer award, and in what case has a soldier the right of demanding a court-martial ?

4. What is the limit of fine for drunkenness without court-martial and with court-martial ?

5. Can a soldier be tried by a Regimental or Detachment court-martial for drunkenness not on duty ?

6. What are the powers of a Regimental court-martial, of how many officers it is composed, and is there any exception to the usual number ?

7. How often may the revision of a court-martial be ordered, and is it allowable to take fresh evidence in respect of any charge on which the prisoner then stands arraigned ?

8. May "hearsay" be taken in evidence ?

9. Should soldiers committing minor offences, such as absence from tattoo, overstaying a pass, be lodged in the guard-room. If returning sober after tattoo, how are they to be dealt with ?

10. What are the rules relative to placing officers under arrest ; can a junior place a senior under arrest, and what is it that prevents an officer leaving his room when ordered under arrest ?

T. B. STRANGE, Lieut.-Col.,
Comdt. S. G. Quebec.

NON-COMMISSIONED OFFICER'S AND GUNNER'S SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Gunnery.

1. What is the meaning of the words :—
 - (a) Dispart,
 - (b) Preponderance,
 - (c) Calibre.
 - (d) Windage.
 - (e) Axis of the piece.
 - (f) Line of Sight.
 - (g) Line of Fire.
 - (h) Line of Metal.
 - (i) Point blank.
2. How many kinds of fire are implied under the head of "horizontal fire," and name them ?
3. What piece of ordnance is specially used to obtain vertical fire, and for what purposes is vertical fire chiefly used ?
4. Give the rough rule to find the elevation required for a given range with S. B. guns.
5. Give a rule to find the service charge of a S. B. cast-iron gun.
6. Give a rule to find the bursting charge of Shrapnel shells for S. B. Garrison guns.
7. Give a rule to find the length of fuze required for a given range for S. B. Common and Shrapnel shell.
8. Give a rule to find the charge of mortars for given ranges, and find the charge required to project an 8 inch mortar shell to 1,200 yards.
9. Up to what range can you effectively use Case and Shrapnel shell ?

T. B. STRANGE, Lieut.-Col.,
Commandant G. S., Quebec.

NON-COMMISSIONED OFFICER'S AND GUNNER'S SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, NOVEMBER 1874.

Artillery Material.

1. Name the different Projectiles fired from a S. B. Gun.
2. For guns of what calibre is Common Shell made ?
3. What fuzes are used with S. B. ordnance shells, and describe the time fuzes ?
4. In what respects does the exterior of the Pettman's Land service fuze differ from the General service ?
5. What are the different substances of which service Gunpowder is composed, and in what proportion do they enter into its composition ?
6. Describe the different natures of sabots, or wood bottoms. How, with what Projectiles, and why are they used ?
7. Describe a Grummet wad and a Junk wad, and what is the use of each ?
8. Can the 68 por. projectiles be used with the 8 inch gun ?
9. What are the different kinds of fuze borers in the service, and with what fuze would you use the brace and bit ?
10. If you had no portfires or tubes, how would you make them ?
11. What precaution do you take in extracting a drill shot jammed in the bore ?

T. B. STRANGE, Lieut.-Col.
Commandant G. S. Quebec.

NON-COMMISSIONED OFFICER'S AND GUNNER'S SHORT COURSE.

GUNNERY SCHOOL, QUEBEC, November, 1874.

Shifting and Working Ordnance.

1. Give general duties of different numbers at 7 inch B. L. R. gun drill.
2. Detail stores brought up at the command "Prepare for action," with S. B. Garrison guns.
3. Give a rule to calculate the power gained by any tackle, and with the rule find the power gained by using a gun tackle.
4. Detail general duties at 10 and 13 inch mortar drill.
5. Detail general duties at shifting ordnance and explain in general terms the mode of shifting, on an emergency, a gun from one garrison carriage to another with such stores as are to be found with the guns in a battery.
6. What operations must be performed in laying a gun?
7. How is a mortar laid when the object is not in sight from a mortar?
8. Detail general duties of numbers of 16 and 18 feet light gun drill.

T. B. STRANGE, Lieut.-Col.,
Commandant G. S., Quebec.

NON-COMMISSIONED OFFICER'S AND GUNNER'S SHORT COURSE.

GUNNERY SCHOOL, QUEBEC. December, 1874.

Gunnery

1. Define the following terms:—
Trajectory.
Line of Sight.
Angle of Elevation.
Angle of Clearance.
Point-blank Range.
2. What sights are used with S. B. guns? How are the length of degrees regulated on the various tangent scales?
3. Describe a rough method of testing the correctness of Sights on a S. B. garrison gun.
4. Give a rule to find the bursting charge of Shrapnel shell for S. B. gun.
5. How is the range of mortars increased or diminished? and give rule to find length of fuze.
6. Describe the process of laying them when the object cannot be seen from the mortar platform: the results of an uneven platform, and the means of obviating it.
7. If by raising the rear of a garrison carriage a 24 por. gun is fired at a greater angle of depression than 15 degs., what should be the weight of the charge of powder used and why?
8. What is the object of firing hot shot, and what precautions must be taken?
9. Give a rough rule to find the length of fuze for Shrapnel and Common Shells for S. B. guns for a given range.
10. Give the different modes of rendering S. B. ordnance useless, entirely, and temporarily.

T. B. STRANGE, Lieut.-Col.
Comdt. S. G. Quebec.

APPENDIX No. 3.

INSPECTION REPORTS.

ABSTRACT shewing the number of Officers and men who have performed the Annual Drill prior to 31st December, 1874, for the financial year 1874-75, as shewn by the Reports received at Head Quarters:—

	Officers.	Non-Commissioned Officer and men.
Military District No. 1	267	3,284
No. 2	311	4,365
No. 3	199	2,356
No. 4	141	1,684
No. 5	270	3,297
No. 6	108	1,412
No. 7	180	2,493
No. 8	148	1,897
No. 9	212	2,572
Governor General's Foot Guards	21	336
	1,857	23,669

APPENDIX

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 1. Lieut.-Col. J. B. TAYLOR, D. A. G. M.			Establishment.			Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.		Company.	Battal'n or Corps.		Company.			Miles.	Mode.	
			Officers.	N. C. O. and Men.		N. C. O. and Men.	Officers.				N. C. O. and Men.	N. C. O. and Men.	
1st Regt. of Cavalry.	4	Lieut.-Col. Cole, St. Thomas	15	168		15	160						
No. 1 Troop		Capt. Barnes, Saint Thomas				1		40		16	Marched		
No. 2 do		" Peters, London				3		40		2	Marched		
No. 3 do		" Stewart, Mooretown				2		40		60	R.R.	24 hours.	
No. 4 do		" Murray, Kingsville				3		40		100	R.R.		
London Field Battery	1	Lieut.-Col. Shanly, London	5	74		5		74				12 hours.	
Wellington Field Battery	1	Capt. Macdonald, Guelph	5	74		5		74				12 hours.	
Goderich Garrison Artillery	1	Capt. Thompson, Goderich	2	42		3		40				6 hours.	
7th Battalion	8	Lieut.-Col. McBeth, London	23	336		25	339						
No. 1 Company		Capt. O'Brien, London				2		41					
No. 2 do		" Porte, do				3		42					
No. 3 do		" Morden, do				2		41					
No. 4 do		" Birrell, do				2		42					
No. 5 do		" Dixon, do				2		42					
No. 6 do		" McIntosh, do				2		42					
No. 7 do		" Peel, do				2		42					
No. 8 do		" Elliot, Arva				2		42					

Brigade Camp near London for 12 days, commencing 7th September.

In Brigade Camp.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
No. 1.—Continued.			Battalion or Corps.	Company.	Battalion or Corps.	Company.	Miles.			Mode.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.						
22nd Battalion.....	8	Lt.-Col. Richardson Woodstock	23	336	27	360	Brigade Camp near London for 12 days, September 7th.	In Camp.	R. & W.	R. & W. F. F. R. & W. F.	24 hours.	
No. 1 Company.....		Bt. Lt.-Col. Beard, Woodstock			2	60						
No. 2 do.....		Bt. Major Finnan, Embro			2	37						
No. 3 do.....		Capt. Honer, Preston			2	40						
No. 4 do.....		Capt. Ellis, Ingersoll			2	43						
No. 5 do.....		Capt. Mullins, Norwich			2	42						
No. 6 do.....		Capt. McCleneghan, Strathallan			3	42						
No. 7 do.....		Capt. Chambers, East Oxford			2	42						
No. 8 do.....		Bt. Major Munroe, Lakeside			3	48						
24th Battalion.....	6	Lieut.-Col. Smith, Chatham	19	252	18	231	Brigade Camp near London for 12 days, September 7th.	In Camp.	R. & W.	R. & W. F. F. R. & W. F.	24 hours.	
No. 2 Company.....		Capt. Stevenson, Chatham			1	41						
No. 3 do.....		Capt. Rowe, Blenheim			2	35						
No. 4 do.....		„ Martin, E. Tilbury			2	34						
No. 1 do.....		„ Smith, Chatham			2	42						
No. 5 do.....		„ Holland, Bothwell			1	38						
No. 6 do.....		„ Hughes, Dresden			2	41						
25th Battalion.....	5	Major Tweedale, St. Thomas	16	210	21	240	8 days Battalion camp, St. Thomas, from 11th to 13th June, 1874.	In Camp.	Waggon.	24 hours.		
No. 1 Company.....		Capt. Corlis, St. Thomas			3	67						
No. 2 do.....		„ Watts, Vienna			3	38						
No. 3 do.....		„ Weisbrod, Avon			3	41						
No. 4 do.....		„ Osborne, Wallacetown			3	44						
No. 5 do.....		„ Edgecombe, Iona			3	41						

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians, and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	REMARKS.
22 cents.	17½ cents.	17½ cents.	17½ cents.	17½ cents.	17½ cents.	17½ cents.	17½ cents.	17½ cents.
Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.
None.	None.	None.	None.	None.	None.	None.	None.	None.
21 performers.	Good Band, 16 performers.	Excellent Band, 20 performers.	Excellent Band, 20 performers.	Excellent Band, 20 performers.				
Fair.	Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.
Battalion, Company and skirmishing. Fairly drilled as Companies. Battalion drill inferior though Captains know their drill well.	Skirmishing, Company and Battalion Drill, some companies very good.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.	Skirmishing, Company and Battalion Drill, Officers and men well drilled.
I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.
20 rounds per man fired at target practice under Major Carswell.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.	Performed target practice at Camp.
19th June.	16th September.	16th September.	16th September.	16th September.	16th September.	16th September.	16th September.	16th September.
19th June.	17th September.	17th September.	17th September.	17th September.	17th September.	17th September.	17th September.	17th September.
11:00	23:00	23:00	23:00	23:00	23:00	23:00	23:00	23:00
14:00	14:00	14:00	14:00	14:00	14:00	14:00	14:00	14:00
15:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00
21:00	21:00	21:00	21:00	21:00	21:00	21:00	21:00	21:00

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT			Establishment.		Actual strength present at Inspection.			Date and place of muster, and number performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
No. 1.—Continued.			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.	Miles.			Mode.			
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
26th Battalion	7	Lieut.-Col. Atwood, London	21	294		26	289		Brigade Camp, London, 12 days, September 17th	In Camp.			
No. 1 Company		Capt. Garnet, Delaware				3	35				12	W.	36 hours
No. 2 do		„ Lindsay, Napier				2	38				30	RW	
No. 3 do		„ McMillan, Harrietsville				3	39				16	W.	
No. 4 do		„ Brown, Thamesford				3	40				18	W.	
No. 5 do		„ McMillan, Lucan				2	36				18	W.	
No. 6 do		„ McKellar, Parkhill				3	34				30	R.	
No. 7 do		„ Irvine, Strathroy				2	41		20	R.			
28th Battalion	6	Lieut.-Col. W. Smith, Stratford	19	252		19	217		in camp.	in camp.			
No. 1 Company		Capt. Lang, Stratford				2	38				40	R	36 hours.
No. 2 do		„ Dodd, Stratford				2	37				50	R	
No. 3 do		„ McKnight, St. Mary's				2	37				52	R	
No. 4 do		„ Fennell, Listowell				2	33				62	RW	
No. 5 do		„ White, Blanshard				2	33				55	RW	
No. 6 do		„ Gourlay, Fullerton				2	34		55	RW			
29th Battalion	5	Major Peck, Berlin	16	210		16	167		in camp.	in camp.			
No. 1 Company		Capt. Nafe, Breton				2	39				15	R	24 hours.
No. 2 do		„ McMillan, Galt				2	41				20	RW	
No. 3 do		„ Wilford, Cross Hill				3	42				30	RW	
No. 4 do		„ Phinn, Hespeler				2	40				12	W	
No. 5 do													
30th Rifles	10	Lieut.-Col. Clarke, Guelph	27	420		27	392		At Brigade Camp, Guelph, for 12 days, from 29th June.	In camp.			
No. 1 Company		Capt. Smith, Douglas				3	40					24	W
No. 2 do		„ Bruce, Guelph				2	40						
No. 3 do		„ Beattie, Fergus				2	40					16	R
No. 4 do		„ McBride, Elora				1	40					16	R
No. 5 do		„ Winfield, Eramosa				2	40					5	W
No. 6 do		„ Scott, Mt. Forest				2	36					48	R
No. 7 do		„ McCollough, Erin				1	37					20	W
No. 8 do		„ Spence, Whittington										40	W
No. 9 do		„ Thomson, Hollen				2	34					34	RW
No. 10 do		„ Hollinger, Arthur				3	40			32	RW		

performed the Annual Drill for 1874-75.—Continued.

19 cents.	19 cents.	19 cents.	17½ cents.	Cost of rations per head, per diem, at encampment.
Very good.	Very good.	Very good.	Good.	General conduct of Corps.
None.	None.	None.	None.	If any, and what casualties.
Excellent Band, 22 performers.	Excellent Band, 22 performers.	Excellent Band, 22 performers.	Good Band, 18 performers	Whether in possession of Band, Number of Musicians and proficiency.
Good.	Good.	Good.	Good.	General State of Clothing, Arms and Accoutrements.
Company drill, skirmishing and Battalion drill. A fine Regiment. Skirmishing very good.	Company Drill, Skirmishing and Battalion Drill very fair.	Company Drill, Skirmishing and Batt. Movements. Very steady corps.	Skirmishing, Company and Battalion Drill satisfactory.	Nature of Movements at Inspection, and how performed.
I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	I have no reports to the contrary.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.
Performed target practice at camp.	Performed target practice at camp.	Performed target practice at camp.	Performed target practice at Camp.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
17'00 19'00 15'00 21'00 17'00 21'00 24'00	..... 16'00 17'00 17'00 16'00	..... 11'00 14'37 11'00 16'00 16'00 14'37	..... 16'00 25'00 14'00 19'00 15'00 12'00 14'00	F. of M. Batt.
8th July.	8th July.	8th July.	16th September.	F. of M. Comp.
10th July.	10th July.	10th July.	17th September.	Date of Inspection.
				Date when drill was completed.
	No. 1 Co'y., 29th Batt., "Preston," best co'y. at camp for clean arms and accoutrements.			REMARKS.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 1.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
32nd Battalion	6	Lt.-Col. Sproat, Walkerton	19	252	26	251	Brigade Camp, Guelph, 12 days, from 29th June.	In camp.	69	36 hours.
No. 1 Company		Capt. Biggar, Southampton			2	....			101	R
No. 4 do		„ Mitchell, Paisley			3	....			90	RW
No. 5 do		„ Hunter, Walkerton			3	....			69	R
No. 6 do		„ Morton, Arran			3	....			95	R
No. 7 do		„ Ray, Belmore			3	....			80	RW
No. 8 do		„ Gilles, Teeswater.			3	....			65	RW
	Two Cos. short, not permitted to Drill										
33rd Battalion	7	Lieut.-Col. Ross, Goderich	21	294	27	254	Batt. Camp, 8 days at Goderich, 10th Sept.	In camp.	36 hours.
No. 2 Company		Capt. B. Wilson, Wingham			3	....			22	R
No. 4 do		„ C. Wilson, Clinton			2	....			13	R
No. 5 do		„ Lekie, Ainleyville			3	....			38	W
No. 6 do		„ Howard, Exeter			2	....			20	W
No. 7 do		„ Rane, Porter's Hill			3	....			12	W
No. 8 do		„ Shepherd, Gorrie			1	....			52	W
No. 9 do		„ Mallough, Dunganannon			3	....			13	W
	One Coy short, not permitted to Drill										
Independent Companies.		Capt. Wilkinson, Leamington	2	42	2	42			130	RW
		„ Rice, Windsor	2	42	1	42			120	R

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT		Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
No. 2. Lieut.-Col. W. S. DURIE, D.A.G.M.		Battal'n or Corps.	Com-pany.	Battery or Corps.	Com-pany.			Miles.	Mode.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers. N. C. O. and Men.	N.C.O. and Men.	Officers. N. C. O. and Men.	N.C.O. and Men.					
<i>Cavalry.</i>											
Governor General's Body Guard	Capt. Denison, Toronto	2	42	3	39	5th Oct., 1874, Toronto, 12 days.	Not under canvas.	Nil.	Nil.	.....
2nd Regt. of Cavalry	Lieut.-Col. Button, Oak Ridges	.....	.....	.....	.....	.....	.....	.....	.....
Troop	1 Capt. Johnson, St. Catharines	2	42	3	37	23rd June, 1874, Niagara, 12 days.	.....	12	Marched	.....
	2 Capt. McConnell, Oak Ridges	2	42	2	36	29th Sep., 1874, Holland Landing, 12 days.	Under canvas.	17	Marched	.....
	3 „ Elliott, Markham	2	42	3	31	.....	.....	28	Marched	24 hours.
	4 Capt. Patterson, Grimsby	2	42	3	38	.....	.....	41	Rail and Marched	.....
	5 „ Marshall, Burford	2	42	3	39	.....	.....	96	.....	.....
	6 „ Brown, Queens- ton	2	42	2	39	.....	.....	7	.....	.....
	8 „ Buchner, Welland	2	42	3	35	.....	.....	28	Marched	.....
	Staff	9	.....	8	5	.....	.....	.....	.....	.....
	Total	23	294	27	255	.....	.....	.....	.....	.....

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.		Date of Inspection.	Date when drill was completed.	REMARKS.
							F. of M. Batt.	F. of M. Comp.			
Niagara Camp, 28 cents. Holland Landing, 22 cents.	Good.		No.	Fair.	Troop and Squadron Drill. Brigade Drill with Infantry.	Reported enrolled.	Tr. Rutledge.. Sergt. J. Size..	16-00 14-90	9th Oct. 10th Oct.	16th Oct. 16th Oct.	
Two horses injured in camp, reported.							Sergt. Luty.....	17-18 17-97			
							Tr. W. Martindale..... Tr. Abbott..... Tr. J. Sandham..... Tr. J. Hurst..... Tr. W. Martindale.....	20-81 14-30 15-91 20-42 58	2nd July. 4th July.	4th July.	Best shot in the Regiment. Best shooting Troop, No. 4.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual strength present at inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.						
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
2nd Batt. Q. O. Rifles. <i>Continued.</i>								Toronto, 12 days.	Not under canvas.	Nil.	Nil.	
No. 7 Company	.....	Lieut. Hamilton, Toronto	2	42	2	41					
No. 8 do	.....	Capt. McKenzie, "	2	42	2	49					
No. 9 do	.....	" Ellis, "	2	42	2	48					
No. 10 do	.....	" Vandersmissen, Staff	2	42	1	49					
		Total.....	8	168	6	196						
10th Battalion.												
No. 1 Company	10	Major Stollery, Toronto.	2	42								
No. 2 do	.....	.....	2	42						
No. 3 do	.....	.....	2	42						
No. 4 do	.....	.....	2	42						
No. 5 do	.....	.....	2	42						
No. 6 do	.....	.....	2	42						
No. 7 do	.....	.....	2	42						
No. 8 do	.....	.....	2	42						
No. 9 do	.....	.....	2	42						
No. 10 do	.....	.....	2	42						
		Staff.....	8	.....							
		Total.....	28	420								
12th Battalion.							25th Sep., 1874, Holland Landing, 12 days.	Under canvas.	41 8 15 4 20 60 4 58	RW Rail Rail Rail W Rail W Rail	24 hours.	
No. 1 Company	8	Lt.-Colonel. Norris, Aurora.	2	42	3	40						
No. 2 do	.....	Cap. Chester, Scarborough.	2	42	2	35					
No. 3 do	.....	Lieut. Hartman, Aurora.	2	42	2	36					
No. 4 do	.....	Capt. Bruce, King, " Iloyd, Newmarket.	2	42	2	42					
No. 5 do	.....	B. M. Wyndham, Sutton.	2	42	2	40					
No. 6 do	.....	Lieut. Tomlinson, Markham.	2	42	1	32					
No. 7 do	.....	Capt. Wayling, Sharon.	2	42	2	41					
No. 8 do	.....	Capt. Braichwaite, Unionville.	2	42	2	34					
		Staff.....	8	.....	5	.....					
		Total.....	24	336	24	300						

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.				
			Officers.	N. C. O. and N. Men.	Officers.	N. C. O. and N. Men.				
13th Battalion.....	6	Bt Lieut.-Col. Irving, Hamilton								
No. 1 Company		Lt. Hope, Hamilton	2	42	1	42	23rd June, 1874, Niagara, 12 days.	Under canvas.	56	R
No. 2 do		„ Baruard, do	2	42	1	39			56	R
No. 3 do		„ Griffin, do	2	42	2	42			56	R
No. 4 do		Ens. Murphy, do	2	42	1	40			56	R
No. 5 do		Lt. Caddy, do	2	42	1	41			56	R
No. 6 do		Capt. Roy, do	2	42	2	41			56	R
		Staff	8		7	7				
		Total.....	20	252	15	245				24 hours.
19th Battalion.....	6	Major McDonald, St. Catherines								
No. 1 Company		Lt. Dorrity, Niagara	2	42	1	40	23rd June, 1874, Niagara, 12 days.	Under canvas.	1	M
No. 2 do		Capt. Ness, St. Catherines	2	42	2	42			14	W
No. 3 do		„ Carlisle, St. Catherines	2	42	3	40			14	W
No. 4 do		„ Walker, Beamsville	2	42	3	42			27	W
No. 5 do		Lieut. Brenner, St. Catherines	2	42	2	40			14	W
No. 6 do		Capt. Hiscot, Virgil	2	42	2	42			5	W
		Staff	8		6	6				
		Total.....	20	252	19	246				24 hours.
20th Battalion.....	7	Lt.-Colonel Murray, Milton								
No. 1 Company		Capt. Albertson, Oakville	2	42	2	39	23rd June, 1874, Niagara, 12 days.	Under canvas.	56	
No. 2 do		„ Appelbe, Stewartown	2	42	3	38			64	
No. 3 do		„ Barber, Georgetown	2	42	3	41			64	
No. 4 do		„ Curry, Norval	2	42	2	36			61	
No. 5 do		„ Kerns, Nelson	2	42	2	38			70	
No. 6 do		„ Shaw, Acton	2	42	2	37			72	
No. 7 do		Lt. Panton, Milton	2	42	2	35			72	
		Staff	8		7	5				
		Total.....	22	294	23	264				24 hours.

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any giving average figure of merit of each Battalion, Corps and Company.	REMARKS.																
28 cents.	Good.	None reported.	Very fair Field Band; 16.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	<table border="1"> <tr> <td>F of M.</td> <td>14 78</td> </tr> <tr> <td>Batt.</td> <td>20 00</td> </tr> <tr> <td>F. of M.</td> <td>15 44</td> </tr> <tr> <td>Comp.</td> <td>9 10</td> </tr> <tr> <td>Date of Inspection.</td> <td>14 54</td> </tr> <tr> <td>Date when drill was completed.</td> <td>14 17</td> </tr> <tr> <td></td> <td>13 68</td> </tr> <tr> <td></td> <td>51</td> </tr> </table>	F of M.	14 78	Batt.	20 00	F. of M.	15 44	Comp.	9 10	Date of Inspection.	14 54	Date when drill was completed.	14 17		13 68		51	Best shot in Batt. Best shooting Company, No. 1.
F of M.	14 78																							
Batt.	20 00																							
F. of M.	15 44																							
Comp.	9 10																							
Date of Inspection.	14 54																							
Date when drill was completed.	14 17																							
	13 68																							
	51																							
28 cents.	Good.	None reported.	Very fair Band; 16.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	<table border="1"> <tr> <td>13 26</td> <td>12 26</td> </tr> <tr> <td>22 02</td> <td>9 89</td> </tr> <tr> <td>18 81</td> <td>5 62</td> </tr> <tr> <td>9 00</td> <td>46</td> </tr> </table>	13 26	12 26	22 02	9 89	18 81	5 62	9 00	46	Best shot in Batt. Best shooting Company, No. 2.								
13 26	12 26																							
22 02	9 89																							
18 81	5 62																							
9 00	46																							
28 cents.	Good.	None reported.	Very fair Field Band; 16.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	<table border="1"> <tr> <td>18 64</td> <td>18 92</td> </tr> <tr> <td>22 57</td> <td>16 07</td> </tr> <tr> <td>17 83</td> <td>25 63</td> </tr> <tr> <td>13 89</td> <td>15 32</td> </tr> <tr> <td>50</td> <td></td> </tr> </table>	18 64	18 92	22 57	16 07	17 83	25 63	13 89	15 32	50		Best shot in Batt. Best shooting Company, No. 5.						
18 64	18 92																							
22 57	16 07																							
17 83	25 63																							
13 89	15 32																							
50																								

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
<i>Infantry.</i>											
31st Battalion	7	Lieut.-Col. Brodie, Owen Sound.									
No. 1 Company		Capt. Butchart, Owen Sound.	2	42	2	42	23d Sep., 1874, Holland Landing. 12 days.	Under canvas.	Rail and boat.	24 hours.	110
No. 2 do		Capt. McGee, Meaford.	2	42	2	39					92
No. 3 do		Capt. Telford, Leith.	2	42	3	41					103
No. 4 do		Capt. Moodie, Durham.	2	42	3	42					110
No. 5 do		Capt. Boyd, Owen Sound.	2	42	2	41					110
No. 6 do		Lieut. Campbell, Flesher-ton.	2	42	2	40					110
No. 7 do		Capt. Rorke, Clarks-burg.	2	42	2	40					82
		Staff	8		5	5					
		Total	22	294	22	285					
34th Battalion	7	Lieut.-Col. Wallace, Whitby.									
No. 1 Company		Capt. Gordon, Whitby.	2	42	2	36	23th Sep., 1874, Holland Landing. 12 days.	Under canvas.	Rail	24 hours.	68
No. 2 do		Capt. Dillon, Oshawa.	2	42	2	36					74
No. 3 do		Lieut. Slade, do	2	42	2	36					74
No. 4 do		Capt. Paterson, Beau-verton.	2	42	3	36					72
No. 5 do		Ensign McLaren, Port Perry.	2	42	1	28					85
No. 6 do		Lt. Brown, Brooklin.	2	42	1	30					74
No. 7 do		Capt. Cowan, Can-nington.	2	42	2	39					98
		Staff	8		7	5					
		Total	22	294	20	243					
35th Battalion	10	Lieut.-Col. McKen-zie, Barrie.					29th Sep., 1874, Hol-land Landing 12 days	Under canvas.	R	24 hours.	
No. 1 Company		Capt. Graham, Barrie.	2	42	1	36					26
No. 2 do		Lieut. Hamilton, Col-lingwood.	2	42	2	39					56
No. 3 do		Lieut. Cook, Cooks-town.	2	42	2	41					21
No. 4 do		Capt. Russell, Ves-pers.	2	42	2	41					31

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.			
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.				
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.						
35th Battalion, Infantry.—Continued.														
No. 5 Company		Capt. McKenzie, Barrie	2	42	2	42	29th Sept., 1874, Holland Landing, 12 days.	Under canvas.	26	R	24 hours.			
No. 6 do		Capt. Clarke, Oro	2	42	1	36			43	RW				
No. 7 do		Capt. Burnett, Orillia	2	42	2	33			49	R				
No. 8 do		Lieut. Sutherland, Bond Head	2	42	1	40			10	W				
No. 9 do		Capt. McLaren, Rosemont	2	42	2	30								
No. 10 do		Capt. Wisden, Wybridge	2	42	1	40								
		Staff	8		7	5								
		Total	28	420	23	5			378					
36th Battalion														
No. 1 Company	9	Lieut.-Col. Gracy, Brampton							29th Sept., 1874, Holland Landing, 12 day.	Under canvas.				24 hours.
No. 2 do		Capt. Mahaffy, Brampton	2	42			76	R						
No. 3 do		Capt. Parsons, Orangeville	2	42	1	34	60	RR						
No. 4 do		Capt. Tye, Brampton	2	42	1	32	65	RR						
No. 5 do		Capt. Evans, Albion	2	42	2	31	73	RR						
No. 6 do		Capt. Brewster, Alton	2	42	2	31	86	RW						
No. 7 do		Capt. Smith, Elba Mills	2	42	1	34	81	RW						
No. 8 do		Lieut. McCollum, Tullamore	2	42	1	33	79	RW						
No. 9 do		Capt. Dawson, Charleston	2	42	1	32	69	R						
		Staff	8		8	5								
		Total	26	378	18	5	261							
37th Battalion														
No. 1 Company	8	Lieut.-Col. Davis, York					28th Sept., 1874, York, 12 days.	Under canvas.			24 hours.			
No. 3 do		Capt. Davis, York	2	42	3	41			Nil	Nil				
No. 4 do		Capt. Thorburn, Caledonia	2	42										
No. 5 do		Capt. Glenn, Hagersville	2	42	2	38			12	W				
		Capt. Ryan, Hullsville	2	42										

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
22 cents.	Good.	None reported.	Good band; 20.	Good.	Company, Battalion, and Brigade Drill.	Reported enrolled.	R. Downey... 14.07 W. Walker... 16.21 W. Stiles... 13.31 Sgt. Wilkinson... 18.23 Segt. Howits... 15.76 Pt. W. Tindel... 14.45 Pt. J. Boom... 42 points		7th October. 10th October, 1874.		Best shot in the Battalion. Best shooting Company, No. 4.	
22 cents.	Good.	None reported.	Good band; 20.	Very fair.	Company, Battalion, and Brigade Drill.	Reported enrolled.	C. -Segt. Peran... 13.81 Pt. J. Stewart... 11.88 Segt. Watkin... 11.70 Pt. J. Allan... 19.08 Segt. Barker... 17.22 Bugler Patterson... 4.26 Pt. G. St. John... 13.33 Pt. W. Lundy... 12.65 Pt. W. Lundy... 46 points	14.16	7th October. 10th October, 1874.		Did not perform Annual Drill.	
Reported good.	None reported.	Very fair.	Company, Battalion, and Brigade Drill. Skirmishing	Reported enrolled.	Reported enrolled.	Corp. S. Wilson... 13.76 Sergt. Agnew... 9.02	18.46		8th October. 9th October, 1874.		Did not perform Annual Drill. Not performed Annual Drill.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT			Establishment.		Actual strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
No. 2.—Continued.			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.	Miles.			Mode.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
37th Battalion.—Con.												
No. 6 Company	Capt. Goodwin, Cheapside	2	42	2	29	28th Sept., 1874, York, 12 days	Under canvas.	20	W	24 hours.
No. 7 do	Capt. Widdon, Caledonia	2	42	2	.....	32				
No. 8 do	Capt. Musson, Mount Healy	2	42	.....	.....	.....		
	Staff	8	.....	6	5	.....				
	Total	22	294	15	5	140					
38th Battalion	6	Lieut.-Col. Fatton, Brantford						23rd June, 1874, Niagara, 12 days	Under canvas.	95	Rail and waggon.	24 hours.
No. 1 Company	Capt. DeHamet, Paris	2	42	}	.....	.....			
No. 2 do	Major Curtis, Brantford	2	42								
No. 3 do	Capt. Spence, do	2	42								
No. 4 do	Major Lennon, do	2	42								
No. 5 do	Capt. Byrne, Burford	2	42	2	.....	39				
No. 6 do	Cpt. Patullo, Drumbo	2	42	3	.....	41				
	Staff	8	.....	3	4	.....				
	Total	20	252	8	4	80					
39th Battalion	8	Lieut.-Col. Mabee, Simcoe						28th Sept., 1874, Simcoe, 12 days	Under canvas.	Nil	Nil	24 hours.
No. 1 Company	Capt. Coombs, Simcoe	2	42	2	.....	38				
No. 2 do	Cpt. Thompson, Villa Nova	2	42	2	.....	39				
No. 3 do	Cpt Price, Port Rowan	2	42	2	.....	34				
No. 4 do	Cpt. Morgan, Walsingham	2	42	2	.....	34				
No. 5 do	Cpt. Yerks, Waterford	2	42	2	.....	35				
No. 6 do	Cpt. Matheson, Simcoe	2	42	2	.....	39				
No. 7 do	Capt. Green, Windam Centre	2	42	2	.....	32				
No. 8 do	Capt. Chrysler, Fredericksburg	2	42	2	.....	34				
	Staff	8	.....	8	5	.....				
	Total	24	336	24	5	285					

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.			
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Officers.	N. C. O. and Men.		N. C. O. and Men.	Miles.	Mode.
44th Battalion	8	Lieut.-Col. Barnett, Welland												
No. 1 Company		Capt. Bender, Drummondville	2	42	2	42	23rd June, 1874.			14				
No. 2 do		Capt. James, Thorold	2	42										
No. 3 do		Lieut. Beam, Chippawa	2	42	1	37				18				
No. 4 do		Lt. Newbigging, Fort Erie	2	42	2	38				32	Rail.			
No. 5 do		Capt. Hamilton, Welland	2	42										
No. 6 do		„ Tattersall, Clifton	2	42	2	40	8th Oct., 1874.	Under canvas.		Nil.	Nil.	24 hours.		
No. 7 do		Capt. Beam, Ridgway	2	42	2	41	23rd June, 1874.			34				
No. 8 do		Capt. Beaney, Fenwick	2	42	1	41	Clifton, 12 days.			32				
		Staff	8		6	5	Niagara, 12 days.				Rail and waggon.			
		Total	24		16	5								
77th Battalion	6	Lieut.-Col. Brown, Wentworth												
No. 1 Company		Capt. Ogg, Dundas	2	42	2	41	23rd June, 1874.			58				
No. 2 do		„ McMonis, Waterdown	2	42	3	41	Niagara, 12 days.	Under canvas.		58				
No. 3 do		Capt. Hoey, Binbrook	2	42	2	42				60				
No. 4 do		Capt. Rymal, Rockton	2	42	1	40				68				
No. 5 do		Capt. Carpenter, Saltfleet	2	42	3	40				43				
No. 6 do		„ Bethune, Glanford	2	42	3	41				63				
		Staff	8		7	6					Rail and waggon.	24 hours.		
		Total	20	252	21	6	245							

performed the Annual Drill for 1873-74.—Continued.

Cost of rations per head per diem at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
28 cents.	Good.	None reported.	Good Band, 16.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	..... 12.21 Sergt. Bradley 11.28 Corpl. Greenwood 10.75 Cor. R. Brooks 10.97					Not performed annual drill. Not performed annual drill.
28 cents.	Good.	None reported.	Good Band, 20.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	Sergt. H. Suess 9.59 Pt. H. Hender-shot 16.25 Pt. M. Keeleher 37 points.					Best shot in the Battalion. Best shooting Co. No. 8
28 cents.	Good.	None reported.	Good Band, 20.	Very fair.	Company, Battalion and Brigade Drill.	Reported enrolled.	..... 17.59 Pt. T. Adams 17.84 Pt. D. Stock 22.23 Pt. C. Salmon 15.61 Corpl. R. Morgan 12.62 Pt. J. Stull 19.82 Pt. R. Nosworthy 17.42 Pt. D. Stork 60 points.					Very fair Regiment. Best shot in the Battalion Best shooting Company, No. 2.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Mode.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
<i>Independent Company</i> Sault Ste. Marie...		Capt. Wilson, Sault Ste. Marie	2		42	1	2	58			
		Brigade St				16	12	12 horses			24 hours.
								1st May, 1874, 16 days, Sault Ste. Marie.		Nil.	

performed the Annual Drill for 1874-75.—*Continued.*

<i>Cost of rations per head, per diem, at encampment.</i>	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians, and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.	None reported.		Good.	Company an Drill.	Reported enrolled.	Pt. R. Meuron		14'68			

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 3, Lieut.-Col. S. P. JARVIS, C.M.G., D.A.G.M.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.				
Battalion or Corps.	Troop.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.			Officers.	Horses.		N. C. O. and Men.	Officers.	Horses.	N. C. O. and Men.	Miles.	Mode.
Northumberland and Durham Squadron.		Lt.-Col. Robt. Smart Commanding													
	1	Capt. Regan, Cobourg	6	61	55	3	61	58							
	2	Lt.-Col. Smart, Port Hope.	5	60	55	1	37	40							
		Staff				5	10	5							
		Total Squadron.	11	121	110	9	108	103							
Frontenac Squadron.		Lt.-Col. John Duff Commanding													
	1	Capt. White, King- ston	5	60	55	2	42	42							
	2	Lt.-Col. Wood, Syd- enham	5	60	55	3	43	40							
		Staff				4	10	6							
		Total Squadron.	10	120	110	9	95	88							
Napanee Troop		Capt. Perry, Napanee	5	60	55	3	45	42							
									June 22nd, 1874 ; Kingston ; 12 days.	In Camp.			27	Marched.	One day at Napanee.
Peterboro' Troop		Major Rogers, Peter- borough	3	58	55	3	44	41							
									June 22nd, 1874 ; Co- bourg ; 12 days.	In Camp.			36	Marched.	One day at Peter- borough.

performed the Annual Drill for 1874-75.—Continued.

21½ cents, Rations. 40 cents Forage.	16½ cents, Rations. 40 cents Forage.	21¼ cents, Rations. 48 cents Forage.	Cost of rations per head, per diem, at encampment.
Good.	Good.	Good.	General conduct of Corps.
None.	None.	One horse lamed on the march.	If any, and what casualties.
No.	No.	15 Musicians; proficient.	Whether in possession of Band. Number of Musicians and proficiency.
In serviceable order.	In serviceable order.	In serviceable order.	General State of Clothing, Arms and Accoutrements.
Worked with Northumberland and Durham Squadron.	Worked with Frontenac Squadron.	Manœuvred in Brigade. Skirmished and marched past. Walk, trot and galloped.	Nature of Movements at Inspection, and how performed.
Reported to be so.	Reported to be so.	Reported to be so.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.
Same as the Northumberland and Durham Squadron.	The Cavalry at Kingston Camp did not perform Target practice.	Ranges: 200, 400 and 600 yards. Five rounds at each range. 78 non-commissioned officers and men scored (including Peterboro' Troop.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
9.88		10.20	F. of M. Batt.
July 1st, 1874.	July 1st, 1874.	July 2nd, 1874.	F. of M. Comp.
July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	Date of Inspection.
		Best shot in the three Troops; Trooper H. Eyre.	Date when drill was completed.
		The strength of 1st Troop included Band of Squadron.	REMARKS.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 3.--Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.	Miles.			Mode.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	Horses.	N. C. O. and Men.	Officers.	Horses.	N. C. O. and Men.				
Prince Edward Coy. Troop.		Major White, Pictou	3	58	55	3	42	39	October 15th, 1874; Pictou; 12 days.	Billeted in Town.	Headquarters of Troop.	
		Total Cavalry.	32	417	385	27	334	313				Six hours at Pictou.
Kingston Field Battery		Major Alexander Kirkpatrick, Kingston.....	5	62	75	4	39	60	June, 22nd, 1874, Kingston, 12 days.	In Camp.	Headquarters of Field Battery.	Assembled in Waggon and used the horses for the guns
												One day at Kingston.
Durham Field Battery		Capt. Graham, Kendal, Guns at Port Hope.....	5	62	75	3	58	72	June 22nd, 1874, Coburg, 12 days.	In Camp.	29	Waggon.
												Two days at Port Hope.
Napanee Garrison Battery		Captain Hooper, Napanee.....	3	.....	55	3	.....	38	September 2nd, 1874, Napanee, 12 days.	Billeted in the Town.	Headquarters of Battery.	No Conveyance necessary
												Six hours at Napanee.

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.		General conduct of Corps.		If any, and what casualties.		Whether in possession of Band, Number of Musicians and proficiency.		General State of Clothing, Arms and Accoutrements.		Nature of Movements at Inspection, and how performed.		Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.		Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figures of merit of each Battalion, Corps and Company.		Date of Inspection.		Date when drill was completed.		REMARKS.
Messed themselves.		16½ cents, Rations. 40 cents Forage.		Very good.		None.		In serviceable order.		Brigaded with Infantry and fired 21 guns in conjunction with <i>rez de jete</i> for Dominion Day. Marched past, walk, trot and gallop.		Reported to be so.		The Artillery had not performed Target practice.		July 1st, 1874. July 3rd, 1874.		October 24th, 1874. October 26th, 1874.		
Very good.	21½ cents, Rations. 48 cents, Forage.	Very good.	Very good.	None.	None.	No.	No.	In serviceable order.	In serviceable order.	Manned with Infantry and fired 21 guns in conjunction with <i>rez de jete</i> for Dominion Day. Marched past, walk, trot and gallop.	Reported to be so.	Reported to be so.	No Ammunition issued to them.							
None.	None.	None.	None.	None.	None.	No.	No.	In serviceable order.	In serviceable order.	Exercised by the Commandant of the School of Gunnery. Took part in a sham fight. Marched past.	Reported to be so.	Reported to be so.	The Artillery had not performed Target practice.							This Battery was attached to the Cavalry for Rations and Forage and Camp equipment. Is well horsed. Has new Clothing and Saddlery, but old Guns.
No.																				
In serviceable order. Clothing worn out.																				
Exercised by Commandant School of Gunnery in Garrison Gun Drill.																				
Reported to be so.																				
The Artillery had not performed Target practice.																				
September 12th, 1874.																				
September 13th, 1874.																				

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT, No. 3.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.								
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Officers.	Horses.	N. C. O. and Men.	Miles.	Mode.	Time required to concentrate the Battalion or Corps.			
Coburg Garrison Battery.....		Captain Dumble, Cobourg.....	3		55	1				36			Drill put in on various dates in Coburg, 12 days' drill performed.	Residents of Cobourg.	Headquarters of Battery.	No conveyance necessary.	Six hours at Cobourg.
14th, Princess of Wales Own Rifles	6	Lt.-Col. D. Callaghan, Kingston.....											June 22nd, 1874, Kingston, 12 days.	In Camp.	Head Quarters of Battalion.	No conveyance required.	3 hours at the Drill Shed.
No. 1 Company..		do	3		55	1				31							
No. 2 do		do	3		55	1				32							
No. 3 do		do	3		55	2				34							
No. 4 do		do	3		55			None.									
No. 5 do		do	3		55	2				42							
No. 6 do		do	3		55	2				39							
		Staff	2			7				6							
		Total	26		330	15	5			190							
15th, Argyle Light Infantry	6	Lt.-Col. A. Campbell, Belleville.....											June 22nd, 1874, Kingston, 12 days.	In Camp.	47 miles.	Grand Trunk Railway.	6 hours at Belleville.
No. 1 Company..		do	3		55	3				42							
No. 2 do		do	3		55	3				43							
No. 3 do		do	3		55	3				43							
No. 4 do		do	3		55	3				42							
No. 5 do		do	3		55	2				42							
No. 6 do		do	3		55	2				42							
		Staff	2			7				5							
		Total	26		330	23	5			259							

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was complete.	REMARKS.
cents without fuel.	16½ cents without fuel.	Messed themselves.										
Good.	Good.	Very good.										
None.	None.	None.	No.	In serviceable order.	Exercised by Commandant School of Gunnery in Garrison Gun Drill. Manual & Firing exercises with Rifle.	Fourteen Recruits this year sworn in at Muster.	The Artillery had not performed Target practice.					This is an excellent Battery. The clothing has been in wear more than the regular time, but is well preserved. One Rifle missing. — Have a 32 pounder Gun and an 8 inch Mortar. Require a Gyn and Tackle.
12 Musicians. Efficient.	25 Musicians. Efficient.											Five companies only turned out for drill this year The full strength allowed to drill this year for pay was 42 per company.
The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.											Lt.-Col. Campbell as senior officer commanded in camp. His report is attached. Every company of this corps mustered the full strength allowed to drill this year.
Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column on muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column on muster.											
Stated to be so.	Stated to be so.											
Ranges 200, 400 and 600 yards. Five rounds at each range. 113 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 131 non-commissioned officers and men scored.											
7.07	9.68½											
7.71	10.22											
8.54	5.92											
6.96	9.46											
5.44	7.77											
July 1st, 1874.	July 1st, 1874.											
July 3rd, 1874.	July 3rd, 1874.											

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 3. — Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'on or Corps.	Com-pany.	Battal'on or Corps.	Com-pany.			Miles.	Mode.			
			Officers.	N. C. O. and Men.	Officers.	Horses.						N. C. O. and Men.	
47th, Frontenac Battalion	7	Lt.-Col. G. A. Kirkpatrick, M. P., Battalion Headquarters Kingston											
No. 1 Company		Milburn	3	55	1	41	June 22nd, 1874, Kingston, 12 days.	In Camp.	16	W	12 hours at Kingston.		
No. 2 do		Inverary	3	55	3	41			13	W			
No. 3 do		Elginburgh	3	55	3	42			10	W			
No. 4 do		Portsmouth	3	55	3	40			3	M			
No. 5 do		Barriefield	3	55	3	36			3	M			
No. 6 do		Wolfe Island	3	55	2	40			10	B			
No. 7 do		Harrowsmith	3	55	1	40			18	W			
		Staff	8		8	4							
		Total	29	385	23	5	284						
48th, Lennox and Addington Battalion	6	Lt.-Col. S. Fairfield, Battalion Headquarters, Napanee.											
No. 1 Company		Tamworth	3	55	2	42	June 22nd, 1874, Kingston, 12 days.	In Camp.	41	W	24 hours at Napanee.		
No. 2 do		Clark's Mills	3	55	2	37			25	W			
No. 3 do		Napanee	3	55	2	35			28	R			
No. 4 do		Amherst Island	3	55	2	40			14	S			
No. 5 do		Enterprise	3	55	2	42			40	W			
No. 6 do		Odessa	3	55	2	33			15	W			
		Staff	8		7	5							
		Total	26	330	19	5			234				
49th, Hastings Battalion Rifles	5	Lt.-Col. J. Brown, Battalion Headquarters, Belleville.											
No. 1 Company		Belleville	3	65	2	42	June 22nd, 1874, Kingston, 12 days.	In Camp.	47	R	24 hours at Belleville.		
No. 2 do		Stirling	3	55	3	42			54	WR			
No. 3 do		Sidney	3	55	2	38			58	do			
No. 4 do		Madoc	3	55	2	42			75	do			
No. 5 do		Melrose	3	55	2	39			48	do			
		Staff	8		6	4							
		Total	23	285	17	4			203				

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of band. Number of Musicians, and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.	16½ cents without fuel.
Good.	Good.	Good.	Good.	Good.	Good.	Good.	Good.
None.	None.	None.	None.	None.	None.	None.	None.
18 Musicians. Efficient.	23 Musicians. Efficient.	21 Musicians. Efficient.	21 Musicians. Efficient.				
In serviceable order. Clothing much worn.	Arms in serviceable order. Clothing worn out.	The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.	The Clothing on parade was new. The Arms in serviceable order.
Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.	Deployed in Brigade and fired a <i>feu de joie</i> on Dominion Day. Marched past. Reformed in column for muster.
Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.
Ranges 200, 400 and 600 yards. Five rounds at each range. 192 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.	Ranges 200, 400 and 600 yards. Five rounds at each range. 197 non-commissioned officers and men scored.
17.20½	16.46	12.80	12.80	12.80	12.80	12.80	12.80
19.02	22.14	16.03	16.03	16.03	16.03	16.03	16.03
21.31	11.87	13.04	13.04	13.04	13.04	13.04	13.04
18.13	19.23	11.17	11.17	11.17	11.17	11.17	11.17
13.07	15.06	11.90	11.90	11.90	11.90	11.90	11.90
14.50	16.96	11.14	11.14	11.14	11.14	11.14	11.14
July 1st, 1874.	July 1st, 1874.	July 1st, 1874.	July 1st, 1874.	July 1st, 1874.	July 1st, 1874.	July 1st, 1874.	July 1st, 1874.
July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.
The companies of 49th had longer distances to travel than those of any other corps in camp and mustered only 7 short of the full strength allowed this year. The battalion figure of merit was highest in camp. The 14th, 15th, 47th, 48th and 49th formed the Infantry Brigade of the 7th Brigade Division at Kingston camp.	On arriving in camp many of the men had no uniforms. Clothing was issued to them previous to muster.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.	This a fine rural battalion, and mustered within 10 rank and file of the number allowed to drill this year.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT

No. 3.—Continued.

Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Establishment.		Actual Strength pre-ent at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to Muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.		
			Officers.	N. C. O. and Men.	Officers.	Horses.	N. C. O. and Men.					
40th Northumberland Battalion	7	Lt. Col. Wm. Smith, Battalion Headquarters, Cobourg						June 22nd, 1874, Cobourg, 12 days.	In Camp.			24 hours at Cobourg.
No. 2 Company		Cobourg	3	55	2		42			8		
No. 3 do		Campbelford	3	55	3		41			14	WR	
No. 4 do		Brighton	3	55	1		42			24	R	
No. 6 do		Grafton	3	55	3		40			10	WR	
No. 7 do		Colborne	3	55	2		39			16	R	
No. 8 do		Castleton	3	55	3		42			24	WR	
No. 9 do		War'worth	3	55	3		43			35	WR	
		Staff	8		7	5	5					
		Total	29	385	24	5	294					
45th West Durham Battalion	7	Lt.-Col. Frederick Cubitt, Battalion Headquarters, Bowmanville						June 22nd, 1874, Cobourg, 12 days.	In Camp.			24 hours at Bowmanville.
No. 1 Company		Bowmanville	3	55	3		*51			29		
No. 2 do		Ororo	3	55	3		40			50	WR	
No. 3 do		Canowright	3	55								
No. 4 do		Newcastle	3	55	2							
No. 5 do		Omamee	3	55	2		37			42	R	
No. 6 do		Lindsay	3	55	3		39			52	R	
No. 7 do		Kendall	3	55								
		Staff	8		7	4	6					
		Total	29	385	18	4	173					
57th Peterboro' Battalion	6	Lt.-Col. Edwin Poole, Batt. Headquarters, Peterboro'						June 22nd, 1874, Cobourg, 12 days.	In Camp.			36 hours at Peterboro'.
No. 1 Company		Peterboro'	3	55	3		31			37	SR	
No. 2 do		do	3	55	3		41			37	SR	
No. 3 do		do	3	55	2		29			37	SR	
No. 4 do		Ashburnham	3	55	2		23			37	SR	
No. 5 do		Norwood	3	55	1		33			41	WS	
No. 6 do		Hastings	3	55	2		39			34	SR	
		Staff			7	4						
		Total	26	330	20	4	196					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.		21½ cents without fuel.		21¼ cents without fuel.		21½ cents without fuel.		General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled in numbers thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M.	Batt.	E. of M.	Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
Good.	None.	Good.	None.	Good.	None.	Good.	None.														
20 Musicians; efficient.	In serviceable order.	20 Musicians; efficient.	In serviceable order.	14 Musicians; efficient.	In serviceable order.	18 Musicians; efficient.	In serviceable order.														
Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.	Formed line of Quarter-Columns. Changed Front. Skirmished. Deployed and advanced in Line. Marched past. 10 rounds of blanks fired.														
Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.	Stated to be so.														
Ranges: 200 400 and 600 yards. Five rounds at each Range. 150 non-commissioned officers and men scored.	Ranges: 200 400 and 600 yards. Five rounds at each Range. 131 non-commissioned Officers and men scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 131 non-commissioned Officers and men scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 131 non-commissioned Officers and men scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 131 non-commissioned Officers and men scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 131 non-commissioned Officers and men scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 212 non-commissioned officers scored.	Ranges: 200, 400 and 600 yards. Five rounds at each Range. 212 non-commissioned officers scored.														
11.79	15.10	15.10	15.10	15.10	15.10	13.91	13.91														
16.51	18.33	18.33	18.33	18.33	18.33	8.16	8.16														
10.55	15.15	15.15	15.15	15.15	15.15	11.68	11.68														
9.22	10.99	10.99	10.99	10.99	10.99	18.38	18.38														
10.05	14.93	14.93	14.93	14.93	14.93	14.50	14.50														
11.16	July 2nd, 1874.	July 2nd, 1874.	July 2nd, 1874.	July 2nd, 1874.	July 2nd, 1874.	21.87	21.87														
13.55	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	July 3rd, 1874.	15.69	15.69														
July 2nd, 1874.	July 3rd, 1874.	July 3rd, 1874.																			
July 3rd, 1874.	Best shot in Battalion Private C.B. Hawley. Score 35.	Best shot in Battalion Private C.B. Hawley. Score 35.																			
These three Battalions, 40th, 45th and 57th, formed the Infantry Brigade of the 6th Brigade Division.	*Including 14 Band Only four companies turned out for drill.	*Including 14 Band Only four companies turned out for drill.	*Including 14 Band Only four companies turned out for drill.	*Including 14 Band Only four companies turned out for drill.	*Including 14 Band Only four companies turned out for drill.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.														
Best shot in Battalion, Private J. Steele, Score 36.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.	Best shot in Battalion and Brigade, Serjt. Sanderson. Score 42.														

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT. No. 4. Lieut.-Col. W. H. JACKSON, D. A. G. M.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Com- pany.	Battalion or Corps.	Com- pany.	Officers.			N. C. O. and Men.	N. C. O. and Men.		Officers.	N. C. O. and Men.	Horses.	Miles.	Mode.
Staff		Lieut.-Col. Jackson, D.A.G., Brockville	6	6	.....	6	6	6	Ottawa, June 22, 74. 12 days	Camp.				
Prescott troop of Cavalry.....		Major J. M. Walsh, Prescott.....	3	42	.....	3	42	44	Ottawa, June 22, 1874. 12 days.	Camp.	52	Rail	5 hrs.	
Ottawa troop of Cavalry.....		Capt. N. Sparks, Ottawa.....	3	42	.....	3	42	44	Ottawa, June 22, 1874. 12 days.	Camp.				

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 4.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.						
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	Horses.	N. C. O. and Men.				
Ottawa Field Battery.....		Capt. J. Stewart, Ottawa.....	6	71	.....	6	66	59	Ottawa, June 22, 1874. 12 days.	Camp.		
Gananoque Field Battery.....		Capt. W. McKenzie, Ottawa.....	6	71	.....	5	60	50	Ottawa, June 22, 1874. 12 days.	Camp.		

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head per diem at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt. P. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
24½c. per Ration ; 35c. for Forage.	Good.	None.	No.	Good.	Inspected by Assistant Inspector of Artillery.	Inspected by Assistant Inspector of Artillery.	Shot and shell practice at 1000 and 1700 yards. The barrel being hit several times.	Believe so.	Not given.	September 11th, 1874. September 12th, 1874.	
21½c. per ration, including water and rent of water brls ; 42½c. per ration of Forage.	Good.	None.	No.	Good.	Inspected by Assistant Inspector of Artillery.	Believe so.	Owing to rafts being in the river, shot practice could not be carried out.		July 1st, 1874. July 3rd, 1874.		

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 4.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	Battal'n or Corps.	Com- pany.			Battal'n or Corps.	Com- pany.		Miles.	Mode.
												N. C. O. and Men.	Officers.	N. C. O. and Men.	Miles.	Mode.
Ottawa Brigade Gar- rison Artillery.....	7	Lieut.-Col. Egleson, Ottawa.....											
No. 1 Company.....		Lt. Evans, Ottawa..	3	42	2	37	Evening and day drill in drill shed.						
No. 2 do		Capt. PatricR do...	3	42	2	35							
No. 3 do		" Cummings do...	3	42									
No. 4 do		" Cluff do	3	42	3	42							
No. 5 do		" Hopper, Nepean.	3	42									
No. 6 do		" Graham, Ottawa.	3	42	3	42							
No. 7 do		" De Bucherville, Ottawa.....	3	42									
Staff		Staff	8	5 hor's	5								
Total		Total	29	294	15	156	156						
Gov. G's Foot Guards, 1st Battalion.....	6	Lt.-Col. Ross.....					At Local Headquarters.						
No. 1 Company.....		..... Ottawa.....	3	55								
No. 2 do		Capt. Tilton do ..	3	55									
No. 3 do		" Weatherley do ..	3	55									
No. 4 do		" Macpherson do ..	3	55									
No. 5 do		" Lee do	3	55									
No. 6 do		" do	3	55									
Staff		Staff	8	5 hor's									
Total		Total	26	330									
18th Battalion, (Co. of Prescott.....	6	Lt.-Col. Urquhart, Hawkesbury Mills					2 staff officers and 2 horses, Nos. 3 and 4 Cos, Ottawa, June 22nd, 1874, 12 Days.	Camp.					
No. 1 Company.....		Capt. Higginson, Hawkesbury	3	42									
No. 2 do		" Vankleek, Van- kleek Hill	3	42									
No. 3 do		" Butterfield, J. Orginal	3	42	2	32					65	B	11 hrs
No. 4 do		" Ogden, East Hawkesbury	3	42									
No. 5 do		" McLennan, Pen- dleton.....	3	42	2	34					74	WB	14 hrs
No. 6 do		" do	3	42									
Staff		Staff	8	5 hor's	2	2 hor's							
Total		Total	26	252	6	66							

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enlisted members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was complete.	REMARKS.
2½ cts. per ration, including water and rent of water barrels.	Good.	None.	Brigade Band, 26 members. Efficient.	Good.	Owing to the confined space, but little drill could be performed. Proving fours. Manual Exercise, and a detachment from each battery at Big Gun drill. Men clean and Physique fair. Corps fairly efficient.	Yes.	Target practice not completed.			Dec. 11th, 1874.	Relieved from drill by special authority, do	
Good.	None.							7.56				
Nos. 3 and 5 Co's. only performed drill for present year, for which they were attached to the 42nd Battalion, marching past in Column and Quarter-Column, Light Infantry and Batt. Drill, with General Field Day. Fairly efficient.	Good.					Believe so.	200 and 400 yards; 5 rounds at each target.	10.28		July 1st, 1874. July 3rd, 1874.		

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT, No. 4.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.			Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	Time	
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.						
41st Battalion Rifles.	6	Lt.-Col. Cole, Brockville					Nos. 1, 2, 3, 4 and 5 Cos., Ottawa, June 22nd, 1874, 12 days.	Camp.				hrs
No. 1 Company.	...	Capt. Cook, Brockville	2	42	2	43			74	Rail	5	
No. 2 do	...	„ Legge, Gananoque	3	42	2	36			104	Rail	7	
No. 3 do	...	Major Lander, Frankville	3	42	2	36			92	WR	8	
No. 4 do	...	Capt. Merrick, Merrickville	3	42	2	36			68	WR	7	
No. 5 do	...	„ Bell, Carleton Place	3	42	3	37			28½	Rail	2	
No. 6 do	...	Major O'Neil, Pakenham	3	42	...	...			...	...	...
		Staff	8	5 hor's	4	3 hor's			...	...	...
		Total	25	252	15	188	...	...	...
42nd Battalion	7	Lieut.-Colonel Buell, Brockville					Nos. 2, 3, 5, 6 and 7 Companies, Ottawa, June 22, 1874, 12 days.	Camp.				hrs.
No. 1 Company	...	Capt. Macdonell, Almonte	2	42	...	...			...	...	...
No. 2 do	...	„ Sparham, Brockville	2	42	2	42			74	Rail	5	
No. 3 do	...	„ Douglas, Perth	2	42	2	42			50	Rail	4	
No. 4 do	...	„ Walker, jun., Diamond	2	42	...	...			...	...	...
No. 5 do	...	„ Bradley, Landsdowne	3	42	2	42			94	Rail	7	
No. 6 do	...	„ Gould, Smith's Falls	2	42	1	42			40	Rail	4	
No. 7 do	...	„ Dickson, Pembroke	3	42	2	42			130	WR	15	
		Staff	8	5 horses	6	4 horses	...	...	...
		Total	24	294	15	210	...	...	...

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 4.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to Muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Batt'n or Corps.	Com- pany.	Batt'n or Corps.	Com- pany.			Miles.	Mode.		
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.				Hours.	
43rd Battalion.....	9	Lieut.-Col. Bearman, Bell's Corners.						Nos. 3 and 6 Companies, Ottawa, June 22, 1874, 12 days.	Camp.			
No. 1 Company		Capt. Kemp, Hazle- dean	3	42								
No. 2 do		" Holmes, Huntley.	3	42						22	W	7
No. 3 do		" Morgan, Metcalfe	3	42	2	33						
No. 4 do												
No. 5 do												
No. 6 do		" Garvin, Munster.	3	42	2	34				30	WR	5
No. 7 do		" Cook, Manotick..	2	42								
No. 8 do		" McGregor, Vernon	3	42								
No. 9 do		Staff.....	8	5 horses	2							
		Total	25	252	6	67						
56th Battalion, "Lia- gar Rifles"	7	Lieut.-Coll. Jessup, Prescott						Nos. 1, 2, 4 and 7 Companies, Ottawa, June 22nd, 1874, 12 days.	Camp.			
No. 1 Company		Capt. Mowat, Pres- cott	3	42	3	40				54	R..	7
No. 2 do		Capt. Bennett, Pres- cott	3	42	2	40				54	R..	7
No. 3 do		Major Campbell, Burritt's Rapids ..	3	42								
No. 4 do		Captain Clothier, Kemptville	3	42	2	35				32	R..	3½
No. 5 do		Captain McCuaig, Ottawa	3	42								
No. 6 do		Capt. Checkley North Augusta	3	42								
No. 7 do		Capt. Carmichael, Spencerville	3	42	2	41				45	R..	4½
		Staff	8	5 hor's	4	2 hor's						
		Total	29	294	13	156						

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	E. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
21½ cents per ration, including water and rent of water barrels.	Good.	One man, No. 3 Co., received a severe bayonet wound, skirmishing, 1st July.	Battalion Band, 16 members. Efficient.	Good.	Nos. 3 and 6 Cos. attached to 2nd Batt. for drill and discipline. Marching past in column and gr.-column. Skirmishing with blank ammunition. Battalion and Brigade Drill, with General Field Day, passably well performed. A want of cleanliness and soldierly appearance, but much improved during encampment.	Believe so.	200 and 400 yards, 5 rounds at each range.	11.51	9.64	1st July, 1874.	3rd July, 1874.	Relieved from drill by General Orders do do Removed from list of Active Militia. Relieved from drill by General Orders Removed from list of Active Militia. Relieved from drill by General Orders
21½ cents per ration, including water and rent of water barrels.	Good.	None.	Battalion Band, 12 members. Efficient.	Fair.	Marching past in column and quarter-column. Skirmishing with blank ammunition. Battalion and Brigade drill with general field day. Men clean and good progress made while in camp. Movements fairly executed.	Believe so.	200 and 400 yards. Five rounds at each range.	9.57	7.29	July 1st, 1874.	July 3rd, 1874.	Relieved from drill by General Orders. do do
								11.87	10.61			

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 4.--Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.				Hours.	
59th Battalion, Stormont and Glengarry	7	Lieut.-Col. Bergin, Cornwall					Ottawa, June 22nd, 1874. 12 days.	Camp.			
No. 1 Company...		Captain Callaghan, Cornwall	3	42	3	42			105	R..	10
No. 2 do		Capt. Davy, Cornwall	3	42	3	42			105	R..	10
No. 3 do		Capt. Adams, do	3	42	3	42				R..	10
No. 4 do		Captain McLennan, Lancaster	3	42	2	42				R..	12
No. 5 do		Capt. Bredin, Farrant's Point	3	42	2	43				R..	8
No. 6 do		Capt. Bullock, Lunenburg	2	42	1	42				R..	9
No. 7 do		Captain McDiarmid, Donegan	3	42	2	42				WB	15
		Staff	7	5 hor's	7	4 hor's					
		Total	26	294	22	295					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians, and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.																			
21½ cents per ration, including water and rent of water barrels.	Good.	None.	Battalion Band, 12 members. Efficient.	Fair.	Marching past in column and quarter-column. Volley firing, Battalion and Brigade movements, with general field day, all fairly and satisfactorily performed. Men clean and progress very marked while in camp. Every N. C. O. and man present.	Believe so.	200 and 400 yards. Five rounds at each range.	<table border="1"> <tr><td>.....</td><td>9.78</td></tr> <tr><td>.....</td><td>5.39</td></tr> <tr><td>.....</td><td>6.31</td></tr> <tr><td>.....</td><td>9.25</td></tr> <tr><td>.....</td><td>13.44</td></tr> <tr><td>.....</td><td>9.83</td></tr> <tr><td>.....</td><td>13.69</td></tr> <tr><td>.....</td><td>10.59</td></tr> </table>	9.78	5.39	6.31	9.25	13.44	9.83	13.69	10.59	<table border="1"> <tr><td colspan="2">July 1st, 1874.</td></tr> <tr><td colspan="2">July 3rd, 1874.</td></tr> </table>	July 1st, 1874.		July 3rd, 1874.			
.....	9.78																														
.....	5.39																														
.....	6.31																														
.....	9.25																														
.....	13.44																														
.....	9.83																														
.....	13.69																														
.....	10.59																														
July 1st, 1874.																															
July 3rd, 1874.																															

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT. No. 5. Lieut.-Col. J. FLETCHER, C.M.G., D.A.G.M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Company.	Battalion or Corps.	Company.					
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
Montreal Troop		Capt. Tees, Montreal.	2	35	2	28	Oct., Nov. Head-Quarters, 12 days.	Not in Camp.			
St. Andrews Troop		Capt. Burwash, I. c., St. Andrews.	3	42	3	40	June 28 to July 10, St. Andrew's, 12 days.	In Camp.	10	Marched.	4 hours.
Prov. Regiment											
Cooksville Troop		Capt. French, Cook-shire	3	42	3	42	October 2 to 14, Stanstead, 12 days.	In Camp.	30	Marched.	1 dy
Sherbrooke do		„ Read, Sherbrooke.	3	42	1	40			30		1 dy
Stanstead do		„ Wood, Stanstead.	3	38	3	37			5		1 hr
Compton do		„ Stinson, Compton.	3	35	1	33			22		8 hrs
		Staff	3	3	3	3					
		Total	15	160	11	155					
Huntingdon Troop		Captain Barr, Coney Hill	3	35	3	35	September 14 to 25, Laprairie, 12 days.	In Camp.	40	Marched.	1 dy
Missisquoi do		„ Bush, Clarenceville	3	35	3	35			38		1 dy
Brome do		„ Bright, Sutton	3	35	3	35			56		36 hrs
		Total	9	105	9	105					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of band. Number of Musicians, and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
20 cents per man. 38 cents per horse.	Good.	None.		In good order.	Troop and Squadron Movements, Sword Exercise, Firing in Skirmishing Order well performed.	They were.		8.37 9.35 17.35	23rd September. 24th September.		Inspected by Lieut. Colonel Fletcher, D. A. G.	
25 cents per man. 45 cents per horse.	Good.	None.		In good order.	Troop and Squadron Movements, and Sword Exercise well performed.	They were.		9.06 10.20 13.10 19.06	9th October. 14th October.		Inspected by Lieut. Colonel Fletcher, D. A. G.	
25 cents per man. 50 cents per horse.	Good.	None.		In good order.	Troop Movements, Sword Exercise well performed.	They were.		18.50	28th November. 28th November.		Inspected by Lieut. Colonel Fletcher, D. A. G.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.					
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
<i>Artillery.</i>											
Montreal F. Battery.		Capt. Stevenson, l.c., Montreal.....	5	.....	75	3	.....	72	Sept., Oct. and Nov. Montreal, 12 days.	Not in Camp.	
Shefford F. Battery.		Capt. Amyrauld, m., Granby.....	7	.....	75	5	.....	60	September 14 to 25, Laprairie, 12 days.	In Camp.	56 Marched. 36 hours.
Montreal Brigade G. Artillery.	6	Lieut. Col. McKay, Montreal.									
No. 1 Battery.....		Capt. Oswald, Mont- real.....	3	42	.....	2	29	.....	Sept., Oct. and Nov. Head- quarters, 12 days.	Not in Camp.	
No. 2 do		„ Gordon, Montreal	3	42	.....	2	32	.....		
No. 3 do		Lt. Molson do	2	42	.....	1	26	.....		
No. 4 do		„ Currie do	2	42	.....	1	27	.....		
No. 5 do		„ Pangman do	2	42	.....	1	29	.....		
No. 6 do		„ Anderson do	2	42	.....	1	42	.....		
		Staff.....	7	7	.....	7	7	.....		
		Total.....	21	259	.....	15	192	.....		
St. John's Battery.....		Major Drumm, St. John's.....	3	.....	42	3	.....	40	Sept. and Oct. St. John's, 12 days.	Not in Camp.	

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at amput		20 cents per man. 38 cents per horse.		General conduct of Corps.		Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
Good.	None.	Good.	None.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.		
Good.	None.	Good.	None.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
None.	None.	Good.	None.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.		
In good order.	In good order.	In good order.	In good order.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
Gun and Infantry Drill well performed.	Parade and Battalion Movements, Manual and Firing Exercise well performed.	Gun and Field Drill very well performed.	Gun Drill in detail, very good.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.		
They were.	They were.	They were.	They were.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
They were.	They were.	They were.	They were.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.		
24th October.	27th N. vember.	23rd September.	27th November.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
24th October.	27th November.	25th September.	27th November.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.		
Inspected by Lieut. Colonel Strange, R. A., Ins. Artillery.	Inspected by Lieut. Colonel Fletcher, D. A. G.	Inspected by Lieut. Colonel Strange, R. A., Dom. Ins. Artillery.	Inspected by Lieut. Colonel Fletcher, D. A. G.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
Inspected by Lieut. Colonel Strange, R. A., Ins. Artillery.	Inspected by Lieut. Colonel Fletcher, D. A. G.	Inspected by Lieut. Colonel Strange, R. A., Dom. Ins. Artillery.	Inspected by Lieut. Colonel Fletcher, D. A. G.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.		

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5. - Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Company.	Battalion or Corps.	Company.					
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.				
Sherbrooke Battery G. A.		Captain Short, Sherbrooke	2		40						
<i>Engineers.</i>											
Montreal Co. No. 1 . . .		Lieut. Devine, Montreal	2		40	2		40	Sept., Oct. and Nov. Headquarters, 12 days	Not in Camp.	
do No. 2		Capt. Kennedy, do	2		40						
		Total	4		80	2		40			
<i>Infantry and Rifles.</i>											
1st Battalion, Prince of Wales, Rifles	6	Lt.-Colonel Bond, Montreal.							September and October; Headquarters; 12 days.	Not in Camp.	
No. 1 Company		Capt. Mudge do ..	2	42		2	40				
No. 2 do		„ Stevenson do ..	2	42		2	42				
No. 3 do		„ Shepherd do ..	2	42		2	42				
No. 4 do		Lt. Dawson do ..	2	42		1	37				
No. 5 do		Capt. Robertson do ..	2	42		2	42				
No. 6 do		„ Watt do ..	2	42		2	41				
		Staff	7	5		7	5				
		Total	19	257		18	249				

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Mode.	Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.						
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.						
3rd Battalion, Victoria Rifles	6	Lt.-Col. Bethune, Montreal.					September, October and November; Headquarters ; 12 days.	Not in Camp.				
No. 1 Company		Capt. Crawford do.	2	42	1	41						
No. 2 do		„ Torrance do	2	42	2	40						
No. 3 do		Lt. Allan do	2	42	1	27						
No. 4 do		„ Abbott do	2	42	1	31						
No. 5 do		Capt. Taylor do	2	42	1	24						
No. 6 do		Lt. Hardiman do	2	42	1	25						
		Staff	6	5	6	5						
		Total	18	257	13	193						
6th Battalion, Hochelaga Light Infantry	4	Lt.-Col. Martin, Montreal.					Nov., Oct. and Sept.; Headquarters ; 12 days.	Not in Camp.				
No. 1 Company		Maj. Gardner do	2	42	2	42						
No. 2 do		Lt. Kenney do	2	42	1	42						
No. 3 do		Capt. Kirkpatrick, Montreal.	2	42	2	42						
No. 4 do		„ Sinton do	2	42	2	39						
		Staff	6	5	6	2						
		Total	14	173	13	167						
11th Battalion, Argen-teuil Rangers	8	Lieut.-Col. Hon J.J. C. Abbott, St. Andrews.					June 28th to July 10th, St. Andrews, 12 days drill.	In Camp.				
No. 1 Company		Capt. Le Roy, St. Andrews	2	42	2	23						
No. 2 do		„ Smith, M., West Gore	2	42	2	35						
No. 3 do		„ McKnight, West Gore	2	42	1	32					15	W
No. 4 do		„ Simpson, L.C., Lachute	2	42	did	not drill.					18	W
No. 5 do		„ Shirritt, East Gore	3	42	3	33						
No. 6 do		„ Pollock, Mille Isle	3	42	3	39						
No. 7 do		„ Hoy, Carillon	2	42	1	22					14	W
No. 8 do		„ Gushing, M., Chatham	2	42	did	not drill.					18	W
		Staff	6	5	5	4					2	W
		Total	24	341	15	188					6 hours.	

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents per man.	Good.	Good.	Fife and Drum Band, 22 Musicians; Proficient.	In good order.	Parade and Battalion movements, Manual and Firing Exercises, well performed.	They were.	20 rounds per man were fired, but the Target Practice Returns have not been received.			July 7th.	July 10th.	Inspected by Lt.-Col. Fletcher, U. A. G.
.....	Good.	None.	Brass Band, 20 Musicians; Proficient.	In good order.	Parade and Battalion movements, Manual and Firing Exercises, well performed.	They were.	do	do	9.67	November 14th.	November 14th.	Inspected by Lt.-Col. Fletcher, D. A. G.
.....	Good.	None.	Brass Band, 20 Musicians; Proficient.	In good order.	Parade and Battalion movements, Manual and Firing Exercises, well performed.	They were.	20 rounds per man fired at ranges 200, 400, 500, 600 yards. 128 men did not exercise.	15.35		November 2nd.	November 2nd.	Inspected by Lt.-Col. Fletcher, D. A. G.
.....	Good.	None.	Brass Band, 20 Musicians; Proficient.	In good order.	Parade and Battalion movements, Manual and Firing Exercises, well performed.	They were.	do	do	8.20	November 14th.	November 14th.	Inspected by Lt.-Col. Fletcher, D. A. G.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
21st Battalion, Riche- lieu Light Infantry	4	Lieut.-Colonel Mar- chand, St. John's ..									
No. 1 Company		Capt. Charland, St. Johns	2	42	2	27	Sept. 14th to 26th, Ja- prairie, 12 days drill.	In Camp.	27	Railway and Marching.	6 hours.
No. 2 do		„ Mongeon, St. Johns	2	42	3	10					
No. 3 do		„ Fletcher, M., St. Johns	2	42	did not	drill.					
No. 4 do		„ Roy, Henryville ..	2	42	did not	drill.					
		Staff	6	5	1						
		Total	14	173	6	37					
50th Battalion, Hunt- ingdon Borderers...	8	Lieut.-Colonel Mc- Eachen, C.M.G., Huntingdon.									
No. 1 Company		Captain Henderson, Hinchinbrooke ..	3	42	3	27	September 14th to 25th, Laprai- rie, 12 days drill.	In Camp.		Waggons and Steambeat.	One day.
No. 2 do		Captain McDonald, Huntingdon	3	42	did not	drill.					
No. 3 do		Capt. Gardner, M., Huntingdon	3	42	2	31					
No. 4 do		„ Cairns, M. do ..	3	42	1	10					
No. 5 do		„ Anderson do ..	3	42	did not	drill.					
No. 6 do		„ Maclaren do ..	3	42	2	22					
No. 7 do		„ Feeney do ..	3	42	3	27					
No. 8 do		„ McKinnon do ..	3	42	did not	drill.					
		Staff	8	5	5	5					
		Total	32	341	16	122					
51st Battalion, Hem- mingford Rangers...	8	Lieut.-Col. Rogers, Hemmingford ..									
No. 1 Company		Capt. Milne, Vicars ..	2	42	1	39	September 14th to 25th, Laprairie, 12 days.	In Camp.	36	Wagon.	One day.
No. 2 do		„ Scriver, Lacolle ..	3	42	3	37					
No. 3 do		„ Rowe, Franklin ..	2	42	2	28					
No. 4 do		„ McNaughton, Hemmingford ..	3	42	3	40					
No. 5 do		Capt. Elliott, Roxham	2	42	2	40					
No. 6 do		„ Hayes, Hemming- ford	3	42	2	30					
No. 7 do		Capt. Livingstone, St. Jean Chrysostome.	3	42	3	41					
No. 8 do		Capt. Ste. Marie, St. Renis	2	42	1	41					
		Staff	8	5	8	5					
		Total	28	341	25	301					

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
52nd Batt., Bromel Light Infantry ...	6	Lt.-Col. Hall, Knowlton					September 14th to 25th, Laprairie, 12 days.	In Camp.	70	Wagon or Railway.	One day.
No. 1 Company ...		Lieut. Allen, Abercorn	2	42	2	38					
No. 2 do ...		Capt. Kimball, Knowlton	2	42	2	25					
No. 3 do ...		Capt. Flannery Sutton	3	42	3	38					
No. 4 do ...		Capt. Hall, East Farnham	3	42	2	39					
No. 5 do ...		Capt. Perkins, Mansonville	3	42	3	39					
No. 6 do ...		Capt. Mooney, Bolton	3	42	3	32					
		Staff	6	4	6	4					
		Total	22	256	21	215					
53rd Battalion, Sherbrooke Infantry ...	6	Lieut.-Col. Ibbotson, Sherbrooke					October 2nd to 14th, Cookshire, 12 days.	In Camp.	25	Wagons	8 Hours.
No. 1 Company ...		Capt. Morehouse, Sherbrooke	3	42							
No. 2 do ...		Capt. Armstrong, Sherbrooke	3	42							
No. 3 do ...		Capt. Towle, Lennoxville	3	42							
No. 4 do ...		Capt. Rioux, Sherbrooke	3	42							
No. 5 do ...		Lieut. Phelan, Magog	2	42							
No. 6 do ...		Capt. Rolfe, Ascot	3	42	3	42					
		Staff	7	4							
		Total	24	256	3	42					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents per man.	Good.	None.		In good order.	This Company went to drill with the 58th Battalion. Company and Battalion drill fairly performed.	They were.	10 rounds at 200 and 500 yards.	12.10	October 8th. October 14th.	October 8th. September 23rd. September 25th.	Inspected by Lt.-Col. Fletcher, D.A.G. Inspected by Lt.-Col. Fletcher, D.A.G.	
20 cents per man.	Good.	None.			Battalion and Brigade movements skirmishing well performed.	They were.	10 rounds per man at ranges 200 and 500 yards.	10.27				

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.				
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.				
54th Battalion, Richmond Infantry.....	6	Lieut.-Col. Rt. Hon. Lord Aylmer, Richmond								
No. 1 Company.....		Capt. McKenzie, Danville	3	42	3	34				
No. 2 do.....		Capt. Williamson, M., Kingsbury	3	42	did not	drill.		14	WR	6 hours.
No. 3 do.....		Capt. Hon. H. Aylmer, Melbourne	3	42	did not	drill.				
No. 4 do.....		Capt. Boyd, Windsor	2	42	did not	drill.				
No. 5 do.....		Capt. Mairs, Ulverton	3	42	3	39				
No. 6 do.....		Capt. Watts, Drummondville, attached for Drill.	3	42	1	30				
		Staff.....	5	3	5	3				
		Total.....	22	255	12	106	October 1st to 13th, Melbourne, 12 days drill.	In Camp.		8 hours.
58th Battalion, Compton Infantry.....	10	Lt.-Col. Cook, Cookshire								
No. 1 Company.....		Capt. McNeece, Robinson	2	42	2	42				
No. 2 do.....		Capt. Ross, Gouid	3	42	2	42				
No. 3 do.....		Capt. McIver, Stonaway, Winslow	2	42	2	42		18		
No. 4 do.....		Captain Weyland, Marbicton	3	42	3	37		24		
No. 5 do.....		Capt. Hansey, Lake Megantic	3	42	2	41		40		
No. 6 do.....		Capt. Cook, Hatley	2	42	2	40		18		
No. 7 do.....		Capt. Merry, Costi-ook	3	42	2	35		56	Wagons.	
No. 8 do.....		Capt. Gilman, Stanstead	3	42	did not	drill.		25		36 hours.
No. 9 do.....		Capt. McAuley Stonaway, Winslow	3	42	3	42		28		
No. 10 do.....		Capt. Bartley, Eaton	3	42	3	38		38		
		Staff.....	6	5	6	5		40		
		Total.....	33	425	27	364	October 2nd to 14th, Cookshire, 12 days' drill.	In Camp.		

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>found</i> <i>vide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents per man.	Good.	None.		In good order.	Battalion movements, Manual and firing exercises. Fairly performed.	They were.	Ten rounds at 200 and 500 yards.	12.50		October 8th.	October 14th.	Inspected by Lt. Col. Fletcher, D. A. G.
25 cents per man.	Good.	None.		In good order.	Battalion drill and Manual exercise. Well performed.	They were.	Fifteen rounds at 200, 400 and 500 yards.	17.30		October 10th.	October 13th.	Inspected by Lieut. Col. Fletcher, D. A. G.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.						
												Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.		Miles.	Mode.		
60th Battalion, Mis- souri Infantry....	6	Lt.-Col. Rowe, Dun- ham....						September 14th to 25th, Laprairie, 12 days' drill.	In Camp.	60	WR	One day.
No. 1 Company....		Captain Sixby, St. Armand....	3	42		2	41					
No. 2 do		Captain Jamieson, Clarenceville....	3	42		2	33					
No. 3 do		Capt. Robison, Dun- ham....	3	42		2	36					
No. 4 do		Capt. Higgins, West Farnham....	3	42		2	33					
No. 5 do		Capt. Bockus, Stan- bridge....	3	42		1	35					
No. 6 do		Captain Westover, Frelighsburg....	3	42		1	39					
		Staff.....	6	5		6	5					
		Total.....	24	257		16	222					
79th Battalion, Sheff- ord Highlanders..	8	Lieut.-Col. Miller, Granby....						September 14th to 25th, Laprairie, 12 days' drill.	In Camp.	75	WR	36 hours
No. 1 Company....		Captain Mayotte, Granby....	2	42		2	35					
No. 2 do		Capt. Maynes, Water- loo....	3	42		3	28					
No. 3 do		Capt. Codd, Waterloo.	2	42		2	30					
No. 4 do		Capt. Gilbrath, South Roxton....	3	42		1	30					
No. 5 do		Capt. Woods, Roxton Falls....	3	42		3	30					
No. 6 do		Capt. Smith, North Ely....	2	42		2	29					
No. 7 do		Capt. Brown, Law- renceville....	3	42		1	31					
No. 8 do		Lieut. Brooks, Water- loo....	2	42		2	31					
		Staff.....	8	5		7	5					
		Total.....	28	341		23	249					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed	REMARKS.
20 cents.	Good.	None.	Brass Band, 20 Musicians. Very proficient.	In good order.	Battalion and Brigade movements. Skirmishing. Well performed.	They were.	10 rounds at 200 and 500 yards.	9.16		September 23.	September 25.	Inspected by Lt.-Col. Fletcher, D. A. G.
20 cents per man.	Good.	None.	Brass Band, 20 Musicians. Proficient.	Clothing fair state. Arms in good order.	Battalion and Brigade movements. Skirmishing. Well performed.	They were.	10 rounds at 200 and 500 yards.	8.50		September 23.	September 25.	Inspected by Lt.-Col. Fletcher, D. A. G.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 5.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
<i>Independent Companies.</i>											
Aylwin Infantry Co.		Captain Chamberlin, Aylmer.....	3	46	.....	2	...	46			
Wakefield Infantry Company.....		Capt. Cates, Wakefield	3	42	.....	2	.....	34			
Eardley Infantry Company.....		Cap. Lawlor, Eardley		42	.....	did not drill.					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.	None.		In good order.	Company drill. Manual and Firing exercises well done.	They were.	20 rounds at 200, 400, 500 and 600 yards.	24-30	September 28.	September 28.	Inspected by Lt.-Col. Bacon, B.M.	
	Good.	None.		In good order.	Company drill. Manual and Firing exercises well done.	They were.	20 rounds at 200, 400, 500 and 600 yards.	26-65	September 21.	September 21.	Inspected by Lt.-Col. Bacon, B.M.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 6. Lt.-Col. A. C. DeLOTBINIERE HARWOOD, D.A.G.M.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mcode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.					
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.				
55th Battalion	6	Lt.-Col. King, Inverness						* 26th June, Inverness. 12 days of drill.	In Camp.	10	20 hours.
No. 1 Company		Capt. H. G. Miller, Kinnear's Mills	2	42	2	37					
No. 2 do		Capt. T. McKenzie, Inverness	2	42	2	40					
No. 3 do		Capt. W. J. Ward, Glen Lloyd	3	42	3	41					
No. 4 do		Capt. W. Thompson, Reid's Mills	3	42	2	35					
No. 5 do		Capt. Blanchard, Somerset	Did not drill.								
No. 6 do		Capt. Montgomery, St. Sylvestre	3	42	2	35					
		Staff			5	6					
		Total	13	210	16	194					
St. Hyacinthe Provisional Battalion	4							At their respective Headquarters.			1 hour.
No. 1 Company		Capt. Doherty, St. Hyacinthe	2	42	2	40					
No. 2 do		Capt. Morin, St. Pie	3	42	3	34					
No. 3 do		" Sylvestre, St. Simon	3	42	3	40					
No. 4 do		Capt. Patenaude, Sorel	2	42	5	37					
		Total	10	168	13	151					
Independent Companies.		Capt. Beaubien, Victoriaville	2	40	2	40					
		Capt. Pratte, St. Gregoire	3	40	3	35					
		Capt. Giroux, Nicolet	3	40	3	36					
		" Landry, Becancour	2	40	2	40					
		" De Foy, Gentilly	2	40	2	39					
		" Moussette, St. Gertrude	2	40	2	40					
		Capt. Baron, Wolfestown									
		Capt. Richard, Wotton									
		" Quesnel, Arthabaska									
		Capt. Roy, St. Norbert									
		" Dauth, Bulstrode									

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 6.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.	Officers.			N. C. O. and Men.	Officers.		N. C. O. and Men.	Miles.	Mode.
Joliette Provisional Battalion.....	4	Major Sheppard, Joliette.....	5	.....	5	.....	.....	.....	.....	.....	.....	.....	.....
No. 1 Company..	.....	Captain McConville, Joliette.....	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
No. 2 do .....	.....	Captain Granger, St. Jacques.....	2	.....	2	.....	.....	.....	.....	.....	14	W	.....
No. 3 do .....	.....	Lieut. Guilbault, St. Melanie.....	2	.....	2	.....	.....	.....	.....	.....	11	W	.....
No. 4 do .....	.....	Captain Guilbault, St. Elizabeth.....	2	.....	2	.....	.....	.....	.....	.....	11	W	.....
Total			13	.....	13	.....	.....	.....	.....	.....	.....	.....	.....
													4 hours.
Three Rivers Provisional Battalion.	4	Maj. Lambert, Rivière du Loup.....	5	.....	5	.....	.....	.....	.....	.....	.....	.....	.....
No. 1 Company..	.....	Capt. Grandpré, Berthier.....	2	.....	2	.....	.....	.....	.....	.....	18	SR	6hrs
No. 2 do .....	.....	„ Pichette, Rivière du Loup.....	2	.....	2	.....	.....	.....	.....	.....	32	SR	10,,
No. 3 do .....	.....	„ Chalut, Berthier.....	2	.....	2	.....	.....	.....	.....	.....	18	SR	6,,
No. 4 do .....	.....	„ Kénault, St. Gabriel.....	2	.....	2	.....	.....	.....	.....	.....	24	W	10,,
Total			13	.....	13	.....	.....	.....	.....	.....	.....	.....	.....
												
Independent Companies.....	2	Capt. Quinn, Rawdon.....	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
No. 1 Company..	.....	„ Sharp, Rawdon	3	.....	3	.....	.....	.....	.....	.....	24	W	.....
No. 2 do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	W	.....
Total			6	.....	6	.....	.....	.....	.....	.....	.....	.....	.....
													10 hours.

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothings, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled in numbers thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
21½ cents.	Very good.	None.	None.	Good.		Yes.						
21½ cents.	Very good.	One man; by drowning, having gone to bath, contrary to orders.	None.	Good.	Marched past. Column and Line Movements. Skirmishing. Manual and Firing Exercise.	Yes.	Sergt. N. Scalton 3.00 Priv. L. Laferrière 3.00 Priv. O. McGayne 2.00 Sergt. N. Scalton 4.00 Priv. M. Champagne 4.00			17th July, 1874. 21st July, 1874.		
21½ cents.	Very good.	None.	Yes; 16 Musicians.	Good.		Yes.	Sergt. A. Laferrière 7.00 Private A. Grandpré 4.00 Sergt. H. Legris 7.00 Sergt. A. Laferrière 5.00 Corp. Q. Tellier 8.00			17th July, 1874. 21st July, 1874.		
21½ cents.	Very good.	None.	None.	Good.		Yes.	Priv. J. Gray 9.00 Corp. G. Coping 15.00			17th July, 1874. 21st July, 1874.		

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 6. - <i>Continued.</i>			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battery or Corps.	Company.			Miles.	Mode.	
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
65th Battalion	6	Lieut.-Col. Beaudry, Montreal.									
No. 1 Company		Capt. A. Delisle do.	2	42	2	40					
No. 2 do		" M. Trudeau do.	2	42	1	34					
No. 3 do		" A. Ouimet do.	2	42	1	35					
No. 4 do		" S. Delisle do.	2	42	1	40					
No. 5 do		" P. Bélanger	2	42	2	41					
No. 6 do		" Frs. Lapointe	2	42	2	40					
		Staff	8		7	6					
		Total	20	252	16	236					
							At Headquarters.				
76th Battalion	6	Lieut. - Col. Rodier, Ste. Martine.									
No. 1 Company		Capt. Laberge, Ste. Philomène.	3	42	3	30		5			
No. 2 do		" Durocher, Ste. Martine	3	42	2	31					
No. 3 do		" Legault, St. Urbain	3	42	2	32		5			
No. 4 do		" Beaudreau, Ste. Martine	2	42	2	33					
No. 5 do		" Turcot do	3	42	2	30					
No. 6 do		Actg. - Capt. Robert Chateauguay	2	42	2	30					
		Staff	4		4	3					
		Total	20	252	17	189					
							St. Martine, July 16th, 1874.				
							In Camp.				
								Cart.			
										12 hours.	

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents were allowed in lieu of rations.	Very good.	None.	30 Musicians, good.	Arms very well kept.	General Salute Manual and Firing Exercises. Marching Post, Breaking into Column and wheeling into Line, closing Column on the right, and opening Column from the Right Company.	Yes.	Impossible for the men to go through the prescribed course when they drill at Headquarters. The Target Practice having not been completed, I don't give the figure of merit because it would place the Battalions in an inferior position to others who have fired 40 rounds.			16th July, 1874. 17th July, 1874.	24th November, 1874. 24th November, 1874.	
					General Movements. Drill fair.		Figure of Merit for what has been fired will be found in the Target Practice Returns.					

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 6.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Laprairie Infantry Company.....	1	Capt. Brosseau, Laprairie.....	3	.....	42	3	.....	41	.....	At Headquarters.	.....
64th Battalion.....	6	Lt.-Col. C. S. Rodier Beauharnois.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indeplent Com.....	.....	Capt. Beaudry, Beauharnois..... " Simpson, St. J. B. Village.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at ampment	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Num- ber of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bound fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non- exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
.....	General Salute, Manual and Firing Exercise, Proving and Inspecting Company, Counter-Marches, Com- pany's Squares, Forming R. and L., Wheeling of all sorts.	.....	.....	.....	.....	.....	.....	.....
.....	Impossible for the men to go through the prescribed course when they drill at Headquarters. The Target Practice having not been completed, I don't give the figure of Merit because it would place the Battalions in an inferior position to others who have fired 40 rounds.	.....	.....	.....	.....	.....	.....
.....	Figure of Merit for what has been fired will be found in the Target Practice Returns.	.....	.....	.....	.....	.....	.....
.....	30th November, 1874.	.....	.....
.....	30th November, 1874.	.....	.....
.....	Have not yet per- formed their Drill for 1874 and 1875.
.....	Have not yet per- formed their Drill for 1874 and 1875.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT. No. 7. Lieut.-Col. L. A. CASAULT, C.M.G., D A.G.M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Company.	Battalion or Corps.	Company.						
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
Grosse Isle Battery G. A.		Capt. Montizambert, Grosse Isle.....	1	.....	21	1	.....	21	25th September, 1874 Grosse Isle, 12 days.	At Battery's Headquarters.	.....	.....
Gaspé Battery G. A.		Capt. and Bt. Major Slous, Gaspé	3	.....	42	1	.....	33	8th October, 1874. Gaspé, 12 days.	At Battery's Headquarters.	.....	.....
9th Battalion Rifles, Quebec.	7	Lieut.-Col. Panet, Quebec.							15th August, 1874. Rivière Ouelle, 12 days.	Battalion Camp.	91	By Steamer.
No. 1 Company....		Capt. Frenette do	3	.....	42	1	.....	35				
No. 3 do		„ Delagrave do	2	.....	42	2	.....	35				
No. 4 do		„ E. Garneau do	2	.....	42	2	.....	41				
No. 5 do		„ G. Amyot do	2	.....	42	2	.....	42				
No. 6 do		„ A. Evanturel do	2	.....	42	2	.....	38				
No. 7 do		„ Gauvreau do	2	.....	42	2	.....	40				
		Staff	9	.....	.....	8	.....	.....		
		Total	23	.....	252	19	.....	231				1 day.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT, No. 7.—Continued.		Establishment.	Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.			Battal'n or Corps.	Company.		Miles.	Mode.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.			
17th Battalion, Levis	8	Lieut.-Col. Blanchet, Levis.				5			
No. 2 Company		Capt. L. C. Hamel, Levis.	3	42	1	37			
No. 3 do		„ Demers, Hadlow Cove	3	42	2	35			
No. 4 do		„ Lemieux, Levis.	3	42	3	39		5	
No. 5 do		„ Geuest, St. Henri.	2	42	2	33		10	Carriage.
No. 6 do		„ Poliquin, St. Michel.	2	42	2	29			
No. 7 do		„ Fournier, St. Raphael.	3	42	3	34		35	
No. 8 do		„ Morin, St. Lazare Staff	3	42	3	40		36	Carriage.
		Total	7	294	6	252			
			26	294	22	252			12 hours.
61st Battalion, Montmagny and P'Islet.	5	Lieut.-Col. Beaubien, Montmagny.				4			
No. 1 Company		Capt. Fournier do	2	42	1	41			
No. 2 do		„ Landry, St. Pierre	1	32	1	34		9	
No. 3 do		„ Desjardins, Cap St. Ignace	2	42	2	40		9	Carriage.
No. 4 do		Lieut. Burke, St. Jean	2	42	1	42		30	
No. 5 do		Capt. Giasson, L'Islet Staff	2	42	1	42		18	Carriage.
		Total	6	210	6	203			12 hours.
			15	210	12	203			
23rd Batt. Beauce	6	Lt.-Col. H. Duchesnay Ste. Marie							
No. 1 Company		Capt. Labrecque, Lambton	2	42	2	41		60	
No. 2 do		Capt. Paradis, Aylmer	3	42	1	41		72	
No. 3 do		Lt. A. Blanchet, St. Francois	2	42	1	39		22	Carriages.
No. 4 do		Capt. L. Paradis, Lambton	2	42	1	41		72	
No. 5 do		Capt. Jalbert, Ste. Marie	2	42	2	41			One day.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 7.--Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.						
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
23rd Batt. Beauce.— Continued.												
No. 6 Company...		Capt. Filteau, Lotbiniere	3	42	3	42	27th July, 1874, Lotbiniere, 12 days.	At Company's Headquarters.				
		Staff	6		6							
		Total	20	252	16	245						
Portneuf Provisional Battalion.....	5	Major Panet, Pointe aux Trembles					Company's Headquarters, 16th July, 1874, Ste. Genevieve de Batiscan, 12 days.	Brigade Camp.				
No. 1 Company...		Capt. Beaudry, Pointe aux Trembles	3	42	3	40				51	Marching, Carriages and Boat.	One day.
No. 2 do		Lieut. Frenette, St. Raymond	3	42	2	33				66		
No. 4 do		Capt. Brunet, St. Augustine	3	42	3	34				55		
No. 5 do		Capt. Dussault, Ecurieus	3	42	3	38				60		
		Total	18	210	14	178						
No. 3 do		Lieut. Paquette, Deschambault.	2	42	1	33	Company Headquarters.					
		Staff	4		2							
		Total	18	210	14	178						

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head per diem at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	REMARKS.
	Good.	None.	None.	Good.	Manual and Firing Exercises, Squad and Company Drill, Skirmishing very satisfactorily performed.	Yes.	8.97	Inspected by Lt.-Col. T. J. Duchesnay, B.M.
	Good.	None.	None.	Good.	Squad, Company, Battalion and Brigade Drill, Skirmishing very satisfactory.	Yes.	Yes. 200, 500 and 600 yards.	Inspected by Lt.-Col. Cassault, D.A.G. commanding 7th Military District.
24 1/2 cents.	Good.	None.	None.	Good.	Manual Firing Exercises, Company movements and Skirmishing.	Yes.	Yes. 130, 200 and 300 yards.	Inspected by Lt.-Col. Lamontagne, B.M.
	Good.	None.	None.	Good.	Manual and Firing Exercises, Squad and Company Drill, Skirmishing very satisfactorily performed.	Yes.	8.97	Inspected by Lt.-Col. T. J. Duchesnay, B.M.
	Good.	None.	None.	Good.	Squad, Company, Battalion and Brigade Drill, Skirmishing very satisfactory.	Yes.	Yes. 200, 500 and 600 yards.	Inspected by Lt.-Col. Cassault, D.A.G. commanding 7th Military District.
24 1/2 cents.	Good.	None.	None.	Good.	Manual Firing Exercises, Company movements and Skirmishing.	Yes.	Yes. 130, 200 and 300 yards.	Inspected by Lt.-Col. Lamontagne, B.M.
	Good.	None.	None.	Good.	Manual and Firing Exercises, Squad and Company Drill, Skirmishing very satisfactorily performed.	Yes.	8.97	Inspected by Lt.-Col. T. J. Duchesnay, B.M.
	Good.	None.	None.	Good.	Squad, Company, Battalion and Brigade Drill, Skirmishing very satisfactory.	Yes.	Yes. 200, 500 and 600 yards.	Inspected by Lt.-Col. Cassault, D.A.G. commanding 7th Military District.
24 1/2 cents.	Good.	None.	None.	Good.	Manual Firing Exercises, Company movements and Skirmishing.	Yes.	Yes. 130, 200 and 300 yards.	Inspected by Lt.-Col. Lamontagne, B.M.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 7.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.	Miles.			Mode.			
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.							
County of Quebec Provisional Batt. ...	4	Major Laurin, Ancienne Lorette.											
No. 1 Company		Capt. Dorion, Charlesbourg	3	42	2	31							
No. 2 do		Capt. Laurin, Ancienne Lorette.	2	42	2	35							
No. 3 do		Capt. Genest, St. Ambroise	3	42	2	31							
No. 4 do		Capt. Routhier, Ste. Foye	2	42	2	33							
		Staff	4		3								
		Total	14	168	11	130	16th July, 1874, Ste. Geneviève de Batiscan, 12 days.	Brigade Camp.	79	83	79	Carriages, Marching and Boat.	One day.
70th Batt. Champlain	6	Lt.-Col. Massicotte, Ste. Geneviève de Batiscan											
No. 1 Company		Capt. E. Trudel, Ste. Geneviève	3	42	3	42							
No. 2 do		Capt. A. Coesette, St. Nazaire	3	42	2	42							
No. 3 do		Capt. T. Trudelle, Ste. Geneviève	3	42	3	42							
No. 4 do		Capt. P. A. Tessier, St. Anne	2	42	3	42							
No. 5 do		Capt. J. B. Massicotte, St. Prosper	3	42	3	42							
No. 6 do		Capt. Buist, St. Tite	2	42	1	42							
		Staff	8		5								
		Total	24	252	22	252	16th July, 1874, Ste. Geneviève de Batiscan, 12 days.	Brigade Camp.	15	15	15	Carriage.	One day.
"Kamouraska" Provisional Battalion.	4	Major V. Taché, Kamouraska											
No. 1 Company		Capt. Ouellet, Ste. Anne	3	42	2	42							
No. 2 do		Lieut. Dupuy, Kamouraska	3	42	1	38							
No. 3 do		Capt. Tétu, Rivière Ouelle	3	42	2	41							
No. 4 do		Fraser, St. Denis	3	42	1	40							
		Staff	4		3								
		Total	16	168	9	161	30th July, 1874, Rivière du Loup; 12 days.	Brigade Camp.	42	24	36	Railway.	4 hours.

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.			Date of Inspection.	Date when drill was completed.	REMARKS.	
							F. of M. Batt.	F. of M. Comp.					
24 cents.	Good.	None.	None.	Good.	Squad, Company, Battalion, Skirmishing and Brigade Drill well performed.	Yes.	5.59	4.57	6.29	7.72	30th July, 1874.	31st July, 1874.	Inspected by Lt.-Colonel Casault, D. A. G., commanding Military District No. 7.
24 1/2 cents.	Good.	None.	Very good. Yes. 17 Musicians.	Good.	Squad, Company, Battalion and Brigade Drill Skirmishing very satisfactory.	Yes.	6.73	5.58	5.95	8.19	16th July, 1874.	17th July, 1874.	Inspected by Lt.-Colonel Casault, D. G. A., commanding Military District No. 7.
24 1/2 cents.	Good.	None.	None.	Good.	Squad, Company, Battalion and Brigade Drill Skirmishing very satisfactory.	Yes.	7.82	7.94	13.55	6.21	16th July, 1874.	17th July, 1874.	Inspected by Lt.-Colonel Casault, D. A. G., commanding Military District No. 7.
Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	F. of M. Batt.	F. of M. Comp.		Date of Inspection.	Date when drill was completed.	REMARKS.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 7. — Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Company.	Battalion or Corps.	Company.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers	N. C. O. and Men.					
"Témiscouata" Provisional Battalion.	4	Major Hudon, Rivière du Loup									
No. 1 Company		Capt. Pouliot, Fraserville	3	42	3	42	30th July, 1874, Rivière du Loup; 12 days.	Brigade Camp.	6	RC	3 hours.
No. 3 do		" Ely, Cacouna	2	42	2	40			9	RC	
No. 4 do		" Lebel, St. Arsène.	2	42	2	40				RC	
No. 5 do		" Dumas, Green Island	2	42	1	37				F	
		Staff	4		2						
		Total	13	168	10	159			18	F	
"Rimouski" Provisional Battalion.	3	Major Martin, Rimouski									
No. 1 Company		Capt. Martin, Rimouski	3	42	3	35	30th July, 1874, Rivière du Loup	Brigade Camp.	66		4 hours.
No. 3 do		" Poulin, L'Anse aux Sables	3	42	2	34			66		
No. 5 do		Lt. H. Michaud, St. Anaclet	3	42	2	35			75		
		Staff	1		1						
		Total	10	126	8	104					
"Charlevoix" Provisional Battalion.	4	Major Dufour									
No. 1 Company		Capt. Gautier, Baie St. Paul	3	42	3	40	Nov. 74, Aug. 1, 74, Aug. 21, 74, Aug. 7, 74, 12 days.	At Company's Headquarters.			
No. 3 do		Capt. J. Tremblay, Eboulements	2	42	2	43					
No. 5 do		" Lemieux, Chicoutimi	2	42	2	37					
No. 2 do		" Blouin, St. Jean, d'Orléans	2	42	2	42					
		Total	9	168	9	162					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was complete.	REMARKS.
24 cents.	Good.	None.	None.	Good.	Squad, Company, Battalion, Skirmishing and Brigade Drill well performed.	Yes.	Yes; 200, 500 and 600 yards.	5.07	5.66 6.33 4.90	30th July, 1874.	31st July, 1874.	Inspected by Lt.-Colonel Casault, D. A. G., Commanding Military District No. 7.
24 cents.	Good.	None.	None.	Good.	Squad, Company, Battalion, Skirmishing and Brigade Drill well performed.	Yes.	Yes; 200, 500 and 600 yards.	5.23	7.14	30th July, 1874.	31st July, 1874.	Inspected by Lt.-Colonel Casault, D. A. G., Commanding Military District No. 7.
Fair.	Good.	None.	None.	Good.	Manual, Firing Exercise, Skirmishing and Company Drill well performed.	Yes.	Yes; 200, 500 and 600 yards.			Aug. 7, 74. Aug. 21, 74. Aug. 1, 74.	Aug. 1, 74.	Inspected by Lt.-Colonel LaMontagne B. M.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 7.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to Muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.			Officers.	N. C. O. and Men.	
"Dorchester" Provisional Battalion.	4	Capt. Larochelle, St. Auselme	2	42	2	26	Batt. Camp, St. Auselme, Sept. 21, '74.	7	Carriage.	12 hours.	
		No. 1 Company	2	42	2	26					
		No. 2 do	3	42	3	39					
		No. 3 do	2	42	2	35					
		No. 4 do	2	42	2	39					
		Staff	3	1	1	50					
		Total	12	169	10	142					
Quebec Squadron Cavalry	2	Lieut.-Col. Forsyth, Quebec	3	42	3	38	15th November, 12 days, Quebec.	Headquarters; no Camp.		Four hours.	
		No. 1 Troop	3	42	3	38					
		No. 2 do	3	42	1	37					
		Staff	5	4	4	37					
				Total	11	84					8

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of band. Number of Musicians, and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents.	Good.	None.	None.	Good.	Manual and Firing Exercises; Squad and Battalion Drill; Skirmishing; very satisfactorily performed.	Yes.		21st September, 1874.	21st September, 1874.	Inspected by Lt. Colonel Oasault, D. A. G., Commanding Military District No. 7.
Good.	None.	Very good.	Retiring by fours; decrease to half sections and files; re-forming half sections; fours and troop; repeating the whole at a trot; formed in the reverse flank; rein back and advance by sections of fours from the right for sword exercise. Three carbine exercises and Skirmishing. The whole being very satisfactory.	Yes.				November 28th, 1874.	November 28th, 1874.	Inspected by Lt. Col. Lamontagne B. M.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 7.— <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport. Miles. Mode. Time required to concentrate the Battalion or Corps.				
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.							
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
Quebec Field Battery	1	Major Baby, Quebec.	5	74	.....	3	72	.....	15th September, 1874.	Battery Headquarters, Quebec.	.....	.....	Four hours.
Fox River Company.	1	Capt. J. A. Lebl, Fox River.....	3	42	.....	2	42	.....	10th October, 1874.	Company's Headquarters.	.....	.....	.....
Bonaventure Marine Company.....	1	Capt. F. D. Gauvreau, Bonaventure.....	3	42	.....	3	31	.....	16th, October, 1874.	Company's Headquarters.	.....	.....	.....

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were bound <i>Adz</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
....	Good.	None.	....	Very good.		Yes.	Yes.					Inspected by Lt. Col. Strange.
....	Good.	None.	....	Cloth Clothing, five years in wear. Good.	Manual and firing exercises. Squad and Company drill. Skirmishing. The whole very well performed.	Yes.	Not performed. Will do so as soon as ice forms on the Bay. No ground available.			October 10th, 1874.	October 10th, 1874.	Inspected by Lt. Col. Duchesnay, B. M.
....	Good.	None.	....	Serge Clothing, three years in wear. Good.	Manual and firing exercises. Squad and Company Drill. Skirmishing. Satisfactorily performed.	Yes.	Not performed, will do so soon.			October 16th, 1874.	October 16th, 1874.	Inspected by Lt. Col. Duchesnay, B. M.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 8. Lieut.-Col. G. J. MAUNSELL, D.A.G.M.			Establishment.		Actual strength present at inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.					
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
1st Brigade Division.		Lt.-Col. Inches, B. M., St. Stephen.	1		1			Sept. 1st, Woodstock, 12 days.	In Camp.		
Field Battery.		Capt. Donnell, Wood- stock	3	74	4	70					
67th Battalion	10	Lt.-Colonel. Upton, Woodstock						1st July, 1874; St. An- drews; 12 days.	In Camp.	Railway.	
No. 1 Company		Capt. Bourne, Wood- stock	2	42	3	39					
No. 2 do		„ Ariama, Center- ville	2	42	1	46					
No. 3 do		„ Boyer, Vic. Courser	2	42							
No. 4 do		„ Hoyt, Richmond.	2	42	3	47					
No. 5 do		„ Burpee, Waterville	2	42	3	41					
No. 6 do		„ Rossé, Gd. Falls.	2	42	2	43					
No. 7 do		„ Baker, Little Falls	2	42	3	39					
No. 8 do		„ Vince, Hartland.	2	42	3	43					
No. 9 do		„ Hartley, Peel	2	42	2	43					
No. 10 do		„ Carvell, Wilmot.	2	42	2	46					
		Staff and Band	2	6	2	24					
		Total	28	426	30	411					
71st Battalion	6	Lt.-Colonel Marsh, Fredericton					1st July, 1874; St. And- rews; 12 days.	In Camp.	Railway.		
No. 2 Company		Capt. Christy, Kes- wick	2	42	2	40					
No. 3 do		„ Staples, St. Mary's	2	42	2	40					
No. 4 do		„ Wilkinson, Stanly	2	42	3	40					
No. 5 do		„ Cropley, Frederic- ton	2	42	2	41					
No. 6 do		„ Alexander, Bliss- ville	2	42	2	40					
		Staff and Band	7	6	7	27					
		Total	17	216	18	228					

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.		REMARKS.	
							F. of M. Batt.	F. of M. Comp.		
							Date of Inspection.		Date when drill was completed.	
25 cents.	Good.	None.	Yes; 22; good.	Good; new.	General Brigade Movements, as per accompanying Report; good.	Yes.	200, 400, 600 yards.	10.85 10.13 20.36		11th July, 1874. 12th July, 1874.	Best shot. Pts. D. Perkins, 43 J. McBean, 38 S. Bird, 37 J. Buchanan, 40 J. Morgan, 35 D. Perkins, 43.
25 cents.	None.	None.	Yes; 18; Good.	Good; new.	General Brigade Movements, as per accompanying Report; good.	Yes.	Not yet performed. 200, 400, 600 yards.	12.86 13.52 18.09 18.57	11th Sep., 1874. 12th Sep., 1874.	No Rifle Practice. Best shot. Pts. M. Shaw, 43 H. Dibble, 38 H. Thomas, 35 Drill not performed as per G. O., 2nd June, 1874. J. Appleby, 37 W. McIsaac, 25 No Rifle Practice. J. Boyer, 28 G. Lindsay, 38 M. Shaw, 43.
Good.	Good.	None.	None.	Good.	Field Gun Drill.	Yes.	Shot and Shell practice only.			

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 8.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.	
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
Independent Companies.	Companies.	Capt. McGee, St. George..... Capt. Hutton, St. Stephen..... " Llyod, Deer Island..... Total.....	2 2 2 6	42 42 42 126	1 2 3	40 35 75	1st July, 1874; St. Andrews; 12 days.	In Camp.	Railway.		
2nd Brigade Division		Lieut.-Col. Otty, B. M., St. John.....	1	.....	1	.....				
8th Reg't of Cavalry.	6	Lieut.-Col. Saunders, Apohaqui..... No. 1 Troop Capt. Otty, Hampton No. 2 do Capt. Foshay, Apohaqui No. 3 do Capt Pearson, English Settlement..... No. 4 do Capt. Sangstroth, Hammond River.. No. 5 do Capt. Upham, Upham No. 6 do Capt Brettain, Springfield..... Staff and Band..... Total.....	21 2 2 2 2 2 7 19	230 40 40 40 40 40 19 259	21 2 3 3 2 2 1 6 19	278 38 39 40 39 40 38 6 240	Shediac, 3rd July, 1874. 12 days.	In Brigade Camp.	Marched and Railway.	12 hours.	
For No. 7 Troop, see 3rd Brigade Division.											

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
27 cents.	25 cents.	Good.	Good.	Good; new.	General Brigade Movements as per accompanying Report; good.	Yes.	Yes; 200, 400, 600 yards.	18.60	18.60	11th July, 1874.	12th July, 1874.	Best shot. Pts. A. McGee, 36 C. Blacktin, 43 Drill not performed
27 cents.	27 cents.	ery Good.	es. 14. Good.	Clothing in use five years	Formed up into Line of Quarter Columns; marched past in mass of Columns and in mass of Quarter Columns; wheeled into line of Columns; Deployed into line; advanced in Review order; halted, and after salute, inspected; proceeded then with General Field Movements, as here-with appended. Well.	Yes.	Yes, 10 rounds. 200 and 400 yards.	12.01	14.09	14.19	12.02	Best Shot. Pts. W. Parley, 30 J. Wood, 26 W. Parley 30 A. Pearson, 26 C. McAfee, 27 J. Steeves, 29 C. Mote, 29
										13th July, 1874.	14th July, 1875.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 8.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Times required to concentrate the Battalion or Corps		
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.			
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
N. B. Brigade Garrison Artillery.	4	Lt. Col. Foster, St. John	17	210	21	199	St. John, 23rd July, 12 days.	In Camp.	Average, 1½ miles.	Marched.	Half an hour.
No. 1 Battery.....		Captain Kane, St. John	2	.....	42	3	.....	38			
No. 2 do		Capt. Ring, Carleton, St. John	2	.....	42	3	.....	39			
No. 3 do		Capt. Cunard, B.M. Portland, St. John	2	.....	42	3	.....	39			
No. 10 do		Capt. Armstrong, St. John	2	.....	42	3	.....	38			
		Staff and Band	7	.....	5	7	.....	5			
		Total	32	73	40	159					
New Brunswick Engineers		Capt. Perley, St. John	2	42	1	32	During five months in Drill room.	Not in Camp.	1	Marched.	Half an hour.

performed the Annual Drill for 1874-75.—Continued.

Cost of reticous per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled, members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	Date when drill was completed.	REMARKS.
2 1/4 cents.	2 1/4 cents.	Fair.	None.	Yes, Fifes and drum only. Fair.	Good.	After Inspection in Line, formed Line of Columns; Marched past in mass of Columns and in mass of Quarter-Columns; wheeled in Line of Columns; Deployed, and formed again into Line of Columns; fairly.	Yes.	Yes.	Yes, fired from Garrison Guns mounted on the Barrack Square. Shot and Shell practice.	No Rifle practice performed.
Good.	None.	No.	Good.	Manual and Firing Exercises and Company Drill Fairly.	Yes.	Yes. 15 rounds. 200 400 and 600 yards.	57-68	13th Nov., 1874.	Best Shot. J. Hunter, 48	Pts. 48
None.	Fair.	None.	Yes, Fife and drum only. Fair.	Good.	After Inspection in Line, formed Line of Columns; Marched past in mass of Columns and in mass of Quarter-Columns; wheeled in Line of Columns; Deployed, and formed again into Line of Columns; fairly.	Yes.	Yes, fired from Garrison Guns mounted on the Barrack Square. Shot and Shell practice.	31st July, 1874.	3rd Aug., 1874.	No Rifle practice performed.
Good.	Fair.	None.	Yes, Fife and drum only. Fair.	Good.	Manual and Firing Exercises and Company Drill Fairly.	Yes.	Yes, fired from Garrison Guns mounted on the Barrack Square. Shot and Shell practice.	13th Nov., 1874.	13th Nov., 1874.	No Rifle practice performed.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 8.—Continued.		Establishment.	Actual strength present at inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.			Battal'n or Corps.	Com-pany.		Miles.	Mode.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.	
62nd Battalion	6	Lt. Col. MacShane, St. John	19	252	16	163	St. John, 23rd, July, 1874. 12 days. In Camp. Average 1½ miles. Marched. Half an hour.
No. 1 Company	.....	Capt. McIntyre, Portland, St. John	2	.....	42	1	.....	26
No. 2 do	.....	Capt. Hatheway, St. John	2	.....	42	2	.....	25
No. 3 do	.....	Capt. Farren, St. John	2	.....	42	2	.....	13
No. 4 do	.....	Capt. Hazen, St. John	2	.....	42	1	.....	23
No. 5 do	.....	Capt. Nugent, St. John	2	.....	42	1	.....	40
No. 6 do	.....	Capt. Likely, St. John Staff and Band	2	.....	42	2	.....	32
		Total	19	.....	257	16	.....	166
74th Battalion	1	Lient.-Col. Beer, Sussex	15	168	14	160	Shediac 3rd July 12 days. In Camp. Railway. Three hours.
No. 3 Company	.....	Capt. Arnold, Sussex Staff and Band	2	.....	42	2	.....	36
		Total	24	.....	47	21	.....	40

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.		General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.			Date of Inspection.	Date when drill was completed.	REMARKS.					
27 cents.	24 cents.							F. of M. Batt.	F. of M. Comp.									
Good.	Good.	None.	Yes. Very good.	21.	Good.	After Inspection in Line, formed Line of Columns; marched past in mass of Columns; in mass of Quarter-Columns; wheeled in Line of Columns; Deployed, and formed again into Line of Columns; fairly.	Yes.	Yes, 15 rounds. 200, 400 and 600 yards.	15 56	16 14	18 33	11 30	18 20	23 30	15 50	31st July, 1874.	3rd Aug., 1874.	Best Shot. Pts.
Good. New.	Good.	None.	No.		Good.	Formed up in Line of Quarter Columns; Marched past in mass of Columns and in mass of Quarter Columns; wheeled into Line of Columns; deployed into Line; advanced in Review order; halted, and after Salute, Inspected; proceeded then with general Field Movements, as here-with appended. Well.	Yes.	Yes, 15 rounds. 200, 400 and 600 yards.	16 39	23 30					13th July, 1874.	14th July, 1875.	Best Shot. Pts.	
																		J. McPherson, 42
																		J. Dever, 35
																		J. Cosgrove, 36
																		J. Meehan, 32
																		. Lenihan, 40
																		J. Hartt, 34
																		J. Chapn an, 35
																		W. Wallaoc, 32

INSPECTION REPORT OF CORPS, which have

MILITARY DISTRICT No. 8.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.	Officers.						N. C. O. and Men.	N. C. O. and Men.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.				
3rd Batt, Division		Lieut.-Col. McCulley, B.M., Chatham...	1	.....	.....	1						
8th Regiment of Cavalry, No. 7 Troop.....		Captain Henderson, Shediac	2	....	42	2	....	38	July 3rd, 1874, Shediac, 12 days.	In Camp.	32	Marched. ½ hour.
Field Battery.		Capt. Call, Brevet-Major, Newcastle..	4	...	70		....	70	Aug. 11th, 1874, Newcastle, 12 days.	In Camp.	2 miles.	Marched. ½ hour.
N. B. G. Artillery, No. 7 Battery.....		Brevet - Major and Captain Gillespie, Chatham.....	2	....	42	2	....	40	St. John, July 23, 1874, 12 days.	In Camp.	1 mile.	Marched. ½ hour.

performed the Annual Drill for 1874 75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed	REMARKS.
27 cents.	Good.	None.	Yes, Head Quarters of Regiment.	5 years in use.	Field Movements in Brigades, fair. See Head Quarters of Corps.	Yes.	Yes, 10 rounds, 200 and 400 yards.	....	10.81	July 13th, 1874. July 14th, 1874.	Best shot.	J. Murray, 28 Pts.
Private Contract.	Good.	None.	No.	Good.	Field Movements and Gun Drill, Firing, &c., very good.	Yes.	Yes, 30 rounds, 200 400 and 600 yards. 70 Men.	....	29.59	Aug. 21st, 1874. Aug. 22nd, 1874.	Best shot.	H. Fish, 51 Pts.
24 cents.	Fair.	None.	Yes, Head Quarters of Corps.	Good.	Brigade Drill. See 2nd B. Division. Head Qrs. of Corps.	Yes.	Yes, Shot and Shell Practice on Barrack Square.			July 31, 1874 Aug. 3rd, 1874.	No Target Practice with Rifle.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 8.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Others.	N. C. O. and Men.	N. C. O. and Men.			
73rd Battalion	5	Major Sheriff, Chatham.	17	210	....	13	180	....		
No. 1 Company		Capt. Hutchinson, Buctouche.	2	....	42	1	....	37	In Camp.	about 20 miles.	4 hours.
No. 2 do		„ Fenton, Chatham	2	....	42	1	....	31	Not in Camp.	2½ miles.	1 hour.
No. 3 do		„ Blake, Black Brook	2	....	42	2	Bnd: 14 33	14 33			
No. 4 do		„ Templeton, Black River	2	....	42	1	....	24	In Camp.	110	2 days.
No. 5 do		„ Cameron, Lower Black River	2	....	42	3	....	35			
		Staff and Band	7	....	5	5	....	6		Waggon.	
		Total	17	....	210	13	....	180			
74th Battalion	3										
No. 4 Company		Capt. Murray, Shemogue	2	....	42	3	....	41	In Camp.	Average 60.	5 hours average.
No. 5 do		„ Baird, Sackville	2	....	42	2	....	40			
No. 6 do		„ Harper, Bay Vert.	2	....	42	2	....	38			
		Total	6	....	126	7	....	....		Waggon and Railway	
Dalhousie Infantry		Capt. Barbe-rie, Dalhousie	2	....	42	2	....	31		Nil.	
										Nil.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 9. Colonel J. W. LAURIE, D.A.G.M.			Establishment.		Actual strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
			Battal'n or Corps.	Company.	Battery or Corps.	Company.	Officers.					N. C. O. and Men.	N. C. O. and Men.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.		Miles.	Mode.	
Halifax Field Battery	Capt. Graham, Halifax	5	100	100	4	....	45	12	....	....	One hour.
1st Halifax Brigade Artillery	6 Lieut.-Col. Mitchell, Halifax										One hour.
No. 1 Battery			40			34				
No. 2 do			40			36				
No. 3 do			40			34				
No. 4 do			40			34				
No. 5 do			40			33				
No. 6 do			40			34				
		Staff	10					34				
		Total	10		240	21		205				
2nd Halifax Brigade Artillery	6 Lt.-Col. MacPherson, Halifax										One hour.
No. 1 Battery			40			37				
No. 2 do			40			36				
No. 3 do			40			31				
No. 4 do			40			34				
No. 5 do			40			30				
No. 6 do			40			37				
		Staff	19					37				
		Total	19		240	19		205				
63rd Battalion	6 Lieut.-Col. Pallister, Halifax	20	240		20	229					1 hour.
No. 1 Company			40	2		38				
No. 2 do			40	3		40				
No. 3 do			40	3		36				
No. 4 do			40	1		40				
No. 5 do			40	2		40				
No. 6 do			40	2		35				
		Total			240	20		229				

Halifax, N.B., 12 day drill.

Halifax County, 12 days drill.

Halifax, 4th December, 12 days.

No.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 9. —Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.		Battal'n or Corps.						
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
66th Battalion.....	8	Lieut.-Col. Bremner, Halifax	24	320	28	332	Halifax, 1st December.	No.			1 hour.
No. 1 Company.....					40	42					
No. 2 do.....					40	39					
No. 3 do.....					40	45					
No. 4 do.....					40	41					
No. 5 do.....					40	42					
No. 6 do.....					40	43					
No. 7 do.....					40	37					
No. 8 do.....					40	43					
		Total.....		320		332					
78th Battalion.....	6	Lieut.-Col. Campbell, Truro	20	240							
No. 1 Company.....					40						
No. 2 do.....					40						
No. 3 do.....					40						
No. 4 do.....					40						
No. 5 do.....					40						
No. 6 do.....					40						
		Total.....		240							
Cumberland Provisional Battalion..	5	Lieut.-Col. C. Stewart, Amherst	11	200							
No. 1 Company.....					40						
No. 2 do.....					40						
No. 3 do.....					40						
No. 4 do.....					40						
No. 5 do.....					40						
		Total.....		200							

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was complete.	REMARKS.
	Good.	None.	Yes, 36 musicians. Fair state of proficiency.	Good.	Manual and Firing Exercises Light Infantry, creditably performed.	Yes.	Sergt. Langille 58.52 „ McDowell 50.33 „ Ling 46.10 „ Fader 20.25 „ Fader 78.02 Corp. MacIntosh Sgt. Stevens 67.57 Pt. Downing 52.52 „ H. Way 70.66 „ H. Way 52.80			1st December. 1st December.		Relieved from training. <i>Vide</i> letter from Dep. Adjutant General, Ottawa, 12th August, 1874. Relieved from training. <i>Vide</i> letter from Dep. Adjutant General, Ottawa, 12th August, 1874.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 9.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.			Miles.	Mode.		
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	Horses.				
King Troop Cavalry.	1	Capt. Ryan, Kent- ville	2	40	.....	2	40	37		14th Sept.; Ayles- ford; 12 days.	19 miles. Marched.	4 hours.
Mahone Bay Artillery	1	Capt. James, Mahone Bay	2	40	.....	2	39	.....		5th October, Mahone Bay; 12 days.	Marched.	
Digby Artillery. ...	1	Capt. Daley, Digby..	2	40	.....	2	34	.....		7th June; Brigade Headquarters; 12 days.	Marched.	
Lunenburg Artillery.	1	Lieut. Godley, Lunen- burg	2	.....	40	.....	.....	.....		.....	.....	.....

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head per diem at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.			Date of Inspection.	Date when drill was completed.	REMARKS.
							F. of M. Batt.	F. of M. Comp.				
					Sword and Carbine Drill.			10 83				
					Drilled with 75th Battalion.			31.00				
					Infantry and Gun Drill.			20.00				
												Absent.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
No. 9.--Continued.			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.			N. C. O. and Men.	N. C. O. and Men.	
68th Battalion.....	9	Lt.-Colonel Chipman, Kentville.....									
No. 1 Company.....		Capt. Dodge, Kentville.....	2	40	2	43	12 days.	14th September; Aylesford Camp; 12 days.	18	R	h'rs.
No. 2 do.....		„ Beckwith, Canard.....	2	40	2	38			23	WR	3
No. 3 do.....		„ Redden, Kentville.....	2	40	3	35			18	R	4
No. 4 do.....		„ Steadman, Bill Town.....	2	40	3	39			25	WR	4
No. 5 do.....		„ Bill, Bill Town.....	2	40	3	36			25	WR	4
No. 6 do.....		„ Borden, Canning.....	2	40	3	39			28	WR	3
No. 7 do.....		„ Harris, Aylesford.....	2	40	3	40			5	W	4
No. 8 do.....		„ Foster, Kingston.....	2	40	2	40			5	W	4
No. 9 do.....		„ Ross, Buckley.....	2	40	3	40			12	W	4
		Staff.....	7		8						
		Total.....	25	360	31	350					
69th Battalion.....	9	Lt.-Colonel Starratt, Paradise.....									
No. 1 Company.....		Captain Marshall, Clarence.....	2	40	2	52	12 days.	14th September; Aylesford Camp.	25	WR	3
No. 2 do.....		„ Morse, Paradise.....	2	40	2	40			27	WR	3
No. 3 do.....		„ Wade, Granville.....	2	40	3	39			54	WR	8
No. 4 do.....		„ Charlton, Port William.....	2	40	3	36			52	WR	8
No. 5 do.....		„ Whitman, Round Hill.....	2	40	2	40			36	R	4
No. 6 do.....		„ Buckler, Dalhousie.....	2	40	3	40			46	WR	6
No. 7 do.....		„ Nicholl, Bear River.....	2	40	2	37			63	WR	12
No. 8 do.....		„ Turnbull, do.....	2	40	2	40			63	WR	10
No. 9 do.....		„ Harris, Clements Port.....	2	40	2	40			63	WR	10
		Staff.....	7		7						
		Total.....	25	360	28	364					
72nd Battalion.....	6	Lt.-Col. Parker, Wilmot.....									
No. 1 Company.....		Capt. Jacques, Melvin Square.....	2	40	2	43	12 days.	14th September; Aylesford Camp; 12 days.	16		4
No. 2 do.....		„ Baker, Wilmot.....	2	40	2	40			22		3
No. 3 do.....		„ Roach, Port William.....	2	40	3	40			17	Waggon.	4
No. 4 do.....		„ Phinney, Farmington.....	2	40	3	37			14		4
No. 5 do.....		„ Taylor, Middleton.....	2	40	3	39			18		3
No. 6 do.....		„ Morse, Nictaux.....	2	40	3	41			17		4
		Staff.....	6		6						
		Total.....	18	240	22	240					

performed the Annual Drill for 1874-75.—Continued.

20 cents.	20 cents.	20 cents.	Cost of rations per head, per diem, at encampment.
Good.	Good.	Good.	General conduct of Corps.
None.	Small brass band.	10 men absent.	If any, and what casualties.
Clothing wear another year. Arms require general cleaning.	Clothing wear another year. Arms require general cleaning.	Clothing wear another year. Arms require general cleaning.	Whether in possession of Band, number of Musicians and proficiency.
General Field Movements in Brigade, covered by Infantry and Cavalry Skirmishing in presence of an enemy.	General Field Movements in Brigade, covered by Infantry and Cavalry Skirmishing in presence of an enemy.	General Field Movements in Brigade, covered by Infantry and Cavalry Skirmishing in presence of an enemy.	General state of Clothing, Arms, and Accoutrements.
Yes.	Yes.	Yes.	Nature of Movements at Inspection, and how performed.
Only fired 20 rounds per man.	Only fired 20 rounds per man.	Only fired 20 rounds per man.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.
30.13	20.92	21.09	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.
31.77	28.00	21.00	
28.70	11.91	20.22	F. of M. Batt.
36.75	17.32	20.20	
28.99	37.13	27.48	E. of M. Comp.
25.26	17.16	17.46	
29.41	26.00	16.99	Date of Inspection.
	33.00	23.54	
24th September.	15.00	23.24	Date when drill was completed.
25th September.		20.31	
	24th September.	25th September.	REMARKS.

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT No. 9. — Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battalion or Corps.	Company.	Battalion or Corps.	Company.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
75th Battalion	6	Major Rudolph, Lunenburg.									
No. 1 Company		Capt. King, Lunenburg.	2	40	2	38					3
No. 2 do		„ Cull, Lunenburg.	2	40							
No. 3 do		Lieut. Parker, Lunenburg.	2	40	1	40					3
No. 4 do		Capt. Ham, Mahone Bay.	2	40	3	38					4
No. 5 do		„ Langill, Martin River.	2	40	3	38					4
No. 6 do		„ Windrow, New Ross.	2	40	3	38					6
		Staff	6		5						
		Total	18	240	17	192			12 days.	5th October; Mahone Bay.	Waggon.
Victoria Provisional Division		Major Bingham, Baddeck.	15	200							
No. 1 Company		Capt. Cain, Baddeck.		40	3	42					8 M
No. 2 do		Capt. McKee, Middle River.		40	3	42					14 do
No. 3 do		Capt. McNeil, Grand Narrows.		40	3	42					18 d.
No. 4 do		Capt. McRae, Baddeck.		40	3	42					8 do
No. 5 do		Capt. Hill, Sydney.		40	2	42					60 S
									30th June. 12 days' drill.	In Camp.	One Day.

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
25 cents.	Good.	8 men absent.	None.	Clothing wear another year. Arms require general cleaning.	Battalion Drill; Company and Rifle exercise.	Yes.	Only fired 20 rounds per man.	23.75	16.38	22.40	31.38	Absent.
25 cents.	Good.	None.	None.	The Arms and Accoutrements are in good order. The clothing, having been in wear for three years, presents a dingy appearance.	Manual and Firing Exercises; Battalion and Light Infantry; in accordance with Adjutant General's Instructions.	Yes.	Sergt. - Major Buchanan..... 31.43 Pte. Frazer..... 29.35 Pte. McNeil..... 31.66 Pte. McLean..... 27.33 Pte. Redmond..... 37.95	31.43	31.00	29.35	31.66	8th July. 11th July.
										16th October.	17th October.	

INSPECTION REPORT OF CORPS which have

MILITARY DISTRICT. No. 11. Lieut.-Col. C. F. HOUGHTON, D. A. G. M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'on or Corps.	Com-pany.	Battal'on or Corps.	Com-pany.					
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
New Westminster Rifles		Capt. Edmonds, New Westminster.....	3	40	.....	3	28	.....		
Victoria Rifles.											
No. 1 Company.....		„ Roscoe, Victoria..	3	40	.....	2	25	.....		
No. 2 do		„ Poolcy, do ..	3	40	.....	3	23	.....		
		Total				5	53	.....		
Nanaimo Rifles.....		„ Bryden, Nanaimo.	3	40	.....	3	22	.....		

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.		General conduct of Corps.		If any, and what casualties.		Whether in possession of Band. Number of Musicians and proficiency.		General state of Clothing, Arms, and Accoutrements.		Nature of Movements at Inspection, and how performed.		Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.		Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.		F. of M. Batt.		F. of M. Comp.		Date of Inspection.		Date when drill was completed.		REMARKS.	
Good.	Good.	Good.	Good.	Band of ten performers in addition to the establishment.	No.	Good.	In drill shed; Manual and Firing Exercises and Company Drill; well performed.	Yes.	Yes.	Most of the men of this Company have completed their annual practice, but no return has yet been sent in.	65	61	90	03	December 5th.	December 5th.	November 30th.	November 30th.	It was impossible to get through the different inspections in less time in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.	It was impossible to get through the different inspections in less time, in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.	It was impossible to get through the different inspections in less time, in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.				
No.	Good.	Good.	Good.	Manual, Firing and Bayonet Exercises and Company Drill	Good.	Marching past, Manual and Firing Exercises, Battalion Drill and Skirmishing; all well performed, and in accordance with instr's.	Yes.	Yes.	29 men of No. 1 have fired, of which the best shot is Serg. R. Butler. 19 men of No. 2 have fired, best shot is Pt. Fletcher	This Company is only as yet provided with 200 yards range, at which however the greater portion of the men have been practiced and expended their full complement of ammunition	December 10th.	December 10th.	December 10th.	December 10th.	December 10th.	December 10th.	December 10th.	December 10th.	It was impossible to get through the different inspections in less time, in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.	It was impossible to get through the different inspections in less time, in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.	It was impossible to get through the different inspections in less time, in consequence of the steamers only making weekly trips at this season of the year, and I did not wish to commence earlier as the drill season had been short.				

APPENDIX No. 4.

REPORT OF LIEUT.-COLONEL BRUNEL ON AN IMPROVED TARGET
CONSTRUCTED BY HIM, AND USED AT THE DOMINION RIFLE
ASSOCIATION MATCHES, 1874.

OTTAWA, October 14, 1874.

DEAR COLONEL POWELL,—

Enclosed you will find a memo. in reference to the cost and efficiency of the new targets.

If I remember right you spoke of having the drawings engraved and printed with your report. I have made new ones as I wish to show the improvements which have resulted for over five days experience. I suppose your object is to afford such information as will enable parties to construct targets on this plan for themselves; if so, the short specification which accompanies the drawings will be sufficient.

I am, by the experienced now gained, led to the conclusion that a pair of targets on the new plan—assuming that not less than ten sets are ordered at one time—can be constructed and equipped on the following estimate:—

Iron and wood work complete.....	\$80 00
Canvas or wood disc of Target to last 20 days.....	6 00
Signal discs for twenty days shooting.....	6 00
Paper covers of Targets for 20 days.....	50
Open trench and shelter from weather to take the place of the covered pits or martlets heretofore used. According to situation usually about 70 yards of earth will have to be moved, and about 100 feet of lumber used.....	25 00
	<hr/>
	\$117 50
Of this the permanent work costs	105 00

The remainder lasts 20 days, and is therefore equivalent to 62½ cents per diem, while target practice is actually going on. This daily expenditure takes the place of the cost of the paint, brushes, signal discs, &c., now commonly used.

I think I am justified in speaking with confidence as to the success of the experiment. So far as I could learn, the competitors at the late Dominion competition were entirely satisfied with the result. All the objects aimed at have been fully attained, and in a greater degree than was hoped for. These objects may be stated as follows:—

1. The markers are perfectly safe in the open trenches, there are no "splashes" of lead whatever.

2. As a consequence the construction of the trench only costs about one third of the cost of the pit.

3. The whole of the markers on a line of targets may be placed under the direct supervision of an officer or non-commissioned officer.

4. The marking will therefore be much better done.

5. The work of marking is much easier to the men, as they are relieved from the constant strain of watchfulness. The passage of the bullet through the canvas is as distinctly heard in the open trench as the "hit" on the iron target is heard in the covered pit or mantlet. When the hit is heard the marker pulls down the target and has it at once in a convenient position for inspection.

6. The signalling is much more satisfactory than the old system. The exact position of the hit is distinctly shewn on the target itself, and the signal remains there until another hit has been made.

7. Firing can be carried on in weather which renders it impossible at the old targets. A very heavy driving rain would of course wash off the paper, but during ordinary showers that wash the paint off the iron, and in light drizzling mists that obscure the plate glass and make it difficult or impossible to see the shot marks on it, the work goes on without interruption on the new targets. This was satisfactorily established at the Dominion competition, when, on one of the days, the marking on the iron targets was stopped by the rain, there was no interruption on the canvas.

8. With the most ordinary attention and intelligence there can be no erroneous signalling, as there can be only one shot hole uncovered at the same time. During the five days shooting at this target no signal was questioned nor did I hear of a doubt being expressed as to the counting.

9. The markers are much more comfortable while in the performance of their work than in the old covered pits or mantlets; they are, therefore, both able and willing to do their work effectually. There is a free circulation of air and they are sheltered from the weather, whether it be the heat of the sun or rain.

10. The whole of the working and expensive parts of the target are protected from the missiles, and are therefore safe from damage from that source to which the old targets are so fully exposed.

11. The marking on the whole is *much quicker*. The time required for changing the targets from one class to another does not require more than *one minute* and can be done by *one man* if necessary, though, of course, more easily by two.

As was to be expected some alterations—all in the direction of reducing the cost—were found desirable, and drawings are herewith, shewing the targets with these improvements.

Signalling.

The following method of signalling the hits was used at Ottawa :—

A supply of discs, made in sets, of common pasteboard, and of the proper colors, were given to the markers; those for the small target were about six inches in diameter, those for the large targets about ten inches. To the centre, and on the back of each disc, there was fastened a common wire hook—large wire curtain hooks were used—by means of which the proper disc was hooked into the shot hole to be signalled, where it remained until another hit was made; the proper signal was then placed on the new hit, and a patch pasted over the old one.

In this way the *color* of the disc signalled the *exact value* of the hit, and its *position* shewed *approximately* the place hit.

The discs were very little damaged from being hit by shots, and could be used after being pierced a dozen times; and by pasting a new thickness of paper of the proper color on the face of them, they may be used almost indefinitely.

There is one advantage, which as it could not be tried at the recent competition has not been mentioned above, and that is the facility with which the telegraph can be employed for correcting, with the officer in charge of the markers for each firing point. This would at all great competitions effect a great saving of time as compared with the system of correcting by the bugle, which is often misunderstood. A single wire and a central station in the marking trench would enable the range officers at the firing point to communicate constantly with the officer in charge of the markers with reference to any target, without interrupting the firing at any other target. The great advantage of this will be apparent to everyone who has had much to do with target practice.

Scale for Size of Targets.

As the drawings of the "*Dominion Targets*" have been reduced from the originals by a photographic process, the scale necessary for their measurement cannot be expressed in words in the usual manner. A scale may, however, be constructed from the drawings by taking the dimension of the large target as seventy inches, and the breadth of the sliding block in the enlarged details as two feet.

Yours faithfully,

A. BRUNEL,
Lieutenant-Colonel.

LIEUT.-COL. POWELL,
Deputy Adjutant-General, Ottawa.

When it is required to place the targets on rock or other material difficult to excavate, they may be placed on the surface, and the embankment in front may then be formed by erecting two bulkheads of two or three inch plank, about three feet apart, well tied together and filled in between with earth.

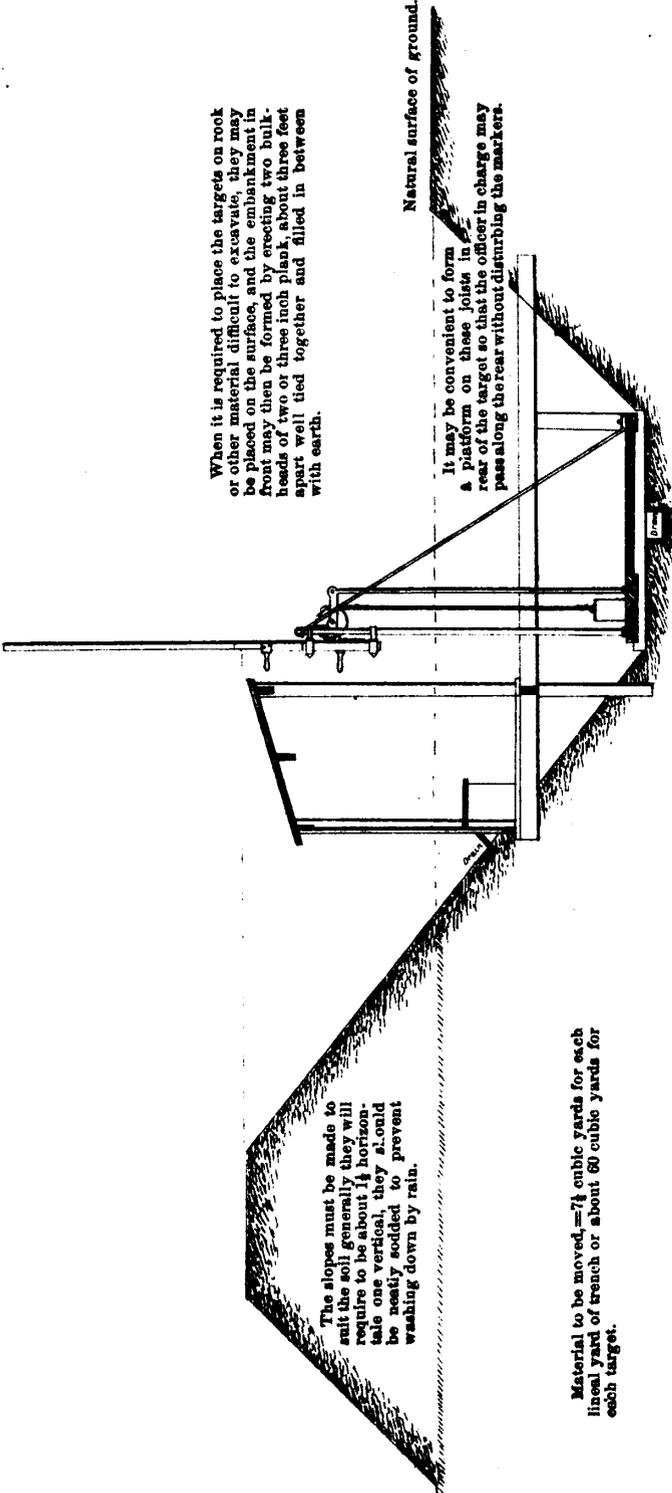
Natural surface of ground

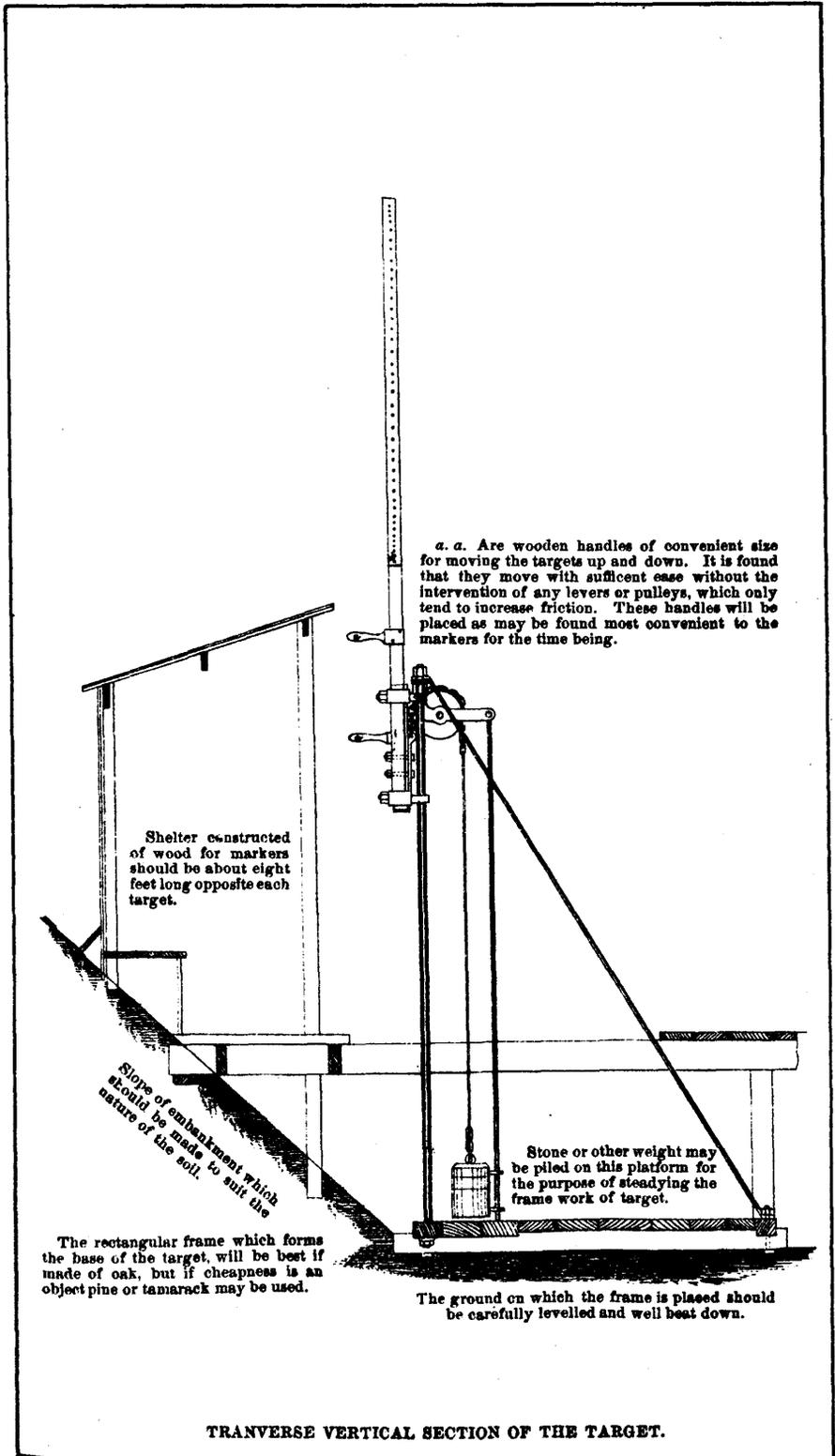
It may be convenient to form a platform on these joists in rear of the target so that the officer in charge may pass along the rear without disturbing the marker.

The slopes must be made to suit the soil, generally they will require to be about $1\frac{1}{4}$ horizontal to one vertical, they should be neatly sodded to prevent washing down by rain.

Material to be moved, $\approx 7\frac{1}{2}$ cubic yards for each lineal yard of trench or about 60 cubic yards for each target.

TRANSVERSE SECTION OF TRENCH SHEWING THE TARGET





a. a. Are wooden handles of convenient size for moving the targets up and down. It is found that they move with sufficient ease without the intervention of any levers or pulleys, which only tend to increase friction. These handles will be placed as may be found most convenient to the markers for the time being.

Shelter constructed of wood for markers should be about eight feet long opposite each target.

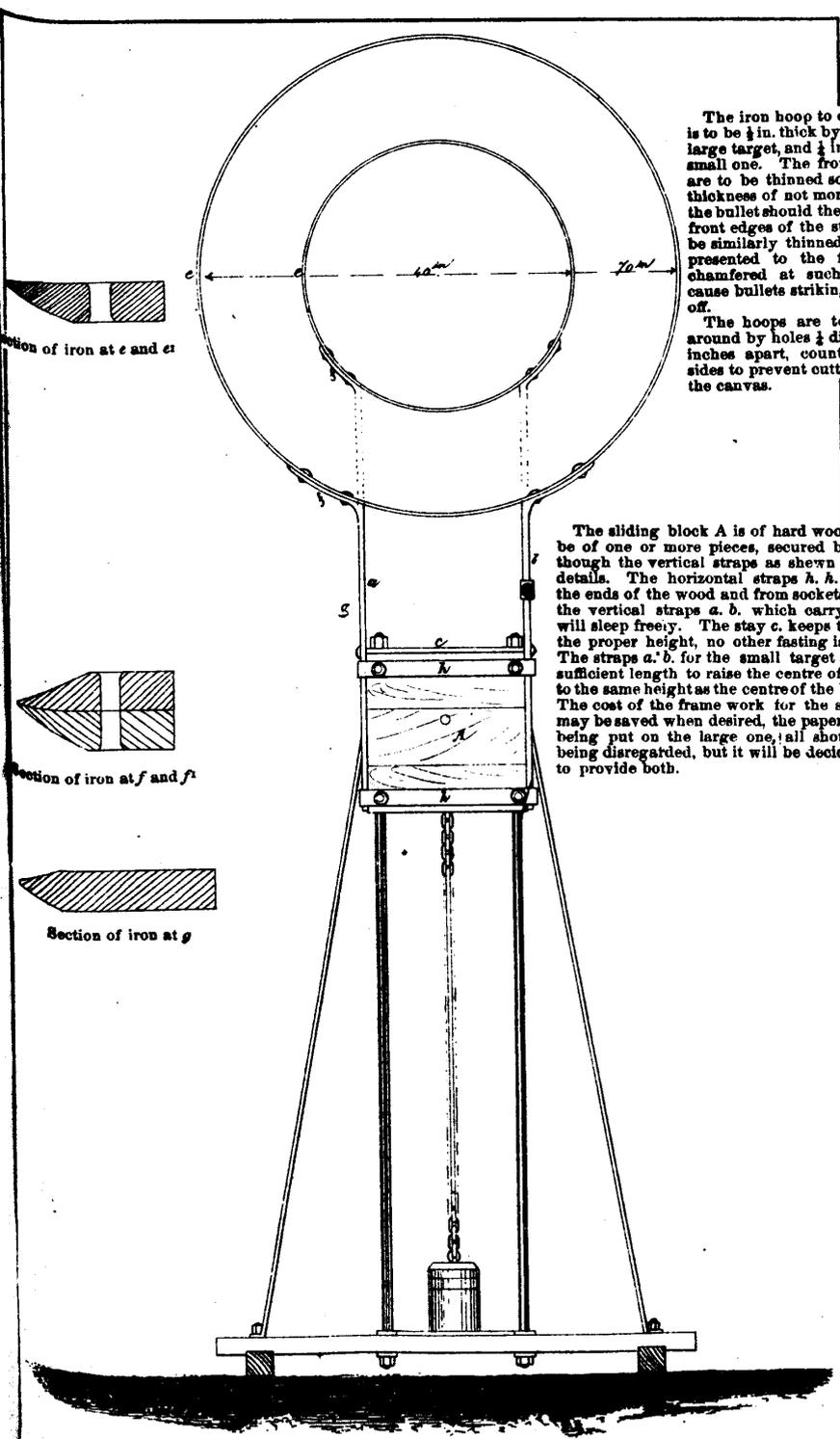
Slope of embankment which should be made to suit the nature of the soil.

The rectangular frame which forms the base of the target, will be best if made of oak, but if cheapness is an object pine or tamarack may be used.

Stone or other weight may be piled on this platform for the purpose of steadying the frame work of target.

The ground on which the frame is placed should be carefully levelled and well beat down.

TRANVERSE VERTICAL SECTION OF THE TARGET.



The iron hoop to carry the canvas is to be $\frac{3}{4}$ in. thick by 2 in. wide for the large target, and $\frac{1}{2}$ in. by 2 in. for the small one. The front edges of both are to be thinned so as to present a thickness of not more than $\frac{1}{16}$ in. to the bullet should they be struck. The front edges of the straps *a. b.* are to be similarly thinned, and all surface presented to the front are to be chamfered at such angle as will cause bullets striking them to glance off.

The hoops are to be pierced all around by holes $\frac{1}{4}$ diameter and two inches apart, countersunk on both sides to prevent cutting the lacing of the canvas.

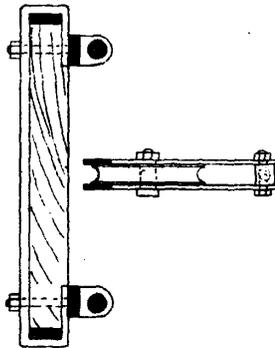
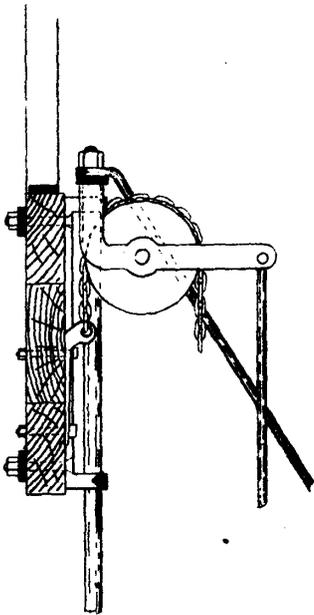
The sliding block *A* is of hard wood, and may be of one or more pieces, secured by the bolts through the vertical straps as shewn in enlarged details. The horizontal straps *h. h.* pass round the ends of the wood and from sockets into which the vertical straps *a. b.* which carry the target will sleep freely. The stay *c.* keeps the target at the proper height, no other fastening is necessary. The straps *a. b.* for the small target are to be of sufficient length to raise the centre of that target to the same height as the centre of the large target. The cost of the frame work for the small target may be saved when desired, the paper for the size being put on the large one, all shots outside it being disregarded, but it will be decidedly better to provide both.

Section of iron at *e* and *e'*

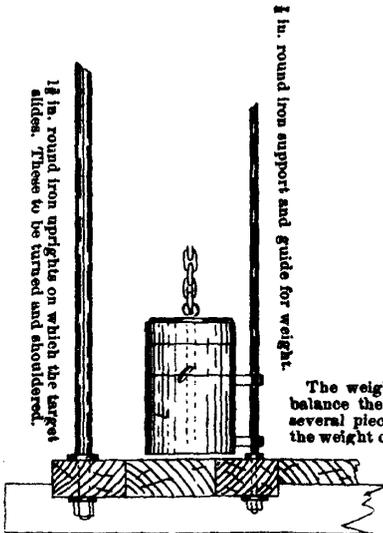
Section of iron at *f* and *f'*

Section of iron at *g*

FRONT ELEVATION.



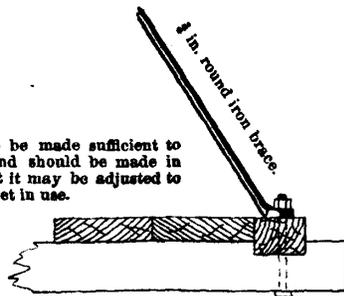
Horizontal section at A B.



$1\frac{1}{2}$ in. round iron uprights on which the target slides. These to be turned and shouldered.

$1\frac{1}{2}$ in. round iron support and guide for weight.

The weight C is to be made sufficient to balance the target, and should be made in several pieces so that it may be adjusted to the weight of the target in use.



$\frac{3}{4}$ in. round iron brace.

ENLARGED VERTICAL SECTION SHEWING DETAILS.

 APPENDIX No. 5.

 REPORTS BY BOARDS OF SURVEY
 OF INSPECTION OF FORTS, MAGAZINES, AND WARLIKE STORES, &c.

 NO. 4 OF GENERAL ORDERS, (32) 4TH DECEMBER, 1854, FORMING BOARDS OF
 SURVEY AND DIRECTING ANNUAL INSPECTION.

ACTIVE MILITIA.

Boards of Survey.

In order to provide for the better efficiency of the Militia Service in respect of Forts, Magazines, Buildings and Works at and about District Head Quarters, and of the Stores and Munitions of war in Militia Store charge in each Military District, as well as of all ordnance, ammunition and other stores, at Charlottetown, P. E. I., Halifax, N. S., St. John, N. B., Quebec, Montreal, Ottawa, Kingston, Toronto, London, Fort Garry, Man., and Victoria, B. C., an inspection will, in future, be made during the month of January in each year.

The Boards of Survey in each District will be composed of the District Deputy Adjutant General and the Storekeeper. In the Province of Quebec the officer exercising the duties of an Inspector of Artillery and Warlike Stores; in the Province of Ontario, the officer appointed as Assistant Inspector of Artillery and Warlike Stores; and in Prince Edward Island, Manitoba and British Columbia, the next senior officer of the Active Militia present at the station, will assist as members of the above boards in their respective Provinces.

Lieut.-Colonel Jago, late Royal Artillery, will be so good as to assist as a member of the boards in Nova Scotia and New Brunswick.

The duties of the Boards will be to ascertain the state and number of the stores and ammunition in possession of the military storekeeper as shewn, and borne on the District Store Ledger—the examination of all military and other buildings in militia charge—and to make an inspection of the Ordnance, Ammunition, Warlike and other Stores and Munitions in possession of the Storekeeper, and of the Commandants of the Schools of Gunnery respectively. To report the state and condition of the Buildings, Stores and Works, to furnish a list of such stores of every kind as the board may consider obsolete or unserviceable, with a recommendation as to their disposal, together with a return of such articles, buildings, or other works as may require repair, and a statement as to the nature and extent of the repairs considered necessary.

The Boards of Survey will be guided by the special directions attached to War Office letter of 7th November, 1859, as far as they can be applied to the Militia Service of Canada, especially those relating to the Artillery Branch, and Nos. 1, 3 and 5 Military Store Branch.

The Deputy Adjutants General of the several districts will communicate with the respective officers appointed to form these Boards with a view to fixing the most convenient day of assembly.

By command of His Excellency, the Governor General.

WALKER POWELL, Lieut.-Col.,
 Deputy Adjutant General of Militia, Canada.

Extracts from War Office Letter (Circular 498), 7th November, 1859, referred to in Paragraph No. 4 of Militia General Order (32) 4th December, 1874.

REGULATIONS FOR THE CUSTODY AND INSPECTION OF WARLIKE STORES, ETC.

Artillery Branch.

1. Are the ordnance, carriages and traversing platforms mounted on the several defences kept in serviceable condition and working order, and with their proportions of side arms and small stores, under proper military protection? Do any of the carriages want painting, or the guns or shot lacquering? and when was this last done to them?

2. What are the proportions of made-up ammunition allotted for immediate service of the mounted ordnance? Is this quantity, in your opinion, sufficient? What quantity is loose in the bags? And how much made up in cases or barrels? Are the expense magazines in proper condition, and under adequate military protection. Are they bomb-proof?

3. Are the service field guns, with their carriages, ammunition and equipments in efficient condition, and under suitable cover and protection?

4. Are the military stores in possession of the Commanding Officer of Artillery of a thoroughly efficient and serviceable character, in every respect fit for the requirements of the service, and in just proportions? If there is excess or defect of any articles, enumerate them.

Military Store Branch.

1. *Annual Surveys.*—With a view to ascertaining the state and number of the stores actually in possession of the Military Storekeeper, you will each year, or oftener if required, appoint a properly qualified officer (*to be assisted in the duty by naval and military officers*) for the purpose of effecting a survey of the stores in charge of the military Storekeeper, who will certify as to the general condition of the stores, the way in which they are kept, and whether any portion of them is obsolete or unfit for service from any cause; and he will also certify to the general correctness of the numbers on charge, by selecting such articles as he may think proper, and causing them to be counted or weighed, so that from these examples an approximate opinion may be formed as to the state of the general store. * *

3. In order to ensure that all munitions of war in charge of the Commanding Officer of Artillery and Military Storekeeper are kept in a thorough state of *efficiency*, you are requested to direct the Commanding Officer, Royal Artillery, and the Storekeeper to make an inspection at least once in six months, or oftener if necessary, of all such munitions; and, that this inspection may be performed effectually in every respect, they are to be assisted by a competent officer, to be designated Inspector or Assistant Inspector of Warlike Stores, and Fire-master. * * Powder, rockets, fuzes, ammunition and other combustible stores are to be subjected to the minutest examination and the requisite proof; and you are to report the results of this inspection *in detail*. * * *

5. As the full proportion of military stores required to maintain the efficiency of the service includes those to be kept in charge by the Commanding Officer, Royal Artillery, together with those held in reserve by the military storekeeper, these officers will consider their respective annual demands conjointly, with reference to their united store, making due allowance for the proportion (if any) which may be required to be maintained for the Navy. Should it be needful at any intermediate periods to increase the store, or to replace any article found defective, unserviceable, or otherwise unsuited to the service, you will direct those officers to propose, in like manner, demands for your approval. * * *

WALKER POWELL, LIEUT.-COL,
Deputy Adjutant General of Militia,
Canada.

HEAD QUARTERS,
Ottawa, 5th December, 1874.

LONDON.

MILITARY DISTRICT No. 1,
HEAD QUARTERS, LONDON, ONT.

Proceedings of a Board of Survey held at London, Ontario, on the 27th and following days of January, 1875, by order of Major General Selby Smyth, Commanding the Militia, Canada.

President—Lieut.-Col. J. B. Taylor, Deputy-Adjutant General, Military Dis. No. 1.

Members—Major Irwin, Assistant Inspector of Artillery; Captain W. Starr, Military Storekeeper.

The Board having assembled in accordance with orders, have the honor to report, That

1. They inspected the state, and ascertained the numbers of the stores and ammunition in possession of the military storekeeper at this station, and found that all appeared to be properly cared for, and kept in good order and preservation; also having compared the numbers present, found that they corresponded with the numbers borne on the store ledger kept by the storekeeper.

2. The Board inspected the ordnance, ammunition, warlike and other stores in possession of the storekeeper, and found them satisfactory. Certain obsolete munitions of war are recommended to be disposed of as in the list ("A") hereto annexed.

3. The state of the buildings, stores and works at this station are far from being in a satisfactory condition. The Volunteer Magazine and the Artillery Gun Shed being the only buildings that do not require considerable repairs. The Drill Shed has been in ruins for the last two years. But since an agreement made between the Government and the Corporation of the City of London is now being carried into effect, by which the ordnance lands with all the buildings, stores and works, are handed over to the Corporation of the City of London, which in return has deeded other lands in exchange, and has agreed to erect a drill shed and other buildings thereon. This Board does not consider it advisable to repair buildings which will shortly pass into other hands.

Annexed is the list ("A") of such stores of every kind as the Board consider obsolete and unserviceable, with recommendations as to their disposal.

JOHN. B. TAYLOR, LIEUT.-COL.,
D. A. G., Mil. Dis. No. 1, and President.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

WM. STARR, Captain,
Storekeeper.

} Members.

LONDON, ONT., 29th January, 1875.

(A)

LIST of Stores to be reported on as to their disposal, submitted by the Militia Storekeeper Military District, No. 1, to the Board of Survey now assembled.

LONDON, ONT., 28th January, 1875.

Articles.	Number.	Remarks.
Shell—Shrapnel.....	{ 9 Pr. Gun..... 40	} Obsolete pattern, & unserviceable. Shell might be broken up and sold, and fuzes destroyed.
	{ 24 Pr. Howitzer.... 42	
Fuzes—Wood—O. P.....	{ Common 5½ Inch.... 32	}
	{ Shrapnel, Cut..... 310	
Rifles—Snider.....	{ Long..... 11	} Repairable with interchangeable parts.
	{ Short..... 2	
Pouches—Percussion Cap.....	{ Infantry..... 1,609	} Obsolete. Might be sold or otherwise disposed of.
	{ Rifle..... 850	
Coats—Great.....	Grey..... 36	} Moth eaten. Received to be sold at once by auction.
Mallets—Pin.....	{ Large..... 3	
	{ Small..... 28	
Pins—Tent.....	{ Large..... 11	} Broken and unserviceable. To be used for fuel.
	{ Medium..... 31	
	{ Small..... 1,074	
Poles—Circular Tent.....	{ Ash..... 31	}
	{ Pine..... 6	
Carbine—Spencer.....	14	Repairable.
Caps—Percussion, for Enfield Rifles.....		} Received to be sent to Toronto. 2 cylinders zinc, surplus.

JOHN B. TAYLOR, LIEUT.-COL.,
D. A. G., Mil. Dis. No. 1, and President.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

WM. STARR, Captain,
Storekeeper.

} Members.

LONDON, ONT., 28th January, 1875.

TORONTO.

Proceedings of a Board of Survey, assembled at the Old Fort, Toronto, on the 23rd day of January, 1875, in accordance with General Order, dated, Ottawa, 4th Dec., 1874.

The Board was composed of Lieut.-Colonel Durie, Deputy Adjutant-General, Military District No. 2; Major Irwin, Assistant Inspector of Artillery and Warlike Stores; Lieut.-Colonel Goodwin, Storekeeper.

Military Store Branch.

Agreeable to the instructions contained in the above General Order, the Board proceeded to ascertain the state and number of the stores actually in possession of the Military Storekeeper at this station.

Having carefully surveyed and examined the stores in the large store building. Comparing the same with the numbers borne in the district store ledger, ascertaining the correctness of the same by causing such articles, deemed necessary to be counted and inspected. The Board report the general condition of these stores to be good.

A great want of proper arrangements in classifying the stores—in proper order—especially the small stores, in consequence of which much difficulty was experienced in counting articles required; mixed up more than was necessary; great want of correct labels. The numbers in store mainly agree with those shewn in the storekeeper's ledger.

The accompanying list, marked ("A.") shews the stores unserviceable, repairable, obsolete or deficient.

The Board next proceeded to examine stores placed in the gun shed (adjoining the large store building,) part of which is appropriated as a store. Found stores of all kinds, shot, shell, case and grape, and other stores. Received as stated by the storekeeper, from the Field Batteries of the Royal Artillery (when they left), and from the Field Batteries of the Active Militia, which lately received new ammunition, &c.; also a quantity of shot and shell for 32 pounder gun. No mention of these stores appear on the district store ledger, but are principally shewn in a quarterly return kept by the storekeeper. These stores are mixed up—not in proper order—or classified. The ammunition for the 32 pounder gun, does not appear to be in charge of the store department.

Magazine, Old Fort.

The Board inspected the ammunition in this magazine and found it apparently in good order; the return of which was not shown in the district store ledger, but borne in the monthly return by Sergt.-Major Murray, which did not agree with the contents actually in the magazine; issues having been made which were not duly accounted for, and also other ammunition not taken over, required in firing the necessary salutes on the opening of the Provincial Legislature (from the Old Fort) or for the Field Battery gun practice. This magazine appeared in good order.

Magazine in charge of Storekeeper.

This magazine is required and used for the storage of small arm ammunition. There appeared on inspection by the Board, no inventory of contents; the ammunition was not shewn in the district store ledger. The Board was furnished with a copy of the last monthly return made by Sergt.-Major Murray, shewing the quantity of ammunition in charge. Upon comparing the numbers as returned, with the quantities actually in the magazine, there appeared to be a surplus of about 65,000 rounds Snider ball cartridge, 40,845 rounds blank cartridge. The Board also found eight barrels Enfield M. L. ammunition not on charge, and a number of other barrels of the same, lately received, not yet taken on charge.

This magazine requires repair; the upright posts supporting the roof having settled down, allowing the roof and one of the sides to settle also. The floor also is out of order and requires repair; the posts require immediate attention, under pinned, in order to prevent them settling any further.

Old Fort.

The barracks and other buildings are very old ; in a fair state of repair. The following repairs are deemed necessary by the Board :—The floor (Tower) is unsafe. In the store appertaining to the artillery stores, in charge of detachment of " A " Battery, requires to be re-laid. The platforms on which are mounted the 10 inch guns, as well as the embrasures in the parapet, are out of order and require thorough repair. The guns themselves require lacquering and the carriages painting.

New Fort Barracks.

These barracks and buildings, stables, &c., are out of repair and order. The external fence (picket) not complete ; gates, locks, &c., out of order and open. Free ingress and egress to these barracks at all times, the ceilings and plastering of the barrack rooms inspected falling from the effects of damp. The Board were unable to inspect a number of the barrack rooms owing to their being occupied.

The Board are of opinion if it be the intention of the Government to have these barracks properly repaired, a competent official should be detailed to make the necessary inspection, and estimate of the repairs required, which are of such a nature and so extensive as to put it out of the power of the Board to make any detailed account thereof.

The artillery branch is reported upon specially and separately attached in list marked " T."

The Board inspected a quantity of stable fittings ; 60 sets left behind on the departure of the 13th Hussars, and still serviceable ; shewn upon the quarterly returns above mentioned.

All of which is respectfully submitted for the information and consideration of the Major-General commanding.

W. S. DURIE, LIEUT.-COL.,
D. A. G., Military District No. 2.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

OLD FORT, TORONTO, February 8th, 1875.

SIR,—Of the Report of the Board of Survey which has reference to the ammunition in the magazine in the Old Fort not agreeing with the monthly returns shewn by Sergeant Major Murray, I beg leave to state in explanation thereof, that Sergeant Crush, at that time in charge of the detachment "A" Battery, received orders from me to fire the military salute from the old Fort, on the opening and closing of the Provincial Legislature, there being at that time no proper place near the Parliament Buildings, from which the Field Battery could fire the salute required.

In carrying out my orders, Sergeant Crush took for that purpose the ammunition referred to, which, properly speaking, was under the charge of Sergeant-Major Murray, making a return thereof to the officer commanding A Battery.

I am aware that a requisition for the above ammunition was necessary, the same to be forwarded to Ottawa for approval, but which at the time was overlooked. I consider it is due to the storekeeper at this Post, to make this explanation

All of which is respectfully submitted.

I have the honor to be, Sir,

Your most obedient servant,

W. S. DURIE, Lieut.-Col.

Commanding Military District No. 2.

The Deputy Adjutant General,
Headquarters, Ottawa.

Artillery Branch.

1. The ordnance carriages and platforms on the several defences are in serviceable condition and working order, with the exception of the platforms, which are all decayed and unserviceable.

The proportions of side arms and small stores are complete with exceptions in accompanying list marked "T."

The carriages all require painting and the guns and shot lacquering; when last done not known.

2. Proportions of made up ammunition allotted for immediate service, and that loose in the magazine shewn in the accompanying list marked "T." Fifty rounds made up and fifty rounds loose would, in my opinion, be sufficient.

3. There are no expense magazines. One 18 pounder gun on travelling carriage was returned from the Military School. There appears to be no ammunition for it.

4. Military stores in possession of officer of artillery are efficient and serviceable. Excess and defect shewn in list marked "T." A quantity of Artillery stores shewn in list "T" are in the store in charge of the artillery. These stores appear to have been sent in when the Military School was broken up, but no list appears to have been sent with them, and they are not shewn upon the district store ledger. I have, therefore, for their safe keeping, caused them to be taken on charge with the other artillery armament stores.

There is also a quantity of ammunition in the military store sheds, apparently as follows, viz:—

	No.
Shot, solid, 32 pr.....	40
Shell, common, 32 pr.....	178
Shell diaph, sharp, 24 pr.....	57
6 pr.....	12

This does not appear upon the district store ledger, and the storekeeper and his assistants appear to know nothing about it.

I would suggest that all artillery stores of whatever nature they may be, in charge of the store department, should be shewn in their order on the district store ledger.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

(A)

RETURN shewing the number of articles part of which are repairable, serviceable, and part unserviceable, as inspected by Board of Survey on the 23rd January, 1875.

Articles.	Serviceable.	Repairable.	Unserviceable.	Total in Store.	Remarks.
Rifles—Snider	60	2	.....	62	
Waist Belts—Infantry.....	428	.....	44	472	Kept for necessary repairs.
Blankets—Grey.....	5,292	.....	70	5,362	Available for horse blankets if required.
Blankets—White.....	675	.....	5	680	Worthless
Trowsers—Serge, pairs.....	42	.....	4	46	do
Tunics—Cloth.....	47	.....	3	50	do
Axes—Felling.....	39	.....	4	43	
Nose Bags.....	100	116	8	224	Estimate for necessary repairs forwarded by Storekeeper.
Great Coats.....	61	.....	3	64	Sold or kept for repair.
Trumpets.....	.....	.....	1	1	
Bugles.....	.....	2	.....	2	

W. S. DURIE, LIEUT.-COL.,
D. A. G., Mil. Dis. No. 2, and President.

W. GOODWIN, Lieut.-Col.,
Storekeeper.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

} Members.

OLD FORT, TORONTO, 29th January, 1875.

(T.)

RETURN shewing the Ammunition and Stores required to complete the Armament of Toronto, Ontario, *vide* Revised Army Regulations, 1870, shewing also the Armament Stores at present in charge of the Commandant, School of Gunnery, Kingston, Ontario.

(Calculated for 7 8 inch guns, mounted at Old Fort.)

Description.	Equip- ment.	Excess.	Deficient.	Remarks.
Ordnance cast iron guns, 8 inch, 65 cwt.....	7			
Carriages, wood rear chock, 8 inch, 65 cwt.....	7			
Bottoms, wood, common shell, conical, 8 inch.....	581			
Cartridges, flannel, empty, S. B., 8 inch, 10 lbs.....	700		36	
Fuzes. { Percussion, Pettman's I. S.....	525	58		
{ Time, wood, common.....	133		18	
{ do Diaphragm.....	84		63	
Match, slow, lbs.....	7		7	
Portfires, common.....	28	7		
{ Service, I. G.....	7,000		3,900	
Gunpowder, lbs. { Shell L. G.....	1,345 $\frac{5}{8}$		1,345 $\frac{5}{8}$	
{ Shell, F. G.....	22		17 $\frac{1}{2}$	
Rivets, metal, for shell bottoms, large.....	581	66		
Shells. { Common, prepared for bottoms, 8 inch.....	525		29	
{ Diaphragm, do do.....	70			
Shot case, gun, 8 inch.....	100		5	
Tubes, friction, copper, service.....	840	535		
Wads, papier machie. { Common.....	525	57		
{ Diaphragm, loading hole.....	77	1		
Bars, crow, 6 feet.....	1			
{ Fuzes to hold 10 fuzes, common, black.....	7			
{ Fuzes to hold 10 fuzes, diaph- ragm, blue.....	7		3	
Boxes, tin, with straps. { Grease, half round.....	3		2	
{ Plug and wad, rectangular.....	2		11	
{ Tube.....	11		1	
Brooms, bass handled.....	3		6	
Buckets, wood, sponge.....	7		2	
Cans, tin, oil, feeding.....	2			
Caps, canvas, sponge, 8 inch.....	14		8	
Cases, leather, cartridge, No. 3.....	14			
Fids, wood, gun, 8 inch.....	3			
Furnaces, hot shot.....	1			
{ 7.95.....	1		1	
{ 7.82.....	1		1	
Guages, iron ring, shot or shell, 8 inch.....	10		8	
Grease, lubricating, Fermer's, lbs.....	1			
Gyns, triangle, 18 feet, light, complete.....	3			
Hammers, claw, large, 28 ozs.....	14	36		
Handspikes. { Common 7 or 6 feet.....	7	3		
{ Roller, wood, 6 feet.....	7		5	
{ Rammer, 8 inch.....	7		6	
{ Sponge, 8 inch.....	2		2	
Horns, powder, miner's.....	1			
{ No. 1.....	1		1	
{ No. 2.....	2		2	
{ No. 3.....	4		4	
{ No. 4.....				

RETURN shewing the Ammunition and Stores required to complete the Armament of Toronto, Ontario.—Continued.

Description.	Equip-ment.	Excess.	Deficient.	Remarks.
Irons, priming, sets, garrison, 12 inch	7	22		
Knives, clasp, large	2		2	
Lanyards, friction tube, garrison	14	1		
Lever, wood, iron-shod, crow, 7 feet	2		2	
Lines, Hanks skeins	3		3	
Linstocks and cocks	2	2		
Marline skeins	3		3	
Oil, lucca, gallons	1		1	
Pedestals, wood, 8 inch	7			
Plugs, vent, Hayes' pattern	7		7	
Punches, steel vent, 12 inch	7		2	
Quadrants, brass, with spirit level	1	1		
Rammers with staves, gun, 8 inch	14	4		
Ropes, drag, heavy, pairs	1	1		
Scrapers, copper shell, 8 inch	2		2	
Screws, iron, sights. { Fixing, spare	7		7	
{ Preserving	28		15	
Spanners, McMahon, 15 inch	3		3	
Spikes, gun, 8 inch. { Common	14	4		
{ Spring	7	2		
Sponges with staves, gun, 8 inch	14	12		
Staves, sponge, spare, 10½ feet	7	15		
Ticks, portfire	7	2		
Tampons, wood, gun, S. B., 8 inch	7	1		
Tools, smith's, chests complete	1		1	
Tubs, wad	1		1	
Wadhooks with staves, 8 inch	3			
Waggons, sling, complete	1			
Wrenches for sights	1		1	
<i>Magazine Stores.</i>				
Adzes, cooper's, metal handled	2		2	
Cans, oil, pint, feeding	1		1	
Cloths, hair, 15 x 12	2		2	
Drivers, cooper's, shod with metal	2		1	
Funnels, copper cartridge	3		1	
Gauges, filled, cartridge brass ring, 8 inch	1		1	
Hides, tanned or powder	3	3		
Keys, metal, for cases, metal lined	3		3	
Lanterns, copper magazine	2		2	
Magazines, portable	1			
Needles, brass laboratory	5		4	
Oil, colza, gallons	1		1	
Scales and weights, sts.	1			
Scissors, pairs. { Gun metal, 9½ inch	2		2	
{ Lamp	1		1	
Shoes, magazine, pairs	6			
Wadmallets	2			
Wick, cotton, lbs.	½		½	
Worsted, white for cartridges, lbs.	10		8	
<i>Armament Stores, other than those previously mentioned.</i>				
Anticorrosion, dry, lbs.		94		
Axes. { Felling, 4½ lbs.		3		
{ Pick, 9½ lbs.		4		
Barrows, wheel.		3		

RETURN shewing the Ammunition and Stores required to complete the Armament of Toronto, Ontario.—Continued.

Description.	Equip-ment.	Excess.	Deficient.	Remarks.
Blocks, wood. { Naval single.....		6		2 without hooks.
do Double.....		4		
Both ways, double, 8 inch.....		4		
do Treble, 8 inch.....		4		
Boxes, wood, shot or shell.....		26		
Boxes, tin, empty.....		9		
Brooms, hair.....		1		
Bursters, calico, of sorts.....		45		
Brushes. { Camel's hair with sticks.....		3		
Paint.....		4		
Sash.....		2		
Turk's head, large.....		2		
do Small.....		1		
Cans, Oil.....		12		
Cartouches, leather.....		5		
Carriages, wood. { Common standing, 4 trucks, bed and				
2 coils, 32 pounder.....		5		
Travelling, 18 pounder, 38 cwt.....		1		
Cartridges, flannel. { Empty, of sorts.....		378		
do 24 pounder.....		37		
Filled, 32 pounder, 10 lbs.....		5		
Caps, canvas sponge, of sorts.....		39		
Capequars, spare.....		4		
Coins, wood, spare.....		6		
Carts with wheels.....		1		
Cases. { Wood.....		1		
Tin.....		1		
Cordage, fathoms. { White, 4 inch.....		8		
do 2½ inch.....		38		
do 1½ inch.....		35		
Tarred, 2½ inch.....		11		
Fids, wood, gun, 32 pounder.....		2		
Gaskets, of sorts.....		11		
Heads, spare. { Rammer, 32 pounder gun.....		10		
Sponge, do.....		3		
Shell hand.....		2		
Hooks. { Beam.....		1		
Parbuckle rope.....		1		
Putty.....		1		
Knives. { Laboratory, small.....		4		
Cleaning ordnance.....		8		
Naval, 6 feet.....		10		
Lever. { 10 feet.....		1		
Waggon, 6 feet.....		3		
Gyn, with ropes.....		10		4 without ropes.
Locks, pad. { Brass with keys.....		1		
Iron do.....		1		
Lithographs, of sorts.....		157		
Nails, large, lbs.....		14		
Ordnance, cast iron. { 32 pounder, 56 cwt. gun.....		5		Mounted outside Fort.
18 do 38 do.....		1		Ontravelling cart
10 inch, 18 cwt. mortar.....		1		
Pawls, wood, for sling waggon.....		3		
Pins, linch, spare.....		1		
Paint, lbs. { Black, prepared, ground.....		20		
Black, Grant's.....		6		
Red Venetia.....		3		
Black, lamp.....		44		

RETURN shewing the Ammunition and Stores required to complete the Armament of Toronto, Ontario.—Continued.

Description.	Equip- ment.	Excess.	Deficient.	Remarks.
Plugs extractor, shell		2		
Rammers, with staves, gun, 32 pounder, 56 cwt.		5		
Rods, pointing, for mortars with planks		1		
Rollers, wood. { 20x5 inches.		6		
{ 14x5 inches.		6		
{ 3x6 inches.		4		
{ Gun		1		
Ropes, drag. { Medium.		5		
{ Light.		18		
Saws, hand, carpenter's		1		
Scrapers. { Ballon, large with staves		2		
{ do Small, do		2		
{ Half round		2		
{ Cleaning shot or shell		2		
Schotches, wood		54		
Shells. { Diaphragm, 32 pounder		34		
{ do 24 do		4		
{ Common, 32 do		8		
{ Mortar, 10 inch.		1		
Shot, S.B. { Grape, gun, 32 pounder		26		
{ Case, do		28		
{ Grape damaged		2		
Salvages, of sorts		21		
Shovels, universal handled		3		
Spades, N.P. helved		4		All damaged.
Skids, wood. { 14x6x6 inches.		2		
{ 3x6x6 inches.		3		
{ 3x6x9 inches.		3		
{ 3x4x4 inches.		1		
Spikes, iron, marline		4		
Screws, thumb		13		
Sponges with staves. { 32 pounder gun		8		All damaged.
{ 18 do		1		do
{ 10 inch mortar		1		
Shackles iron gyn, spare		1		
Straps, leather, of sorts		22		
Slings, rope. { Gun, tarred, small		2		
{ White, large		3		
Tampers, wood, 32 pounder gun.		2		
Tackles, luff sets		6		
Tar, kegs of		2		
Truck, wood. { Gyn		3		
{ Sheers		3		
Thimbles, spare. { Sling waggon		4		
{ Sling cart		4		
Tubes, dummy, for drill		1		
Wads. { Grummet, 8 inch		23		
{ do 32 pounder		2		
{ Junk, 32 pounder		41		

D. T. IRWIN, Major,
 Assistant Inspector of Artillery and
 Commandant, School of Gunnery,
 Kingston, Ontario.

KINGSTON.

Proceedings of a Board of Survey assembled at Kingston on Friday, the 15th of January, 1875, under the authority of Militia General Orders (32), December 4th, 1874.

President—Lieut.-Colonel S. P. Jarvis, C.M.G., D.A.G., Military District No. 3.
Members—Major D. T. Irwin, "A" Battery, Gunnery School, Assistant Inspector of Artillery, and Warlike Stores. Captain, Wm. King, storekeeper.

District Stores and Store Buildings.

The Board having assembled, pursuant to order, proceeded to the militia stores in charge of the district storekeeper, and compared the stock in store with the entries in the district store ledger.

They also inspected the military buildings and the heavy ordnance in charge of the district storekeeper, and in both cases found the articles in stock to correspond with the entries in the store ledger. These stores have been recently removed from the stone building in the dockyard, known as the stone ship, to the wooden buildings on the opposite side of the dockyard basin. There appears to be sufficient room in these store-houses for all the stores at present here; but the buildings themselves require repair. Clapboarding has started in several places, and other signs of decay prompt the Board to recommend a general examination and renewal by a competent builder of the buildings generally.

There is at present no room available for the storekeeper's office, nor are there any quarters for the foreman, who should reside near the stores, and not, as now, a mile away from them.

A building standing within the enclosure is available for an office if repaired and set apart for that purpose. Just now it is occupied by a caretaker and his family. An addition built on to this house would probably supply the necessary accommodation for the foreman's quarters and storekeeper's office as well.

With regard to the stores generally, the Board found a quantity of equipment, as given in the following list (marked A), which equipment is available for immediate service when required. But they also found a large quantity of miscellaneous articles on the books, and in the stock, which are not given in this list, being too numerous to attempt to embody in a report of this kind.

The various articles which were condemned by the Board as useless or superfluous, are given in a paper, (B), prepared from the store ledger, and the Board recommend them to be sold or destroyed, as written opposite each item.

A number of old blankets, sheets, &c., and tin or zinc pails with holes in them, unfit for issue as such, are not recommended to be sold or destroyed, but are recommended to be left in charge of the foreman, to break up for cleaning purposes and general use about the stores, and to be struck off the store ledger.

The equipment of the late military school, now in these stores, is much worn and dirty, and unfit for re-issue. The Board recommend that the coats, caps, &c., be sold, and that the obsolete drill books and old Queen's regulations be burnt as useless lumber.

With regard to certain muzzle-loading Enfield rifles, of pattern 1853, not interchangeable, which were received back from the Grammar School at Picton, where they had been in use for training the schoolboys in musketry exercises, the Board find that these rifles are not at present serviceable for issue, as there is no ammunition for them, and as they are not likely again to supersede breech-loading arms, the Board recommend that they be sold unless the equipment for them can be kept in stock.

A number of dyed-black belts and accoutrements, formerly taken over from Imperial stores as white belts, having been now replaced by proper black leather accoutrements, are not worth keeping in stock. The Board therefore recommend that the union lockets be removed from them and the leather sold by public auction, with the exception of the

small black cap pockets, the material in which can be made use of in the store to repair great coat straps, &c., &c., and that they be written off the store ledger at the same time.

The Board also inspected the heavy ordnance in these stores, consisting of an 18 pounder battery, and they found that the woodwork of some of the carriages was cracked in places, and liable to perish if exposed to the weather. These cracks should be filled up and the woodwork painted.

A large number of heavy cases, screwed or nailed up in the stores, and marked outside as containing various equipment for infantry, were not opened by the Board. Some of them had been recently packed prior to their removal from the dockyard.

The Board would here observe that the extreme cold at this season of the year is against a thorough examination of such stores, and they respectfully suggest that in future the annual stocktaking should take place in the month of September or October instead of in January.

The dismantled guns, piles of shot and shell, &c., &c., not under cover, are always more or less buried in snow during the winter months, and without regard to the excessive cold in the month of January, it is impossible to make a thorough examination of such stores on account of the depth of snow.

At 4 o'clock the Board adjourned.

On the 16th January, at 10.30 a.m., the Board re-assembled.

Magazines at Fort Henry.

The magazines at Fort Henry were thoroughly inspected, as well as the artillery stores within the fort, and advanced battery.

The barrels and boxes of powder and cartridges, as well as those containing shot and shell, were not, on this occasion, opened by the Board. This duty was performed by the Inspector of Warlike Stores two years ago and found complete. They have not been moved since, and as the magazines are in perfect condition, there is no reason to suppose that any damage has occurred. But Major Irwin, the present Assistant Inspector, will take an early opportunity of examining them again, as soon as the weather becomes milder.

The number of barrels, boxes and cases containing powder, shot, shell and cartridges for small arms, as well as other combustible stores in the magazines, corresponded with the figures hung up on boards in the several compartments, and with the entries in the store ledger. All appeared in serviceable condition, carefully arranged and piled, and the men in charge were thoroughly conversant with the place and description of every article called for by the Board.

The same observations apply to the numerous artillery stores in charge of the officers of the school of gunnery.

Damaged articles are marked on a list subjoined, as needing renewal or repair, (marked U.)

The Assistant Inspector of warlike stores also furnished the Board with a list (S), showing the warlike stores at present owned by the Dominion in his charge, and also (K), showing the quantities required to make up the service complement under the Royal warrant for the Imperial service.

These lists are attached, marked K & S.

Forts Henry and Frederick.

On the 18th January, the Board proceeded to inspect Forts Henry and Frederick, and made an examination of the works, guns, carriages, &c., &c., therein. A report by the Assistant Inspector of Artillery, on the deficiencies observed by the Board, is attached hereto, marked (C), and the Board recommend that, as far as possible, his suggestions be adopted by the Militia Department.

The Board of Works having undertaken the repairs necessary to ramparts, casemates and fittings within the barracks of the forts, this Board of Survey do not offer any suggestions in regard to them.

The Board found a vacant building near one of the ditch towers of Fort Henry, formerly used as a wash-house when an Imperial Garrison occupied the fort.

This building is fast going to destruction, and is not in the particular charge of any one. It contains a large iron wood-stove, a copper for boiling clothes and a heating furnace with fittings beneath the copper. These articles are still serviceable, and should be removed to the militia stores and taken in charge by the storekeeper, where they would be available when wanted elsewhere. At the present time they are in danger of being stolen or destroyed. The boards and bricks belonging to the building might be sold with better advantage to the public than can possibly result from its remaining, as now, unoccupied and exposed to the mischief of passers by.

Tête du Pont Barracks.

On the 19th of January, the Board examined the buildings and stores in charge of the School of Gunnery at the Tête du Pont Barracks.

A general course of repairs is being carried out by the Board of Works Department in these barracks, and this Board of Survey can scarcely suggest what may be required under these circumstances, as they do not know what may be proposed to be done by the Board of Works; but, in their opinion, every portion of the barracks requires more or less repair, and especially the window frames and sashes of the buildings, and the floorings of the men's rooms.

The stables are much worn out and dilapidated inside, in spite of the recent repairs made by the Militia Department. The space where they stand is too much confined for troop stables, although they might have been equal to the accommodation necessary for the horses of mounted infantry officers, for which purpose they were always used when the barracks were occupied by Imperial troops. These stables have now performed good service, and in view of the future requirements of the militia service of the Dominion of Canada, the Board recommend the erection of a new range of stabling at an early date, within the ground enclosed by the Tête du Pont Barracks, provided these barracks are intended by Government to be continued as the location of the Ontario School of Gunnery. If not, other stables on a more modern plan, and better suited to the size and requirements of the artillery horses, should be erected wherever the school is to be permanently established.

A new latrine for the men is also urgently required in these barracks. The situation of the present one is bad, owing to the water of the river having become lower than in former years, and exposing the deposits to the action of the air, which should not be allowed. The building is very old and shaky, and likely to fall down. It was shored up last year and a new beam inserted to prevent the structure sinking, but this was merely a temporary measure for safety, and absolutely necessary at the time. The Board recommend that a new range of men's latrines be made at or about the old site, but extending further into the river, so that the water may receive and cover the soil.

The wharf and picketing which protected the barracks from the river front is in a very bad condition, and requires extensive repairs. The material now on the spot might be used again.

This last dilapidation is of great importance if the barracks are to be continued as the quarters for troops, and the Board recommend immediate action thereon.

Artillery Stores.

The stores in daily use by the School of Gunnery were examined by the Board. A number of articles were found to be unserviceable from fair wear and tear in the course of instruction. A list (marked U,) of the damaged and worn-out articles is now attached to this report, and verified by the Board. The Board recommend that these be replaced by serviceable articles as soon as possible.

A quantity of miscellaneous artillery stores taken out of the market battery, which is now being razed by the Board of Works, were seen by the Board in the Gunnery School storerooms, but as the transfer of these stores has only been recently made, a correct inventory was not prepared, and the Board did not make an inspection of them in detail.

Shoal Tower.

The Shoal Tower was visited by the Board, and the armament and artillery stores, magazine, &c., found complete according to the inventory boards, and all in good working order. But the officer in charge reported that the equipment was not up to the standard required by Royal warrant for the Imperial service, and handed to the Board a list of the equipment necessary to make up the desired complement, which list is attached hereto and marked K & S.

Artillery Park Barracks.

On the 20th January, the Board assembled at the Artillery Park, and examined all the public buildings there in charge of the Militia Department.

Gun Sheds.

The gun-sheds occupied by the Kingston Field Battery require new sills to the doors, and other repairs, which an engineer only could specify, to secure them from falling in. The weight of snow on the roof has spread the frame-work and started the cross-beams from their places. A violent gust of wind might blow the shed down on top of the guns. The rain and snow, and dust in summer, gain access to the interior, and increase the labor of keeping the guns and carriages in a proper condition.

The Board recommend that these sheds be repaired without delay, in order to save a greater expense should they fall in.

Stables.

The range of stables in charge of the Kingston Field Battery require extensive repairs. The frame of the building appears to be sound, but the wooden block flooring is decayed, and the sills on which the uprights are supported will soon give way. Clapboarding is gone in many places, and the sashes and shutters are all worn out. The roof was newly shingled two years ago, and is now good. All the ironwork appears complete. The Board recommend that the building be examined and repaired by a competent builder during the ensuing summer.

The opposite range of stables in charge of the Frontenac Cavalry have been recently repaired and painted by the Militia Department, and with the exception of the flooring and some slight damage to the stalls and mangers, are in a condition to last for several years.

Stone Barracks.

The stone barracks in the artillery park are in sufficiently good order for their own preservation and for the purposes to which they are now put, but if ever required for the occupation of troops, sundry interior repairs will be wanted.

The Pump.

The pump and well, formerly enclosed within this park, is now in the public street and in the midst of the highway, owing to a road having been opened through the park. An iron or wooden railing round it would secure it against damage from passing vehicles, and the Board think some steps should be taken to this end either by the city authorities or by the Militia Department. The Kingston Waterworks Company have a hydrant within the park, but it is not in use now, and when required the water must be paid for at the usual rates paid by the public, or under a special contract with the Department. The water in the well is of the best quality, and in sufficient quantity for the troops who

could live in the barracks, and therefore it is of some consequence in a military point of view. Although the public now make use of the pump in the street, the well still belongs to the Department and not to the city. It has been suggested that an underground pipe might be laid from the well to some spot within the park enclosure, in which case the water would be under control of the military occupants of the barracks, and the pump in the street could be removed altogether.

The Board recommend that some action be taken in this matter before any accident occurs by the exposure of the well on the street, which might result in the filling up of the well by the civic authorities to prevent future accidents.

The roadway made by the city from the new street into the artillery park is not sufficiently wide. It is also too steep a descent, and the sides are not guarded by a railing as they should be. The Board consider the city authorities responsible for this. The officer commanding the artillery reports to the Board that the Murray and Cedar Island Towers are in the same good condition as the other towers inspected by the Board, and the stores therein are in serviceable order. The armament necessary to complete these and the other defences is included in the lists K and S.

S. P. JARVIS, Lt.-Col.,
President.

D. T. IRWIN, Major, Asst. Insp. of Artillery. } Members.
W. KING, Captain, Storekeeper. }

(A)

A LIST of Articles of Field Equipments in Store available for immediate issue at any time, and now in serviceable order.

Description.	In charge of		Total.	Remarks.
	Store-keeper.	Artillery.		
<i>Infantry.</i>				
Rifles (Snider), with bayonets, scabbards and slings complete:				
Long.....	77		77	
Short.....	499		499	
Accountments (including sets of belts, pouches and frogs).....	2,800		2,800	
Great coats.....	14		14	
Haversacks.....	633		633	
Great coat straps.....	255		255	
Water bottles.....	122		122	
Knapsacks.....	4,200		4,200	
Gloves or mitts (pairs).....	11		11	
Moccasins (pairs).....	47		47	
Snow shoes (pairs).....	220		220	
Tents { Marquees.....	14		14	
Circular.....	411		411	
Blankets.....	3,292		3,292	
Rugs.....	14		14	
Sheets.....	80		80	
Pillow cases.....	504		504	
Pallisades.....	447		447	
Water-proof ground sheets.....	86		86	
Ammunition:				
Ball cartridge, for Snider rifles.....	11,540,070		11,540,070	
do Stairs carbine.....	2,646		2,646	
Blank cartridge, for Snider rifles.....	135,490		135,490	
<i>Cavalry Equipment.</i>				
Buckets, leather, cavalry.....	131		131	
Carbines (Starr's).....	26		26	
Horseshoes (sets).....	66		66	
Pickets and picket rope.....	44	Pickets	44	
Revolvers (Colt's).....	6		6	
Nose bags.....	30		30	
<i>Artillery.</i>				
Guns, mounted. { 18 pr.....	5	1	6	
{ 12 do.....	1		1	
{ 9 do.....		1	1	
{ 6 G. B.....	1	1	2	Carriage & wagon of 6 pr. in Artillery chge. U.S.
{ 9 pr. M. L. R.....		1	1	
Guns, dismantled. { 8-inch.....	6		6	
{ 32 pr.....	24		24	
{ 24 do.....	22		22	
{ Carronades, 32 pr.....	9		9	
Howitzers { 5½-inch.....	2		2	
{ 12 pr.....		1	1	

A.—LIST of Articles of Field Equipments in Store, &c. —(continued).

Description.	In charge of		Total	Remarks.
	Store-keeper.	Artillery.		
<i>Artillery.—Continued.</i>				
Mortars { Sea service 10-inch.....	6		6	
do { Land service 10-inch.....	1		1	
do { do 8-inch.....	1		1	
Ammunition :				
Shot ... { Case, 5½-inch Howitzer	112		112	
do { do 18 pr. gun	66	5	71	
do { Grape, 18 pr. gun.....	64	5	69	
do { Solid, fixed to wood bottoms, 18 pr.....	943	88	1,031	
do { do do 6 pr.....	34		34	
Shells .. { Common, fixed to W.B., 18 pr.	286	30	316	
do { do loose, 32 pr.....	529		529	
do { Diaphragm, fixed to W.B., 24 pr.....	21		21	
Fuzes ... { Pettman's percussion, L.S.....	2,030		2,030	
do { Boxers's time, wood, com.....	292		292	
Powder :				
Barrels of powder, containing { L. G. Service, lbs.....	27,461		27,461	} Ammunition in charge of Artillery is included in Armament Stores, List S.
do { do Exercise, lbs.....	1,283		1,283	
do { E. G. Service, lbs.....	80		80	
do { Carronade, 12 pr., 11b.....	53		53	
do { Gun, 24 pr., 8 lbs.....	167		167	
do { do do 4 ,,.....	23		23	
do { do do 3 ,,.....	68		68	
do { do 18 pr., 6 ,,.....	1,528	28	1,556	
do { do 9 do 2½ ,,.....	75	36	111	
do { do 6 do 1 lb.....	14		14	
Cartridges, flannel, filled { Howitzer, 24 pr., 2½ lbs.....	25		25	
do { 13 oz.....	2		2	
Filled busters for shells... { 12 ,,.....	318		318	
do { 40 drs.....	6		6	
do { 18 ,,.....	106		206	
Tubes, friction	9,150		9,150	
Carriages, travelling, { Gun, 9 pr.....	2	1	3	} Repairable, part unserviceable
do { field service, with Howitzer, 24 pr.....	3		3	
do { limbers and boxes, 12 pr. Howitzer.....		1	1	
do { do 6 pr. Gun.....		1	1	
Waggons, ammunition, with { Gun, 9 pr.....	1	1	2	
do { limbers and boxes, Howitzer, 24 pr.....	1		1	
do { Gun, 18 pr.....	8	1	9	
do { do 9 pr.....		1	1	
Waggons, platform.....	2		2	
<i>Miscellaneous :</i>				
Camp kettles.....	152			
Felling axes.....	60			
Spades.....	70			
Shovels.....	62			
Pickaxes.....	68			
Steelyards.....	11			
Billhooks.....	97			
Medicine chests.....	14			} Incomplete, not having been re-filled since last Camp.
Hospital stretchers.....	31			
Iron bed cots.....	20			
Shears or gyns.....	1 Gyn.			
Luff tackle (sets).....	22			
Iron targets.....	23			
Signal flags.....	20			
Barrack tables, tops.....	6			
Barrack forms.....	14			
Wooden trestles.....	8			

(B.)

MILITIA STORE OFFICE,
KINGSTON, ONT., 16th January, 1875.List of Militia Stores in the charge of the Storekeeper, found by the Board to be
obsolete or unserviceable agreeably to the state shown by the Store Ledger.

Description of Stores.	No. or Quantity.	Remarks.
Accountments :		
Slings, musket.....	40	To be sold.
{ Dyed Black, Pouches	238	do
do Waist.....	184	do save the Lockets.
Infantry, buff .. { do Frogs.....	198	do
do Pouches, Cap.....	250	To be used for repairs.
do Slings.....	266	To be sold.
Militia brown leather.. { Bags, Ball.....	3	do
{ Belts, Waist.....	67	do
{ Frogs.....	67	do
Black leather—pouches, cap	570	To be used for repairs
Arms :		
Rifles, M. L., non-interchangeable from 1853.....	1	End of barrel burst, might be sold.
Bayonets, rifle musket	1	To be sold.
Scabbards do	26	do
Camp Equipment :		
Blankets, grey.....	23	To be used as horse rugs as required by "A" Battery.
Mallets, Tent... { Large	3	To be burnt.
{ Small	9	do
Poles, sets, circular tent.....	12	do
Clothing :		
Caps. { Forage.....	16	To be sold.
{ Fur	65	do
Coats, great, grey.....	87	do
Tunics, serge, Military School	6	do
Trowsers, serge do	3	do
Articles for Musketry Instruction :		
Bags, canvas sand	1	do
Wrenches, nipple	2	do
Barrack Stores :		
Blanket, white	3	For moccasin wrappers, to be used in the Store.
Cases... { Bed.....	7	To be sold.
{ Bolster	10	do
Pails, urine.....	3	To be used in the Store for dust pans.
Razors, shaving	3	To be sold.
Rugs, barrack.....	12	To be used as cleaning rags.
Sheets, barrack.....	95	To be used in Store for cleaning, &c.
Lamps, coal oil.....	2	To be sold.
Miscellaneous Stores :		
Bottles, glass, for ink.....	3	do
Knapsacks, old pattern.....	61	To be retained for emergency.
Poles, flag, 10 feet.....	1	To be burnt.
Military School Books. { Queen's Regulation, Year 1868	25	{ To be made away with as obsolete
{ Field Exercise, Year 1870.....	17	{ and useless.
Cartridges filled... { Carronades, 12 pr., 1 lb.....	14	} The Powder to be extracted, da- maged and caked. Fit for Class III Shell.
{ Gun, 24 pr., 8 lbs.....	19	
{ do do 4 ,,	4	
{ do 12 pr., 4 ,,	3	
Pikes, boarding, sea service.....	4	Repairable.
Shells, Shrapnel, O.P., 6 pr.....	7	Unserviceable to be sold.
Shot, solid, 6 pr., strapped to wood bottom.....	12	do

S. P JARVIS, LIEUT.-COL.,
W. KING, Capt. Storekeeper.

To accompany Board of Survey, assembled at Kingston, with Lists K., and S. and U., 15th January, 1875.

ARTILLERY BRANCH.

1. The Ordnance, Carriages and Traversing Platforms, mounted on the several defences, are kept in a serviceable condition and working order, with the following exceptions.

Description.	No.	Remarks.
<i>Fort Henry.</i>		
Ordnance, cast iron, S. B. { Guns, 24 pr., 50 cwt.....	1	Unserviceable.
{ Carronades { 24 pr., 13 cwt	2	Obsolete.
{ 18 " 10 "	5	do
Carriages, sliding dwarf, 8-in., 65 cwt.....	1	Unserviceable.
Platforms, traversing, wood com., O. P.....	24	Obsolete and unserviceable.
Platforms, com. ground..... { 13-in. Mortar.....	1	} Wood rotten, unserviceable.
{ 10-in. do.....	2	
{ 8-in. do.....	2	
<i>Fort Frederick.</i>		
Ordnance cast iron S. B. Howitzer, 5½-in., 16 cwt....	4	Obsolete.
Platform, com. ground.. { 32 pr. Gun.....	2	} Unserviceable
{ 5½-in. Howitzer.....	4	
Platforms, traversing dwarf, 32 pr., 56 cwt.....	4	

Carriages and Platforms at Fort Frederick require painting. Guns and shot do not require lacquering. Last done 1873.

2. Fifty rounds per gun made up; fifty rounds per gun loose in bags, with exceptions detailed in accompanying list, marked (K.) Quantity sufficient if completed.

One Expense Magazine in Fort Frederick too damp for permanent use.

3. Service Field Guns used for drill purposes only, and small quantity of ammunition for practice. No gun sheds.

4. Military stores in charge of Commanding Officer of Artillery, detailed in annexed list, marked (S.) Those on charge are efficient and serviceable.

The twenty-four common traversing platforms at Fort Henry, shown as unserviceable, are of an obsolete pattern, and would not, in their present condition, stand more than a few rounds fired from the guns mounted upon them. The guns themselves 1 56 pr., 1 8-in. gun, 8 32 prs., and 14 24 prs., (24) are not equal either in range or weight of metal to those which would probably be used against them, and it would seem advisable, if circumstances will permit, to replace the present armament by $\frac{32}{4}$ prs., converted M. L. rifled guns, mounted on dwarf traversing platforms, with a few of the heavier natures of rifled ordnance in certain important positions.

At Fort Frederick one of the 7-in. B. L. rifled guns, recently received from Quebec, has been mounted, but the parapet, embrasures and revetments of this Fort are in an almost ruinous condition, and require considerable repair.

D. T. IRWIN, Major,
Commandant S. G.,
Assistant Inspector of Artillery,

(K)

RETURN shewing the quantity of Ammunition required to complete the arming of Kingston, Ontario, to 100 Rounds, *vide* Revised Army Regulations, 1870.

Ammunition, &c.	To complete 100 Rounds.			
	On Charge.	Required.	Total.	
Bottoms, wood, common shell..	{ Cylindrical, 56 pr.	31	2	33
	{ Conical, 8-inch.	138	26	164
	{ do 32 pr.	689	523	1,212
	{ do 24 ,,	851	79	930
	{ do 18 ,,		165	165
	{ Hemispherical, 5½-inch'	200		200
Carcasses, filled {	Guns, 24 pr.		60	60
	Carronades, 32 pr.		28	28
	do 24 ,,		4	4
	do 18 ,,		10	10
	{ Howitzers, 5½-inch.		8	8
Cartridges, flannel, filled..	{ Guns, 8-inch, 10 lbs.	117	83	200
	{ do 56 pr., 14 ,,	82	18	100
	{ do 32 ,, 10 ,,	2,307	93	2,400
	{ do 24 ,, 8 ,,	1,300	400	1,700
	{ Carronades, 18 pr., 1½ lb.	350	150	500
Fuzes {	Percussion, Pettman's L.S.	763	1,667	2,430
	Mortar, large	400	100	500
Tubes, friction, copper, service	2,000	8,000	10,000	
Match, slow, lbs.		85	85	
Portfires, common		340	340	
Gunpowder, lbs. {	L.G. Service	46,118	4,500	50,618
	L.G. Shell		4,100	4,100
Rivets, metal, for shell bottoms. {	Large	1,982	298	2,280
	Small		165	165
Shells, Common, prepared for bottoms. {	8-inch.	101	49	150
	32 pr.	654	486	1,140
	24 ,,	711	250	960
	18 ,,		150	150
Shells. {	Shrapnel, 8-inch.	20		20
	do 24 pr.	228	52	280
	Mortar, 13-inch.	80	20	100
	do 10 do	149	51	200
	do 8 do	160	40	200
Shot. {	Case or grape, guns, 32 pr.	351	9	360
	do Carronades, 32 pr.	950	2	952
	do do 18 ,,	311	29	340
	do Howitzer, 5½-inch.	160	112	272
	Solid cast iron, 32 pr.	989	91	1,080
	do 24 ,,	846	474	1,320
Wads. {	Grummet, 32 pr.	1,019	61	1,080
	do 24 ,,	846	474	1,320
	Papier Maché, common	368	2,062	2,430
	do Diaphragm loading hole	173	432	605

KINGSTON, Ontario,
15th January, 1875.

D. T. IRWIN, Major,
Assistant Inspector of Artillery,
Commandant, School of Gunnery, Kingston, Ont.

(S.)

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, also those required to complete the Armament, *vide* revised Army Regulations, 1870.

Description of Stores.	Equip- ment.	Excess.	Deficient.	Remarks.	
Aprons, lead, large	4		2		
Axletrees, wrought iron, transporting to wheels.....	2				
Bars, crow, 6 feet.....	9		9		
Boxes, tin, with straps. {	Fuzes to hold 10 fuzes, com- mon, black.....	80		18	
	Fuzes to hold 10 fuzes, shrapnel, blue.....	80		25	
	Grease, half round.....	27		27	
	Plug and wad, rectangular... Tube.....	12 127		12 46	
	Brooms, bass.....	28		28	
Buckets, wood, sponge	85		7		
Cans, tin, oil, feeding.....	14		14		
Caps, canvas sponge. {	Guns, 56 pounder.....	2		2	
	do 8 inch.....	4		3	
	do 32 pounder.....	48	14		
	do 24 do.....	56			
	Howitzer, 5½ inch.....	8		8	
Carronades, 32 pounder.....	do 24 do.....	28		13	
	do 18 do.....	4		4	
	do 10 inch.....	10		5	
	do 8 inch.....	2		2	
Mortars, 13 inch.....	do 10 inch.....	4		4	
	do 8 inch.....	4		4	
Cartouches, leather, large.....	9		9	} 1 required for each gun, used for salutes.	
Caps, muzzle mortar, wood.....	5		5		
Cases, leather, for cartridge. {	No. 1.....	2		2	} 2 for each piece of ordnance.
	No. 2.....	2		2	
	No. 3.....	4		2	
	No. 4.....	48		48	
	No. 5.....	34		34	
No. 6.....	80		30		
Clinometers.....	9		9	} Not required.	
Chalk, lbs.....	2½		2½		
Chippers, portfires.....	18		18		
Cord for sticking lines on mortars, lbs. {	do 1.....	½		½	
	Guns, 56 pounder.....	1			
do 8 inch.....	2				
do 32 pounder.....	38		31		
Fids, wood, gun. {	do 24 do.....	30		22	
	do 18 do.....	5		5	
	Mortars, 13 inch.....	1		1	
	do 10 inch.....	1		1	
do 8 inch.....	1		1		
Flanges, iron, spare.....	3		3		
Furnaces, hot shot.....	3				

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ont., &c—Continued.

Description of Stores.	Equip-ment.	Excess.	Deficient.	Remarks.
Gauges, iron, ring, shot or shell, spherical... { 8 inch, 7.95.....	2		1	
do 7.82.....	2		1	
56 pounder, 7.51.....	1			
do 7.45.....	1			
32 do 6.207.....	7		7	
do 6.147.....	7		7	
24 do 5.639.....	5		5	
do 5.64.....	5		5	
18 do 5.124.....	1		1	
do 5.074.....	1		1	
Grease, lubricating, Fenner's, lbs.....	100		100	
Gyns, triangle, 18, light, complete.....	8		5	4 per district.
do 13 inch, 12.88.....	1		1	
do do 12.8.....	1		1	
Gauges, iron ring, shot or shell { 10 inch, 9.88.....	1		1	
do do 9.82.....	1		1	
Hammers, claw, large.....	27		3	
Handspikes { Common, 7 feet.....	2		2	
do 6 feet.....	180	101		
L.S., metal roller, 7 feet.....	110		72	
Rammer, guns, 56 pounder.....	1			
do 8 inch.....	2			
do 32 pounder.....	24		4	
do 24 do.....	28	7		
Rammer, Howitzer, 5½ inch.....	4		4	
Rammer, carronades, 32 pounder.....	14			
do 24 do.....	2		2	
do 18 do.....	5		2	
Sponge, guns, 56 pounder.....	1			
do 8 inch.....	2			
do 32 pounder.....	24		2	
do 24 do.....	28	6		
Sponge, Howitzer, 5½ inch.....	4		4	
Sponge, carronades, 32 pounder.....	14			
do 24 do.....	2		2	
do 18 do.....	5		1	
Sponge, mortar, 13 inch.....	1			
do 10 inch.....	2			
do 8 inch.....	2			
Horns, powder, miner's.....	18		18	
Hooks, shell { Beam.....	1	2		
Hand.....	2	4		
do.....	2	1		
do.....	8	6		
Implements, fuze and shell sets, siege { No. 1.....	2		12	For filling shell,
No. 2.....	8		20	For fuzes.
No. 3.....	16		3	do mortar.
No. 4.....	40			Not required.
No. 5.....	6			
Instructions, fuze and shell sets, printed sheets.....			2	
Irons, priming, sets, garrison.....	85		18	2 per battery.
Knives, clasp, large.....	18		51	2 for each piece of ordnance.
Lanyards, friction tube, garrison.....	170			1 for each 3 pieces of ordnance.
Levers, wood, iron-shod { Crow, 7 feet.....	28		28	
Platform, 4 feet.....	110		5	
Limbers for wheels transporting axle.....	2			
Line, Hambro, skeins.....	23		28	do
Linstocks with cocks.....	18		12	
Marline skeins.....	23		18	

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—Continued.

Description of Stores.	Equip- ment.	Excess.	Deficient.	Remarks.
Oil, lucca, gallons.	8		8	} 1 per 10 pieces per annum.
Perpendiculars, brass, with spirit level in mahogany case	2		2	
{ Common, 8 inch or 32 pounder	9		9	} 1 per carriage.
do 24 pounder	24		24	
Pedestals, wood. { Rear chock, 5½ inch	4		1	
Dwarf, 56 pounder	1		1	} 1 per piece of ordnance.
do 8 inch to 24 pounder	21		21	
Plugs, metal, Hayes' pattern	85		85	} 1 per battery.
Plummets, lead, with lines	5		1	
Punches, steel vent, 12 inch	85		77	} 1 per battery.
Quadrants, brass, with spirit level	9		7	
{ 56 pounder	2			} 1 per battery.
{ 8 inch	4	1		
Rammers, gun, with wood staves. { 32 pounder	76		32	
{ 24 do	60		27	} 1 per battery.
{ 18 do	10		10	
Rods, two for pointing mortars with planks	10		4	} 1 per battery.
Ropes. { Drag, heavy, pairs	2			
{ Preventor	48		22	
Scotches, wood, small	110	256		} 2 per battery for each calibre.
{ 13 inch	1		1	
{ 10 inch	1		1	
{ 8 inch and 56 pounder	2		2	
{ 32 pounder	7		7	
{ 24 do	4		4	} 1 per battery.
{ 18 do	1		1	
Screws, iron, sight. { Fixing, spare	44		44	} 1 per battery.
{ Preserving	176		21	
Skins, sheep, for mortars	5		1	} 1 per battery.
Spanners, McMahon's, 15 inch	27		18	
Spikes, iron. { Common	110		23	} 1 per battery.
{ Spring	43			
{ Gun, 56 pounder	2			} 1 per battery.
do 8 inch	4			
do 32 pounder	48		1	} 1 per battery.
Sporges with staves, without caps, S.B. { do 24 do	56		29	
Howitzer, 5½ inch	8		4	} 1 per battery.
Carronade, 32 pounder	28		8	
do 24 do	4		2	} 1 per battery.
do 18 do	10		4	
Sponges with staves, without caps, mortar. { 13 inch	2			} 1 per battery.
{ 10 inch	4		2	
{ 8 inch	4		2	} 1 per battery.
{ 12 feet	1			
{ 11 do	43		2	} 1 per battery.
{ 10½ do	11	2		
{ 7½ do	30	5		} 1 per battery.
{ 5 do	85		73	
{ 4 do	96		14	} 1 double set for each traversing platform.
Sticks, portfire	1		1	
Tackles, luff, tarred sets. { 56 pounder	2		2	} 1 per battery.
{ 8 inch	38		1	
Tampeons, wood, S.B. { 32 pounder	34		1	} 1 per battery.
{ 24 do	5			
{ 18 do	9		8	} 1 per battery.
Tools, smith's, chests complete	3		3	
Trucks, hollow, soled, spare	6			} 1 per battery.
Tubs, wad	6			

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—*Continued.*

Description of Stores.	Equip- ment.	Excess.	Deficient.	Remarks.
Wadhooks with staves. {				
Carronades, 32 pounder.....	5			
do 24 do	1	1		
do 18 do	2	1		
Guns, 56 pr., 8 inch, and 32 pr.				
do 24 pounder.....	20	6		
Howitzer, 5½ inch, with scraper	2		1	
Waggon, sling, complete	2		1	1 per district.
Wrenches. { For sights.....	9		2	
{ X handled.....	6		6	
{ Knock up.....	2		2	
Yarn, spun, tarred, 3 threads, lbs.....	85		85	1 for each picece of ordnance.
<i>Magazine Stores.</i>				
Adzes, cooper's, metal handled	18		17	2 per magazine.
Cans, oil, pint, feeding.....	9		9	
Cloths, hair, 15 x 12	12		10	
Drivers, wood, shod with metal.....	18		14	
Funnels, copper, cartridge.....	27		24	
Gauges, filled, cartridge, { 8 inch or 56 pounder	2		2	} 1 per magazine for each calibre.
brass ring, S. B. { 32 pounder.....	7		7	
{ 24 do or 5½ inch.....	5		5	
{ 18 do	1		1	
Gauges, filled, cartridge, brass ring, wood lengths, 7 inch, B. L.	1		1	
Hides, tanned or powder	18		15	
Keys, metal, for cases, metal lined.....	27		15	
Lanterns, copper, magazine	18		16	
Magazine, portable	4			
Needles, brass, laboratory.....	45		45	
Oil, colza, gallons.....	18		18	1 per lantern.
Scales and weights.....	5			
Scissors, pairs. { Gun metal, 9½ inch.....	18		18	
{ Lamps.....	9		9	
Shoes, magazines, pairs	54		33	
Wadmillets	18		7	
Wick, cotton, lbs.....	4½		4½	
Worsted, white, for cartridge, lbs.....	25		25	For making up cartridges.
<i>Armament Stores other than those previously mentioned, used for mounting and dismounting Ordnance, for storage of powder and general purposes.</i>				
Anvils, smith's		2		
Axes, handled. { Pick.....		19		
{ Felling.....		10		
Barrows, wheel		6		
Baskets for bottles.....		4		
Barrels. { Cartridge, quarter		2		
{ Metal lined, whole		128		
do half		1		
{ Whole, common.....		445		
Bearers, shot grate, common.....		19		
Bellows, blacksmith's		2		

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—Continued.

Description of Stores.		Equip-ment.	Excess.	Deficient.	Remarks.
Blocks.	Cast iron, single, 12 inch.....		1		
	Iron snatch, 15 inch.....		2		
	Wood, admiralty, double, 8 inch.....		5		
	do single, do.....		4		
	Bothways, with hooks, single 15, inch.....		2		
	do Double, do.....		2		
	do Treble, do.....		2		
	do Single, 12 inch.....		1		
	do Double, 10 inch.....		1		
	do Treble, 12 inch.....		1		
	do Single, 8 inch.....		1		
	do Double, do.....		1		
	Wood, iron bound snatch, 15 inch.....		2		
	do 12 inch.....		1		
Gyn, double.....		3			
do Treble.....		2			
Boards for printed instruction.....		45			
Bottles, tin, of sorts.....		16			
Boxes, wood, shot or shell.....		653			
Brooms, hair, without handles.....		11			
Brushes.	Armourer's hard.....		4		
	Dust.....		5		
	Water.....		5		
	Gun, of sorts.....		22		
	Paint do.....		5		
Capstan, crab, complete.....	Turk's head, large.....		16		
	do Small.....		7		
Carts with wheels.	Hand.....		1		} Repairable.
	Trench.....		2		
	Sling.....		1		
Cases.	Powder, metal lined, whole.....		2		
	do Quarter.....		1		
	Packing, of sorts.....		7		
Casks, of sorts.....	Tin, for paint.....		18		
			19		
Coins, wood, mortar bed, 10 inch.....	Tarred, 4 inch.....		113		} Used for drill purposes, much worn and partly un-serviceable.
	do 3 inch.....		265		
	do 2½ inch.....		55		
Cordage, fathoms.	do 1½ inch.....		68		
	White, 3 inch.....		88		
			1		
Flags.	Royal Standard, 24 × 12.....		1		
	Union, 24 × 12.....		1		
Drums, iron, for oil, 5 gallons.....			1		
Garlands, iron, shot or shell, rectangular..	10 inch, 3.34 × 3.34.....		4		
	8 inch, 2.8 × 2.8.....		10		
	32 pounder, 2.1 × 2.1.....		18		
	24 do 1.11 × 1.11.....		6		
Halyards, sets.....			1		
Handles, of sorts.....			12		
Handspikes.	L. S. metal roller, iron.....		22		} 7 foot handspikes should be supplied.
	L. S. roller, wood, 6 feet.....		6		
Helves, axe, pick	Traversing, L. S.....		7		
			4		
Hooks.	Bill handled.....		4		
	Reaping.....		15		
Hoops, copper.	Whole.....		2,282		
	Half.....		4		

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—Continued.

Description of Stores.	Equip-ment.	Excess.	Deficient.	Remarks.
Kegs, of sorts		4		
{ Cleaning ordnance, 56 pounder		1		
do 32 do		2		
Knives, { do 24 do		2		
do 18 do		2		
Laboratory, large		16		
Putty		4		
{ Dark		2		
Lanterns, { Muscovy		20		} Lanterns, cop- per, magazine, should be re- placed by.
Levers, wood, 12 feet		2		
Locks, pad, iron		9		
Mauls, wood, common		14		
Mirrors for examining ordnance		1		
Mullers, painter's		1		
Models, wood, Fort Henry		1		
Oil, ragoon, gallons		5		
Planks, oak, { 12 x 4 x 17 inches		2		
{ 10 x 3 x 20 inches		4		
Post, ash, picket, { 5 feet		10		
{ 2 1/2 feet		12		
Rods, iron, for wood bottoms		98		
{ 6 x 10 inches		5		
{ 3 1/2 x 7 1/2 inches		5		
Rollers, elm, { 2 x 5 inches		5		
{ 1 1/2 x 5 inches		5		
{ 1 1/4 x 5 inches		5		
Ropes, { Drag, light		2 1/2		
{ Parbuckling		5		
Saws, carpenter's, 26 inch		8		
Sampson's wheelers		1		
Seissors, laboratory		25		
Shovels, { Universal helved		19		
{ Snow		10		
{ 20 x 9 x 9 inches		2		
{ 14 x 7 x 7 do		3		
{ 3 x 6 x 9 do		6		
Skids, wood, { 3 x 4 x 4 do		5		
{ 3 x 4 x 3 do		2		
{ 3 x 3 x 3 do		2		
{ 3 x 6 x 6 do		1		
Sleighs, 9 pounder, { Gun		1		
{ Ammunition		2		
Slings, gun, white, rope, 6 inch		2		
Spades, N. P. helved		16		
Spars, wood, 35 feet		2		} Rotten.
Spikes, iron, marine		38		
{ 8 inch		2		
{ 32 pounder		2		
{ 24 do		4		
Stones, { Grind		3		
{ Painter's		1		
Swords, sea service		10		
Tarpaulins, of sorts		8		
Tools, chests of, { Wheelers		1		
{ Collarmaker's		1		
{ Sheers		4		
Truck, wood for, { Gyn		11		
Vices, smith's standing		1		

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—Continued.

Description of Stores.	Equip- ment.	Excess.	Deficient.	Remarks.
Vents, copper, iron ordnance, 7 threads to inch. { 10½ in.		3		
Waggons, platform { 7½ in.		26		
		2		
<i>Rifled Ordnance.</i>				
Ordnance, iron, B. L., rifled, 7 inch, 82 cwt.	2			
Carriages, wood, sliding, dwarf, 7 inch.	2			
Gunpowder, lbs., L. G.	1,421½			
Cartridges, flannel, filled, 7 inch, B. L., 11 lbs.	450			
Shot, hollow, 7 inch, B. L.	150			
Shells with plugs, 7 inch, B. L. { Common.	180			
{ Segment.	90			
Fuses, time wood boxes, 9 seconds.	196			
Tubes, friction, copper, service.	540			
Match, slow, lbs.	4			
Adaptus fuze, 7 inch, B. L.	270			
Bearers, shot grate, B. L.	2			
Bits, vent, Armstrong.	1			
{ Grease, half round.	1			
Boxes. { Tube, garrison.	3			
{ Shot or shell.	2			
Brooms, bass handled.	1			
Bushes. { Copper vent piece.	1			
{ Bush iron, thin, B. L.	1			
Buckets, sponge, garrison.	2			
Bottles, tin, oil.	1			
Barrels. { Powder, whole.	78			
{ do half.	1			
{ Cartridge.	1			
Cases. { Packing.	22			
{ Cartridge, leather, No. 2.	4			
{ Fittings.	2			
Cartouches, leather, large.	1			
Cans, tin, oil, lubricating.	2			
Caps, sponge, 7 inch B. L.	2			
Cups, tin.	50			
Covers, canvas, slot, for vent.	2			
Cloths, sponge.	36			
Coating, sponge.	2			
Compressors, wood.	2			
Chests, arm.	1			
Cylinders, zinc.	17			
Handspikes. { Metal roller with pawls, 7 feet.	4			
{ Common, 7 feet.	4			
Extractors, tin, cup.	2			
Gauges, iron ring, 7 inch. { 7.095.	1			
{ 7.08.	1			
Hoops, copper, powder barrel, whole.	312			
Implements, fuze and shell sets. { No. 3.	1			
{ No. 4.	1			
Knives, clasp, large.	2			
Locks, pad, brass, with keys.	2			
Lanyards, friction tube, garrison.	6			
Lever. { Iron, releasing vent piece.	2			
{ Iron-shod, platform.	4			
Lubricators, 7 inch.	450			
Oil, lucca, gallons.	1			

RETURN shewing the Armament Stores in charge of the Commandant, School of Gunnery, Kingston, Ontario, &c.—*Continued.*

Description of Stores.	Equip-ment.	Excess.	Deficient.	Remarks.
Pockets, leather, with straps. { Tin cup	2			
{ Tube	2			
Portfires, common	16			
Primers, vent piece	640			
Pins, keep, spare	2			
Pieces, vent, 7 inch B.L.	4			
Rammers with staves, 7 inch B.L.	2			
Rods, cleaning, 7 inch B.L.	2			
Straps, tube box, long	3			
Staves, lifting vent piece.	2			
Sponges with staves, 7 inch B.L.	2			
Tampeons, wood, 7 inch B.L.	2			
Wrenches, X handled with bar.	1			

The above return is prepared to accompany the proceedings of Board of Survey assembled at Kingston, on the 15th January, 1875.

D. T. IRWIN, Major,
Assistant Inspector of Artillery,
Commandant, School of Gunnery, Kingston, Ont.

(U)

SCHOOL OF GUNNERY,
KINGSTON, ONT., January 15th, 1875.

RETURN shewing the Repairable and Unserviceable Stores in possession of the
Commanding Officer of Artillery at Kingston, Ont. :—

Description of Stores.	Numbers.		Remarks.
	R.	U.	
Axes, pick.....		5	Fort Henry.
Barrows, wheel.....		1	
Brooms, hair.....		1	
Handspikes. { Common, 6 feet.....		29	
{ L. S. metal roller, 7 feet with pawl.....		1	
Levers wood, 12 feet.....		1	
Rollers—elm, $1\frac{3}{4} \times 5$		1	
Shovels. { Universal helved.....		4	
{ Snow.....		7	
Spades—N. P. helved.....		3		Market Battery.
Handspikes—common, 6 feet.....		8	
Barrows—wheel.....		3	
Blocks—wood, admiralty. { Double, 8 inch.....		1	
{ Single, 8 inch.....		1	
Handles—wood. { Pick.....		8	
{ Of sorts.....		10	
Handspikes. { 6 feet.....		31	
{ Traversing.....		2	
Mauls—wood, common.....		3	Tete-du-pont Barracks.
Pickets—ash { 5 feet.....		12	
{ 2½ feet.....		3	
Spades—N. P. helved.....		2	
Shovels—universal helved.....		4	
Sponges with staves. { 12 pounder Howitzer.....		1	
{ 9 do Gun.....		1	
{ 6 do.....		1	
Wad hooks with staves 6 do.....		1	

Verified.

S. P. JARVIS, LIEUT.-COL.,
D. A. G. M.

D. T. IRWIN, Major,
Commanding School Gunnery.

W. KING, Captain,
Storekeeper.

OTTAWA.

Proceedings of a Board of Survey assembled at Ottawa on the 13th January, 1875, under the General Orders of 4th December, 1874.

PRESIDENT — Lieut.-Col. Jackson, D. A. G., Military District No. 4.

MEMBERS.—Major Irwin, Assistant Inspector of Artillery, and W. L. S., Captain Grant, Militia Store Department.

The Board assembled as above and proceeded to inspect the artillery stores, ammunition and buildings, and attach report of Assistant Inspector of Artillery marked "B" as the proceedings in this branch.

The Board re-assembled pursuant to adjournment at 9 o'clock A.M., on the 14th January. Members present, same as previous day, but owing to other engagements, Major Irwin left during the forenoon. The other members of the Board continued to meet from day to day until they completed the inspection of the stores and store ledgers as contemplated by extracts from War Office circular 498, issued by the Deputy Adjutant General at headquarters, dated 5th December, 1874, and beg leave to report as follows, viz :—

Clothing and General Stores.

The Board found the clothing and other description of stores generally clean and well preserved, and the numbers as a rule, corresponded with the store ledgers.

One bale of naval trowsers containing 155 pairs, was classed and marked jackets, but total number of trowsers and jackets corresponded with the books.

There were also the following articles in excess of those borne on the ledgers, viz :—

Rifle Trowsers, pairs	7
Artillery tunics, O. P.....	1
Grey blankets	5

The following articles are slightly worn, but are too good to be wholly condemned. The Board recommend that they be issued free to "A" and "B" Batteries, Schools of Gunnery, to be worn by the men while on fatigue or barrack duty, viz :—

Tunics, artillery, N. P.	95
Trowsers, do serge prs.....	50

Repairs.

There are 42 Infantry great-coats requiring some very slight repairs, such as sewing on buttons, &c. The Board recommend that this be authorized, and when completed they will be suitable for issue.

Condemned.

The following articles the Board has condemned as being unserviceable, and recommend that they be sold :—

Axes, pick	3
Shovels	1
Pails, tin	1
Greatcoats, Infantry	34
Forage caps, Artillery.....	13
Trowsers, Rifle, serge, pairs	6
Tunics, Infantry	4
do Rifle.....	6
Bottles, water.....	29
Lanterns, glass	1
Stoves, box	1

OBSOLETE.

Eleven dozen and $\frac{9}{11}$ diaries, 1874, are obsolete, and consequently condemned by the Board.

CLOTH.

There are some pieces of artillery cloths which are being slightly damaged by moths. The Board think this cloth should be worked up as soon as possible, otherwise it may become seriously damaged.

*BUILDINGS.

The store buildings are very old and appear to be quite too small to allow of a proper classification of the several articles, and for the receipt and issue of such large quantities of clothing and other stores required for the Militia of the Dominion, are quite unsuitable. Should a fire occur therein, the whole of their valuable contents would, in all probability, be consumed.

The Board feel that they cannot urge too strongly upon the attention of the proper authorities the desirability of increased store accommodation at Ottawa.

W. H. JACKSON, LIEUT.-COL.,
D. A. G. Mil. Dis. No. 4, and President.

*With reference to this paragraph only. D. T. IRWIN, Major,
Asst. Insp. Artillery.

GEO. GRANT, Captain,
and Q. M. G. G. F. Gds.

} Members.

OTTAWA, 9th Feby., 1875.

(B.)

Artillery Branch.

By order of the Deputy Adjutant General at Headquarters, the Board inspected the ordnance, ammunition, artillery stores, &c., in charge of the officers commanding the Ottawa Brigade of Garrison Artillery, and the Ottawa Field Battery, and have to report as follows, viz:—

Ottawa Brigade of Garrison Artillery.

The ordnance in charge consists of the following, viz:—

- 2 24 pr. cast-iron S. B. guns mounted on Garrison standing carriages.
- 2 " " " mounted on O. P. traversing platforms.
- 2 12 pr " " on iron standing carriages.
- 2 10 in. " " mortars on beds.
- 1 6 pr. (?) bronze S. B. guns, dismounted, marked U. S. A.

The Board having inspected the above together with their equipment of ammunition side arms, and small stores, find that they are kept in serviceable condition and working order, with the exceptions mentioned in the accompanying return marked (M). The Board were unable to inspect the solid shot on account of the depth of snow covering the piles.

BUILDINGS.

Drill Shed.

The building used for this purpose is entirely unsuitable for the care and protection of artillery stores. The supports of the flooring having given way artillery drills cannot be carried on with safety, and there appears to be no place where the small stores, &c., can be kept available for periodical examination.

The same remarks hold good with respect to that portion of the building allotted to the guns, stores, &c., of the Ottawa Field Battery, and it even appears that at certain seasons of the year the floors of the store rooms are covered with several inches of water.

Ammunition.

There is no made up ammunition in charge for the ordnance in charge of the Ottawa Brigade Garrison Artillery. The Ottawa Field Battery are in possession of their complete equipment of service ammunition, viz : 192 rounds, made up and packed in limber boxes. The Board do not consider that in the present state of the buildings these are under suitable cover and protection.

Magazines.

The Board inspected the magazine in charge of the Director of Stores and found the building itself in good order and condition. It is used for the storage of small arm ammunition, and as such ought not to be used for the storage of loose powder or made up cannon cartridges. The Board found that a small quantity of the latter were, in default of other accommodation, stored in this magazine.

The outer wall of the Magazine requires coping and pointing. The Board were informed by Lieut.-Col. Egleson of a recommendation made by him as to the advisability of forming a battery for saluting and drill purposes in a convenient situation, and the erection of a wooden building in rear thereof, for the storage of the necessary artillery stores. The guns were proposed to be mounted on common ground platforms.

The above would appear to be a suitable and convenient arrangement, but it is suggested that one at least of the 24 pr. guns be kept in a suitable drill shed, so as to enable drill to be carried on during the winter months.

Ottawa Field Battery.

The Board inspected the battery of 4 9-pr. M. L. R. guns in charge of Captain Stewart, and the stores, ammunition, carriages and harness. The waggons are those formerly belonging to the 9-pr. S. B. guns and 24-pr. howitzer, which latter have been sent to the Gananoque Field Battery. The waggons require repainting, and if intended to be attached to Captain Stewart's battery, should be refitted internally to suit the rifled projectiles.

The harness appeared to be in very good order and condition, but the officers saddlery requires repairs, being very old and much worn. Capt. Stewart reported having experienced considerable difficulty in keeping the carbines of his battery when in camp, on account of their having no distinguishing mark, and the Board recommend in consequence that permission be granted to Capt. Stewart to have the carbines stamped with the letters O. F. B. on the heel plate. Only (25) twenty-five knapsacks and (12) twelve mess tins are in possession of this battery. Were the battery ordered on active service it would be necessary to provide each gunner with a knapsack, and each driver and N. C. officer with a valise to hold the necessary kit.

A list of articles to complete the necessary equipment of this battery has been prepared by Captain Stewart.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

GEO. GRANT, Captain,
and Q. M., G. G. F. Gds.
238

} Members.

(M)

RETURN of stores in charge of officer commanding Ottawa Brigade of Garrison Artillery, deficient, repairable and unserviceable:—

Description of store.	Number.	Deficient.	Repairable.	Unserviceable.	Remarks.
Carriages. { Wood, gun, 24-pr.	4	.....	2	.....	Require repainting.
{ Iron, ,, 12-pr.....	2	.....	.....	1	
Platforms, wood, traversing 24-pr	2	.....	.....	2	Obsolete pattern, wood rotten.
Handspikes, com. 6 feet	26	.....	.....	8	Brokea.
Heads spare, rammers, sorts	16	.....	.....	2	do.
Caps, canvas, sponge	9	.....	.....	9	
Lanyards for friction tubes	8	1	.....	.....
Plummets lead	2	2	.....	.....
Pockets leather tube with strap	5	1	.....	.....
Lights with screws, lead packing for 24-pr	2	2	.....	.....
Spikes, spring,	5	.....	.....	2	
„ common	9	9	.....	.....
Sponges, gun, with staves, 12-pr	4	.....	.....	2	Worn out.
Mortars, 10 in	2	.....	.....	1	Moth eaten.

D. T. IRWIN, Major,
Asst. Insp. Artillery.

13th Jany., 1875

MONTREAL.

Proceedings of a Board of Survey held at Montreal on the 15th January, 1875, and following days, according to General Order, dated Ottawa, December 4th, 1874.

Detail of Board.

PRESIDENT—Lieut.-Col. J. Fletcher, D. A. G., M. D. No. 5.

MEMBERS—Lieut.-Col. A. C. DeL. Harwood, D. A. G., M. D. No. 6, Lieut.-Col. Strange, Inspector of Artillery and warlike stores, Capt. S. Pope, Storekeeper Military Districts Nos. 5 and 6.

The Board having assembled proceeded to examine the stores in charge of the storekeeper, as well as those on District, and artillery charge of the detachment of "B" Battery on St. Helen's Island. They found them in good order and in accordance with the store ledger kept by the storekeeper, and the list of the officer commanding detachment of "B" Battery.

The stores on the list marked A herewith attached, were submitted by the storekeeper for special survey with reference to their being declared serviceable or unserviceable. With reference to the saddlery marked old pattern, they do not consider it advisable to condemn it for sale, as the leather and iron work is in good order, and may be made available to complete service sets for issue, some of which are incomplete in consequence of partial issues. The stuffing of the saddles should be destroyed, being moth eaten, but the Board do not think it advisable to restuff them unless required for immediate issue, as they would probably again become infested with moths after being kept some years in store.

The Board have only concerned themselves with the present remains of stores, not with the *receipts* and *issues* of the past or preceeding years, which have been sent to the Director of Stores at Ottawa by the storekeeper, and no copies of such receipts and issues kept by him, except in day books.

The ammunition in reserve charge is not shewn on the ledger, but a monthly return of receipt, expenditure and remains, is sent by the storekeeper to the Director of Stores, Ottawa.

The Board are of opinion that it would be advisable to convert eight 12 pr. B. L. R. Armstrong Gun sleighs to suit the 9 pr. M. L. R. guns.

With reference to W. O. Cir. 498, 7th November, 1859.

Par. 1. With respect to the examination of Ordnance, the Board represent that it is impossible to examine Ordnance at this season of the year. They do not consider the powder magazine and stores on the Island under proper military protection unless a sentry is placed over them day and night, which the present strength of the detachment of "B" Battery does not admit of. Extra sentries also will be necessary during the summer season at the gates in the fence lately erected. With reference to the state of the buildings, it is almost impossible to examine them at this season of the year in the Province of Quebec.

Par. 2. No ammunition for immediate service is made up, nor is it considered necessary at present, there being no expense magazine in charge of the Artillery officer.

Par. 3. No field guns and equipment in store.

Par. 4. The military stores in possession of the commanding officer of the detachment of artillery are in good order, but very limited in quantity.

There are no means of proving powder, and such means as might be extemporised are impracticable during this season of the year.

The Board notice a variety of patterns of small arms, which they consider it undesirable to retain, as likely to cause confusion, and would recommend their sale with the corresponding ammunition, viz :—

Spencer carbine,
 Starr do
 O. P. percussion carbine,
 O. P. do Enfield,
 Peabody rifles.

There appears to be an insufficiency of the following articles in the reserve stores, viz :—

Tube pockets, 4 only,
 Drag ropes, 1 pair only, 1 on charge,
 Parbuckle ropes, 1 only,
 Gun slings, 1 only, not on charge,
 Gun tackle, 2 sets,
 Gyn falls,
 Straps or salvages for mounting guns, none
 Short oak skidding,
 Long skids.

JOHN FLETCHER, Lieut.-Col.,
 D. A. G., M. D. 5.
 A. C. DE LOTBINIERE-HARWOOD, Lieut.-Col.,
 D. A. G., M. D. 6.
 T. B. STRANGE, Lieut.-Col.,
 Inspector of Artillery.

G. POPE, Captain,
 Storekeeper.

Montreal, January 19, 1875,

(A.)

RETURN of Stores to be Surveyed to ascertain their present condition, considered unserviceable by the Storekeeper.

Articles.	Number.	State after Survey.	
<i>From Reserve :</i>			
Brushes, long sweeping	3	}	
Handspikes, common	20		
<i>From District Stores :</i>			
Infantry belts of sorts	22	} Unserviceable.	
do Frogs	8		
Rifle belts pouch	2		
do Frogs	78		
Accountrements.. do Slings	58		
Dyed black belts pouch	45		
do do Waist	18		
do do Frogs	17		
do Slings	30		
Carbines, Spencer	5		
Muskets, Snider	1		
Scabbards, bayonet	14		
Blankets, grey	47	} New, but unfit for issue having no trigger finger.	
Mitts, Infantry, prs	55		
Clothing..	Tunics, of sorts	86	
	Trousers, prs	60	
	Forage caps	62	
	Chacoos	11	
	Great coats	100	
Bottles, water	24	} Unserviceable.	
Covers, mess tin	119		
Haversacks, white	64		
Knapsacks, Infantry	85		
do Rifle	8		
Mess tins	68		
<i>From Quarterly Return :</i>			
Barrels, quarter	22	} Repairable, vide Report of Board.	
Scales, weighing	2		
Brushes, paint, of sorts	8		
Pots, paint	2		
Pontoons	50		
Shovels, iron	1		
	Bits, bridoon with reins		12
	Breastplates		21
	Bridles, portmouth		22
	Cases horseshoes		24
	Collars, headstall		7
	Cruppers		25
Saddlery, O.P.	Girths, web	19	
	Holsters, prs	26	
	Irons, stirrup	52	
	Leathers do	48	
	Pannels, saddle	28	
	Saddles	29	
	Straps, shoe-case	13	
	Surcingle, leather	2	
Cases, bed	9	} Unserviceable.	
<i>From Obsolete Stores :</i>			
Accountrements. pouches, per. cap.	Infantry	4,617	} Obsolete, unfit for issue,
	Rifle	488	
	Dyed black	839	
	Military School	119	

(A.)—RETURN of Stores to be Surveyed, &c.—*Continued.*

Articles.	Number.	State after Survey.
<i>From Ordnance Stores.—Continued.</i>		
Carbines, Cavalry, O.P., percussion.	11	} Obsolete and unserviceable.
Muskets, Enfield, pu. '53.	18	
Bayonets.	8	
Swords, Cavalry, O.P.	111	
Saddlery, O.P. buckets, carbine.	80	
<i>From Military School :</i>		
Compasses, iron.	1	Serviceable.
Cords, measuring.	1	Unserviceable.
Bags, sand.	10	} Serviceable.
Models, wood.	1	
Boots, Anle, prs.	4	} Unfit for issue, recommended for sale
Blacking, tins of.	3	
Brushes, of sorts.	14	
Combs, large.	2	
Holdalls.	3	
Knives, forks and spoons (each).	4	
Razors.	1	
Shirts, calico.	4	
Socks, pairs.	3	
Sticks, button.	2	
Towels.	1	} Transferred to D.A.G., Mil. Dist. No.
Books, of sorts.	10	
Chairs.	2	
Cupboards.	1	
Desks.	1	
Forms, wood.	2	
Tables.	3	
Trestles.	4	
Padlocks.	4	
<i>From Reserve, &c. :</i>		
Carriages, Garrison, wood, gun, 24 pr.	2	Repairable.
Wheels, gun carriage (Field).	9	Unserviceable.

JOHN FLETCHER, Lieut.-Col.,
D. A. G., M. D. No. 5.

A. C. DE LOTBINIÈRE-HARWOOD, Lieut.-Col.,
D. A. G., M. D. No. 6.

T. B. STRANGE, Lieut.-Col.,
Inspector of Artillery.

S. POPE, Captain,
Storekeeper.

MONTREAL, January 19th, 1875.

LIST of Articles Repairable and Unserviceable in possession of the Detachment "B" Battery, School of Gunnery, St. Helen's Island.

Articles.	Number.	State after Survey.
Gyn.	1	Repairable.
Skids, 16 x 12 x 10.	2	} Unserviceable.
9 pr. Carriage Wheels.	2	
Iron Shovels.	3	
5-foot Common Handspikes.	40	
24 pr. Standing Carriage.	1	

C. A. LA RUE, Lieut.,
Commanding Detachment, St. Helen's Island.

JOHN FLETCHER, Lieut.-Col.,

D. A. G., M. D. No. 5.

President of the Board of Survey.

MONTREAL, January 19th, 1875.

 QUEBEC.

Proceedings of a Board of Survey assembled at Quebec, on the 25th, 26th, 27th, 28th, 29th and 30th days of January, 1875, under authority of Militia General Orders of the 4th of December, 1874, for the purpose of carrying out the instructions therein contained.

PRESIDENT—Lieut.-Col. L. A. Casault, C. M. G., D. A. G., M. D. No. 7.

MEMBERS—Lieut.-Col. T. B. Strange, Inspector of Artillery, Capt. F. Lampson, Store keeper M. D. No. 7.

The Board having assembled, proceeded to examine the stores in charge of the storekeeper as well as those on Artillery charge of the Commandant of the School of Gunnery, and have the honor to report that the said stores (with the exception of those hereinafter reported to be condemned), were found to be in good order, and in accordance with the store ledgers of the Commandant of the School of Gunnery, and of the storekeeper.

With reference to extract from W. O. Letter, circular 498, referred to in paragraph 4 of Militia General Orders (32), 4th December, 1874, Artillery Branch, paragraph 1, the Board beg to report that they have carried out their instructions in so far as was practicable at this season of the year, but that owing to the severity of the weather and the quantity of snow on the ground they were unable to comply in many respects with the said instructions.

The proportion of made-up ammunition, allotted for immediate service of the mounted ordnance, are for Sea Fronts two hundred rounds per gun; for Land Fronts one hundred rounds per gun, and the Board is of opinion that in view of the obsolete character of a large part of the present armament which should be exchanged for rifled guns, if any defence is contemplated, it would not be advisable to keep a larger proportion of ammunition made up for smooth bore guns.

A small proportion of the guns were lacquered and carriages repainted last year; a large proportion of the carriages now require painting.

All ammunition allotted for immediate service of mounted ordnance in charge of the Commandant of the School of Gunnery is made up, and with the exception of a small quantity for the service of the noon and evening guns there is none loose in the bags of the Magazine, which the Board presumes is intended by the query "What quantity is loose in the bags?"

There are only two small expense magazines used as such by the Commanding Officer of Artillery, these are situated in the Citadel. There are three other magazines, D., E., and F., in which the stores belonging to the armament of the Land and River Districts, were placed for safety on the removal of the Palace, Hope and Prescott Gate Guard Rooms.

These magazines as well as A. and B. Magazines in military store charge, and situated on the Citadel, are in the opinion of the Board entirely without adequate military protection.

By the regulations in force in the Imperial Service it is strictly provided that all magazines should be guarded day and night by military sentries, but owing to the small numerical strength of the garrison at this station and the numerous duties already imposed upon them, this has been found impracticable, and the attention of the militia authorities is particularly directed to this point, which in the opinion of the Board should not be overlooked.

All the magazines at Quebec are bomb proof.

The service field guns and equipment are under suitable cover and protection, and are in an efficient condition, except that the ammunition waggons and their limbers require to be altered and refitted to suit the rifle ammunition.

The military stores in possession of the Commanding Officer of Artillery (with the exception of the fact before alluded to that most of the armament is unrifled) are of a serviceable character, and to a great extent fit for the requirements of the service.

With the exception of a proper proportion of tin cups, and the obsolete character of the pillar fuzes which have been condemned in the Imperial Service, and ordered to be replaced by Pettman's General Service Fuze, these stores are in just proportion.

The articles deficient are :—

Tin cups.....	1,000
Petman's General Service per Fuze.....	1,000
Fuze's time, wood, 20 sec	1,000

Military Store Branch.

The number and condition of the several articles in military store charge as found by the Board, will be found in detail in the statement annexed which the Board have the honor to submit. The portion of these stores, which in the opinion of the Board are obsolete and unfit for service, will be found in the column for remarks in said statement.

The Board desires to make the following recommendation :—

1st. That the smooth bore guns of the 18-pr. Battery be replaced by the rifled guns, with a proportion of ammunition. The carriages will be equally suitable for rifled guns, with slight alterations. A powerful battery of position would thereby be provided, which should be kept complete.

2nd. That a due proportion of wheel sets of harness be procured in order to complete the equipment.

The same remarks as to the deficiency of tin cups, Petman's General Service pr. fuze, 20 sec. wood time fuze, above made under the head of Artillery Branch, applies equally to the Store Branch, and in the opinion of the Board the following should be procured :—

Cups, tin.....	2,500
Fuzes, Pettman's General Service pr.	2,500
Fuzes, wood, time 20 sec.....	2,000

The Board further desires to remark, that there are no 24-pr. shot in reserve charge and a very small proportion of 24-pr. shell, and as the principal part of the armament of Quebec is of this calibre, this question requires immediate decision, and the Board is of opinion that it would be desirable, instead of purchasing a further supply of 24-pr. ammunition for an armament now obsolete to exchange that armament for 64-pr. converted Palliser Rifled Guns, for which the present carriages and platforms would be suitable.

There is also a deficiency of 9-pr. smooth bore ammunition, with respect to which the general principles of the above reports equally apply.

With respect to the examination of buildings and works the Board begs again to direct attention to the unsuitableness of the season for such examination which they have only been able to carry out to a limited extent. The Board would recommend that the premises known as the Artillery Barracks be occupied by some of the *employes* of the Militia Department who would be useful in looking after the premises and prevent trespassing and injury being done.

The Board is of opinion that the storekeeper should be authorized to procure and keep on hand a sufficient supply of glass and other material in order that small repairs to the buildings may be promptly made as occasion requires, and thus prevent the unavoidable injury to these buildings which in their present state is now caused by the severity of the climate.

L. A. CASAULT, Lieut.-Col.,
D.A.G., Mil. Dist. No. 7.

T. B. STRANGE, Lieut.-Col.,
Inspector of Artillery and Commandant G.S.Q. }
FREDERICK LAMPSON, Capt., }
Storekeeper, M. D. No. 7. } Members.

SURVEY REPORT of Stores held at Quebec on the 25th January, 1875, as per District Ledger Charge.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repairable.	Cause of their having become unserviceable.	Board's Remarks.
	S.	R.	U. Ob.	S.	R.	U. Ob.			
(Artillery, belts, pouch.	119			119					
do waist.	92			92					
do Frogs, sliding.	752			752					
do Plates, waist.	114	15		114	15		Used by troops.		Should be repaired.
do Pouches, black	153			153					These pouches are without ornament, which, for the sake of uniformity, should be provided.
do Slings, carbine	571			571					Repairable, to be repaired.
Cavalry belts, waist,									To be sold.
N. P.	13	5	14	8	5	14	Received from Toronto		do
Cavalry belts, waist, %	90		47	90		47		Worn out.	Received from troops
Infantry, bags, ball.	421			421				Received from troops saturated with oil.	Worn out as received from troops.
do Belts, pouch.	334		41	334		41			To be used to repair accoutrements.
do do Waist.	511			511					Should be sold.
do Frogs, buff.	459			459					
do Lockette, union	1,477			1,477					
do Pouches, 50 rds.	484			484					
do do 40 rds.	596			596					
do do 20 rds.	633	8		633	8				
do Bottles, oil.	608			608					
do Slings, musket	571			571			Used by troops.		Should be repaired.
Rifle, bags, ball.	1,436			1,436					Should be sold.
do Belts, pouch.	58			58					
do do Waist, S.S.	740			740					
do do do R.F.	785			785					
do Frogs, sliding.	52			52					
do Knobs, sword, S.S.	3,856			3,856					
do Slings, rifle.	335			335					
All rank's haversacks, black.	1,529	2		1,527		4		Worn out as received from troops.	Should be sold.
All rank's haversacks, white.									

Accoutrements.

SURVEY REPORT of Stores held at Quebec on the 25th January, 1875, as per District Ledger Charge.—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repairable.	Cause of their having become unserviceable.	Board's Remarks.
	S.	R.	U. Ob.	S.	R.	U. Ob.			
Ammunition.									
{ Snider, ball.....	166835			166835					
{ do blank.....	438535			438535					
{ Colt's, ball.....	27,300			15,300	12,000		From age and damp.	Should be sold.	
{ Barrels, cartridge, quarter.....	336	3		336	3		Received from troops.....	Have since been repaired.	
Boxes, small arm.....	335			335					
Boxes.....	10			10					
Rifles Snider, long, pattern 53, L. E.....	103	12	3	103	12	3			
Rifles, snider, long, pattern 53, S. B.....	147	16		147	16		Received from troops.....	Repairable to be repaired, the unserviceable to be converted and parts useful to be used in repairing arms, &c.	
Rifles, snider, short, pattern 60.....	9			9					
Arms, small.....									
{ Rifle, Enfield, long.....	14	15		14	15		In store.....	To be repaired.	
{ Bayonets, musket.....	30			30					
{ Swords, cavalry.....	79			79					
{ do Old.....	984	74		984		74	In store.....	Should be sold.	
{ Scabbards, screwed lockets.....	12,062	8		12,062	8		Received from troops.....	Should be repaired.	
{ do Plain do.....	6,691			6,691					
{ do Sword, patt. 60.....	9			9					
{ Bags, pin, cir.....	350	9	1	350	9	1			
{ Blankets.....	1,578	18	111	1,578	18	111			
{ Mallets, large.....	5			5					
{ do Small.....	479	39	1	479	39	1	Received from troops.....	Unserviceable to repair others.	
{ Pins, tent, large.....	68			68					
Camp equipment.....									
{ do Middling.....	509			509					
{ do Small.....	17,067	282		17,067		282	Received from troops.....	Repairable to be repaired, 20 of unserviceable to repair and the remainder to be sold.	
									The unserviceable pins and mallets to be destroyed.

SURVEY REPORT of Stores held at Quebec on the 25th January, 1875, as per District Ledger Charge.—Continued.

Description of Stores.	Ledger charge.		Present state.			Cause of their having become unrepairable.	Cause of their having become unserviceable.	Board's Remarks.
	S.	E. U. Ob.	S.	R.	U. Ob.			
Nitre Acid, ozs	2							
Nitre, sweet, spirits, ozs.	3		2					
Tincture of steel, ozs.	4		3					
Spirits of wine, ozs	3		3					
Vitriol, blue, ozs	1		1					
Cloth, emery, No. 1, quires and sheets	1-13		1-13					
do No. 1 ¹ / ₂	0-6		0-6					
Paper, sand, No. 1 ¹ / ₂	0-21		0-21					
do No. 2 ¹ / ₂	1-0		1-0					
Card, scratch, inches	8		8					
Sponges, pieces	2		2					
Bottles, with stoppers	4		4					
Cloth, Hessian, yards	22		22					
Tape, white, yards	450		450					
Thread, lbs., black	3		3					
do do Sall	3		3					
do do White	1		1					
Twine, lbs	13		12					
Glue, lbs	33		33					
Iron, hoop, lbs	22		22					
Nails, lbs., clout	8		8					
do do Rose	41		41					
Rivets, iron, lbs	2		2					
Timber, staves, oak	2		2					
Stretchers or bearers				2				
								Not fit to carry men, being of a pattern not suitable for the service required, the canvas can be used to repair tents. Two or more suitable stretchers should be made under the direction of the storekeeper.
								Instore received from Head-quarters
Buckles, iron, galvanized	74		74					
Rings, do	62		62					
Rods, do	7		7					
Rags, old, lbs	18		18					

Ingredients, &c., for arms.

Materials for repair of tents and barrack stores.

	173	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4
(Coats, great, blue)	173	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4	173	4	4
Caps, forgo	47	20	47	20	20	47	20	20	47	20	20	47	20	20	47	20	20	47	20	20	47	20	20
Trowsers, pairs	39	18	39	18	18	39	18	18	39	18	18	39	18	18	39	18	18	39	18	18	39	18	18
Tunics	102	39	102	39	39	102	39	39	102	39	39	102	39	39	102	39	39	102	39	39	102	39	39
Sings, knapsack	1,053	1	1,053	1	1	1,053	1	1	1,053	1	1	1,053	1	1	1,053	1	1	1,053	1	1	1,053	1	1
Straps for great coat	2,083		2,083			2,083			2,083			2,083			2,083			2,083			2,083		
do Mess tin	1,044		1,044			1,044			1,044			1,044			1,044			1,044			1,044		
<i>Miscellaneous.</i>																							
Nails, lbs.	39		39			39			39			39			39			39			39		
{ 6 inch	35		35			35			35			35			35			35			35		
{ 4 do	55		55			55			55			55			55			55			55		
{ 2 1/2 inch	44		44			44			44			44			44			44			44		
Oil, galls, qts. and pints.	2-1-0		2-1-0			2-1-0			2-1-0			2-1-0			2-1-0			2-1-0			2-1-0		
{ Olive	1-1-0		1-1-0			1-1-0			1-1-0			1-1-0			1-1-0			1-1-0			1-1-0		
{ Neatsfoot	1-0-1 1/2		1-0-1 1/2			1-0-1 1/2			1-0-1 1/2			1-0-1 1/2			1-0-1 1/2			1-0-1 1/2			1-0-1 1/2		
{ Kangaroo	2		2			2			2			2			2			2			2		
Bugles	80		80			80			80			80			80			80			80		
Bags, nose	324		324			324			324			324			324			324			324		
Bedstead, iron	2		2			2			2			2			2			2			2		
Buckets, well	3		3			3			3			3			3			3			3		
Bails, water	7		7			7			7			7			7			7			7		
Chests, arm	1		1			1			1			1			1			1			1		
Saws, with frames	1		1			1			1			1			1			1			1		
{ 3 feet	10		10			10			10			10			10			10			10		
{ 4 do	7		7			7			7			7			7			7			7		
Tapes, measuring	30		30			30			30			30			30			30			30		
Drums, ash	48		48			48			48			48			48			48			48		
Cases, packing	1		1			1			1			1			1			1			1		
Brushes, of sorts	10		10			10			10			10			10			10			10		
Buttons	7		7			7			7			7			7			7			7		
{ Horn	11		11			11			11			11			11			11			11		
{ Metal	30		30			30			30			30			30			30			30		
Emery, lbs.	1		1			1			1			1			1			1			1		
{ Fine	1		1			1			1			1			1			1			1		
{ Middling	1		1			1			1			1			1			1			1		
{ Packing	10		10			10			10			10			10			10			10		
Needles	7		7			7			7			7			7			7			7		
{ Sail	50		50			50			50			50			50			50			50		
{ Tailor's	1		1			1			1			1			1			1			1		
Spelter, lbs.	2		2			2			2			2			2			2			2		
Solder, lbs.	1		1			1			1			1			1			1			1		
Scap, lbs.	1		1			1			1			1			1			1			1		
Thimbles, tailor's	1		1			1			1			1			1			1			1		
{ Black lead, sets	1		1			1			1			1			1			1			1		
{ Shoe, sets	1		1			1			1			1			1			1			1		
Brushes	2		2			2			2			2			2			2			2		
{ Window	8		8			8			8			8			8			8			8		
{ Scrubbing	1		1			1			1			1			1			1			1		
Brooms, birch	8		8			8			8			8			8			8			8		
Lead, black, lbs	1		1			1			1			1			1			1			1		
Shovels, snow	3		3			3			3			3			3			3			3		

The repairable should be made available for issue as fatigue clothing and the unserviceable be sold.

Received from "B" battery..... Should be destroyed.

SURVEY REPORT of Stores held at Quebec on the 25th January, 1875, as per District Ledger Charge.—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become unrepairable.	Cause of their having become unserviceable.	Board's Remarks.	
	S.	R.	U.	Ob.	S.	U.				Ob.
(Middling, 3/4 inch.....	174				174					
do 5/8 do.....	276				276					
do 1 1/2 do.....	132				132					
do 2 do.....	205				205					
do 2 1/2 do.....	78				78					
(Fine, 3/4 inch.....	232				232					
do 5/8 do.....	222				222					
do 3 do.....	2				2					
do 6 do.....	6				6					
do 3 do.....	3				3					
(Bastard, flat, 10 inch.....	4				4					
do do.....	4				4					
do do.....	5				5					
do Half round, 10 inch.....	5				5					
do do.....	4				4					
Saw hand.....	4				4					
(do X cut.....	4				4					

L. A. CASAUULT, LIEUT.-COL.,
 D. A. G., Mil. District No. 7.
 FREDERICK LAMPSON, Capt.,
 Storekeeper, M. District No. 7.

SURVEY of Stores held at Quebec on the Battery.)

January, 1875. (18 pounder

Description of Stores.	Ledger Charge.				Present State.			
	S.	R.	U.	Ob.	S.	R.	U.	Ob.
Axes . { Felling, helved.....	8				8			
{ Pick, unhelved.....	8				8			
Axletrees, complete, { Carriage	1				1			
{ Limber, 9 por.....	1				1			
{ Platform, { fore	1				1			
{ hind.....	1				1			
Bags. { Fuse to hold 8.....	4				4			
{ Pin tent, circular.....	16				16			
Bars, splinter.....	4				4			
Bills, hand.....	8				8			
Bolts, tire. { 18 por.....	30				30			
{ 6 por.....	49				49			
Boxes. { Fuze to hold 8.....	8				8			
{ Wad and plug.....	4				4			
Buckets, leather, Cavalry.....	10				10			
Caps, sponge, painted.....	4				4			
Cartridges. { Calico burster, filled, 12 oz.....	168				168			
{ Flannel, { filled 6 lbs.....	800				800			
{ empty 6 lbs.....	120				120			
Carriages, travelling, complete.....	2				2			
Cases, leather, hand saw.....	4				4			
Couples for traces.....	17				17			
Cylinders, zinc.....	10				10			
Felloes, ash.....	6				6			
Fids, wood.....	1				1			
Files, saw, hand.....	8				8			
Fuzes, boxes, common.....	202				202			
Grease, kegs of.....	4				4			
Gyns, triangle, 18 feet.....	1				1			
Hammers, claw, small.....	2				2			
Hand screw, double.....	1				1			
Handspikes, 6 feet, common.....	10				10			
Heads, space. { Rammers.....	2				2			
{ Sponge.....	2				2			
Helves, axe, pick.....	8				8			
Implements, sets. { Fine sets, No. 1.....	4				4			
{ Shell sets, No 2.....	4				4			
Irons, priming sets.....	2				2			
Jacks. { Lifting.....	1				1			
{ Screw, R. P.....	1				1			
Kettles, camp, flanders.....	8				8			
Knives, laboratory, small.....	4				4			
Lanyards, fiction tubes.....	6				6			
Levers, wood, 9 feet.....	2				2			
Mallets, tent.....	32				32			
Marline skeins, white.....	4				4			
Match, slow, lbs.....	36				36			
Mauls, wood, common.....	4				4			
Nails, tire, cart, lbs.....	40				40			
Needles, brass.....	8				8			
Pickets, park.....	16				16			
Pincers, carpenters, pairs.....	4				4			
Pins. { Linch.....	6				6			
{ Tent.....	800				800			
Plugs, metal, common.....	16				16			
Points, pick.....	4				4			
Pockets, tube, leather, with straps.....	6				6			
Poles, tent, circular.....	16				16			
Portfires, L.S.....	48				48			
Punches, vent, iron.....	6				6			

SURVEY of Stores held at Quebec on the
Battery.)

January, 1875. (18 pounder,

Description of Stores.	Ledger Charge.				Present State.			
	S.	R.	U.	Ob.	S.	R.	U.	Ob.
Rammers, with slaves, 18 por.....	10				10			
Rollers, wood, shifting.....	1				1			
Rope, tarred, 3 inch, fathoms.....	113				113			
Ropes, drag, heavy, pairs.....	2				2			
Sampsons, wheelers.....	1				1			
Saws, hand.....	4				4			
Scales, tangent, wood.....	2				2			
Screws, preserving.....	8				8			
Sets, saw, hand.....	4				4			
Shafts, { Near.....	3				3			
{ Off.....	3				3			
Shovels, iron, common.....	16				16			
Shells, with plugs, complete, rivetted, 18 por.....	168				168			
Shoes, drag, without chains.....	2				2			
Shot, { Tin case, gun, 18 pounder.....	40				40			
{ Grap cal'n, 18 pounder.....	40				40			
{ Round rivetted.....	552				552			
Sights, millers. { Fore.....	2				2			
{ Hind.....	2				2			
Spades.....	8				8			
Spanners, McMahons.....	4				4			
Spikes, { Common.....	2				2			
{ Spring.....	5				5			
Spokes, oak.....	4				4			
Sponges, gun, 18 pounder.....	4				4			
Scissors, laboratory, pairs.....	4				4			
Staples, { Lashing.....	10				10			
{ Round Crown, { Large.....	3				3			
{ Small.....	9				9			
Sticks, portfire.....	8				8			
Stocksand dies, sets.....	1				1			
Streaks for wheels, { 9 pounder.....	5				5			
{ 6 pounder.....	3				3			
Swingletrees.....	12				12			
Tents, circular.....	16				16			
Thumbstalls.....	12				12			
Tools, chests of, { Smith's, jobbing.....	1				1			
{ Wheelers.....	1				1			
Tubes, { Brass.....	100				100			
{ Friction.....	900				900			
Valises, tent.....	16				16			
Vices, standing.....	1				1			
Wad-hooks with staves, 18 pounder.....	2				2			
Wads, guttapercha.....	184				184			
Washers, carriages, &c.....	7				7			
Wheels, { 9 pounder.....	4				4			
{ 6 pounder.....	2				2			
{ Platform.....	1				1			
Worsted, lbs.....	1				1			
Wrenches, sight.....	2				2			
Waggon, with timbers, complete, 18 pounder.....	4				4			
Ordnance, iron guns, 18 pounder.....	2				2			

L. A. CASALT, LIEUT.-COL.,
D. A. G., Mil. Dist. No. 7.
FREDERICK LAMPSON, Capt.,
Storekeeper, M. District No. 7.

SURVEY of Stores held at Quebec on the January, 1875, (7 inch equipment).—Continued.

Distribution of Stores.	Ledger charge.		Present state.			Cause of their having become unrepairable.	Cause of their having become unserviceable.	Board's Remarks.
	S.	R. U. Ob.	S.	R. U.	Ob.			
Adapters, fuze, boxers.....	1,727		1,727					
Cups, tin, B. L., 7 inch.....	108		108					
Extractors, tin cup.....	3		3					
Ferrousion, pillars.....	1,878		1,824					
Fuzes { Time boxers, wood, 9 seconds... do 20 do	1,824 Nil.		1,824 Nil.					
Implements, { Seigs, B. G., S. B., No. 4 Cases with hinges.....	2 4		2 4					
Locks, pad, brass.....	8		8					
Leather.....	5		5					
Primers, vent, piece.....	2,872		2,872					
Straps, tube, pocket.....	5		5					
Tubes, friction, copper.....	2,980		2,980					
Bushes { Breech, iron, thin, B. L..... Copper, vent, piece, sets.....	6 1		6 1					
Implements, facing, sets.....	1		1					
Locks, pad, brass.....	1		1					
Screws, breech, incomplete, 7 inch.....	1		1					
Levers, iron, releasing, vent, piece.....	3		3					
Ordnance iron, B. L., 82 cwt.....	3		3					
Pieces, vent, 7 inch, B. L., complete.....	19		19					
Pins, keep, lever.....	9		9					
Staves, wood, lifting, vent, piece.....	3		3					
Guages, iron, ring, { 7,095..... 708.....	1 2		1 2					
Plugs, metal { With loops, large..... Hollow, shot.....	2,053 340		2,053 340					
Shells, { Common, 7 inch..... Segment, do.....	1,687 365		1,687 365					
Shot, hollow, 7 inch.....	340		340					
Fittings, case of.....	3		3					
Pockets, tin cup.....	3		3					
Straps, tin cup.....	3		3					

Require 1 cup to each round in store

Obsolete, but should be kept in store for issue in emergency.

1878

Bits, vent, Armstrong.....	1
{ Packing.....	145
{ With hinges, (tool).....	1
Cases, { Facing implement.....	1
{ Locks, pad, with keys.....	1
Cylinders, zinc.....	99
Staves, sponge, 12 feet.....	14
Sight rifle, B.L., tangent with clamps..	1

L. A. CASAUULT, LIEUT.-COL.,
 D. A. G., M. D. No. 7.
 FREDERICK. LAMPSON, Capt.,
 Storekeeper, M. D. No. 7.

SURVEY OF STORES held at Quebec on the January, 1875. (Reserve Stores).

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repairable.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	U	S	R	U			
	Ob.					Ob.			
<i>Accoutrements.</i>									
Belts, waist, Infantry, buff	20			20					
Lockets, union	50			50					
Fouches, 20 rounds	80			80					
<i>Arms, small.</i>									
Caps, snap	5,863			5,863					
Chests, arms	10			10					
Scabbards. { Sword, Cavalry	50			50					
{ Leather, screw locket	2,999			2,999					
{ Bayonet, plain locket	3,000			3,000					
{ Swords, Cavalry, iron hilt	49			49					
<i>Camp Equipage.</i>									
Hooks, reaping	3			3					
Mauls, wood	3	2		3	2		Received from "B" Battery	Received from "B" Battery	Repairable to be repaired, in serviceable to be destroyed... ..
Bottoms, tent. { Circulars	200			200					
{ Officers	8			8					
{ Marquee, P	6			6					
Sheets, ground, water-proof	242			242					
Posts, picket	38			38					
<i>Harness and Saddlery.</i>									
Bits. { Harness	22			22					
{ T bridoon with reins	22			22					
Collars. { Headstall	28			28					
{ Neck	22			22					
Cruppers, Harness	22			22					
Girths, web	22			22					
Hames, iron pairs	22			22					
Heads, bridle	22			22					

SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores.)—Continued,

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repaired.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	U Ob.	S	R	U Ob.			
{ Baggage { Bucket, carbine..... { Bucket, stay Churn { Cloak, centre { Cloak and wallet { Holster { Girth { Suppering, mandes, front..... do rear..... { Horse shoe case..... { Surcingle, leather..... { Web, mande, pair..... { Breast, harness, rope, pair..... { Wallets, pairs..... { Traces { { Las 308 { Couples for traces..... { Light, brown, lb..... { Bag or seat, lb..... { Black, heavy, lb..... { White horse.....	105			105					
	142			142					
	106			106					
	6			6					
	50			50					
	104			104					
	30			30					
	47			47					
	47			47					
	114			114					
	96			96					
	50			50					
	33			33					
	10			10					
	63			63					
	7						7		
	131			131					
	43			43					
	6			6					
	120			120					
	100			100					
<i>Miscellaneous.</i>									
Bar, crow, of sorts.....	16			16					
Boxes, tin, plug or wad.....	20			20					
Books, hair, magazine.....	14			14					
Cordage, tarred, 3 fathoms.....	274½			247½					
Coins, wood of sorts.....			2			2			
Grease, lb.....	83			83					Received from "B" Battery.....
Handspikes, common, 6 feet.....	89			89					Should be destroyed.
Lanterns, tin, punched.....	2			2					
Locks, pad, iron, small.....	23			23					
Jacks, lifting.....	14			14					
Caps, muzzle, mortar.....			1			1			Received from "B" Battery.....
Needles, brass.....	961			961					Should be destroyed.

SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores)—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repaired.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	U	Ob.	S	B				Ob.
Gauges. { Iron ring, 32 pounder, hot... do 24 do do do 18 do do do 12 do gun, 5,024. do 32 do do 4,388 do 32 do do Pistol or shell, F.G. ... Fine grain ... Gunpowder, lb. { Large grain ... do 18 feet, complete do 18 feet, complete C. Handspikes, 6 feet...	1 1 3 3 5068 15 37 89,627 1/4 88,199 1/4 1				1 1 3 3 5068 15 37 89,627 1/4 88,199 1/4 1				No salting powder in store, L. G. serviceable is now used for the purpose. The Board recommend that a supply of salting powder be purchased from a Canadian manufactory.
rammers, carronade, 68 pounder... do 32 do do 24 do do 18 do Rammers, gun, 32 pounder... do 24 do Carronade, 68 pounder... do 42 or 32 pounder... Sponge, gun, 32 pounder... do 24 do do 18 do do 12 do Sponge, hour, 8 inch... do mortar, 10 inch... Hooks, shell, lug hand...	4 12 6 12 13 8 20 11 44 6 3 12 7				4 12 6 12 13 8 20 11 44 6 3 12 7				
Field, No. 1... do No. 2... do No. 3... Garrison, No. 2... do No. 3... do No. 4... do No. 5...	7 7 5 2 3 9 1				7 7 5 2 3 9 1				

shell and fuse.

SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores.)—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repaired.	Cause of their having become unserviceable.	Board's Remarks.	
	S	R	U	S	R	U				Ob.
Rammers, with staves, gun. { 8 inch 32 pounder. } 24 do	2			2						
do do 18 do	63			63						
do do 12 do	29	5		29		5				
Rivets, metal	9			9						
Ropes, drag, light, pairs. { 5,246 41	10			10						
(Howr, brass, 8 inch do 5 1/2 inch	5,246			5,246						
Gun, 8 inch, 65 cwt. } 1	41			41						
do do 33 cwt. } 1	2			2						
Wood, 24 do 50 cwt } 1	1			1						
do do 34 cwt } 1	1			1						
(68 pounder } 4	4			4						
Screws, elevating, carronade } 2	7			7						
do do 18 do } 24	24			24						
do do 12 do } 6	6			6						
do do 12 do } 2	2			2						
do do 12 do } 2	2			2						
Thurb, copper, tangent scale. } 29	29			29						
Iron elevating, carronade, 68 pr } 32	32			32						
Iron, fixing sights. } 1	1			1						
Scrapers, copper, shell. } 3	3			3						
do do 8 inch. } 10	10			10						
Shafts, spare. { Near } 8	8			8						
do do { Off } 8	8			8						
Gun, 8 inch. } 191	191			191						
do 32 pounder. } 2,512	2,512			2,512						
Common, 24 pounder } 1,070	1,070			1,070						
do 18 do } 801	801			801						
do 12 do } 99	99			99						
Common, rivetted, 24 pounder. } 584	584			584						
Mortar, 13 inch. } 60	60			60						
do 10 inch. } 1,429	1,429			1,429						
Gun, 32 pounder. } 254	254			254						
do 24 do } 1,871	1,871			1,871						
Diaphragm, 18 pounder. } 58	58			58						
do 9 do } 1,767	1,767			1,767						
do 8 inch } 50	50			50						

Received from "B" Battery To make handles for tools, &c.

Shoes, magazine, pairs	16	844
Shot, case, carronade	32 do	857
	18 do	204
	12 do	104
Case, gun, 68 pounder	1	1
do do	32 do	119
do do	24 do	83
do do	12 do	35
do do	9 do	1,017
Case, howitzer, 21 do	262	262
Solid, 12 pounder	35	35
Grape, carronade, 68 pounder	675	675
do do	24 do	76
do do	18 do	58
do do	12 do	84
Grape, Caffins, 8 inch	7	7
do Quilted, 12 pounder	15	15
Round, 32 pounder	450	450
do do	24 do	nil
do do	18 do	140
(Gun, 32 pounder, fore	1	1
do do	hind	1
do do	91 feet, fore	49
do do	9½ feet, hind	50
do do	48 cut, fore	17
do do	48 cut, hind	16
do do	42 cut, fore	8
do do	42 cut, hind	8
do do	34 cut, fore	5
do do	34 cut, hind	5
Carronade, 32 pounder, 4 feet, fore	3	3
do do	4 feet, hind	3
Spikes: { Gun, common	400	400
{ Spring, 24 pounder	28	28
(Carronade, 68 pounder	73	73
do do	24 do	95
do do	18 do	4
do do	12 do	45
do do	9 do	17
(Gun, 32 pounder	68	68
do do	24 do	105
do do	18 do	24
do do	12 do	16
Howitzer, 8 inch	20	20
do do	5½ inch	11
Mortar, 13 and 10 inch	9	9
do do	8 inch	10
Spongers with staves	73	73
	4	4
	45	45
	17	17
	68	68
	105	105
	24	24
	16	16
	20	20
	11	11
	9	9
	10	10

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SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores.)—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repaired.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	Ob.	S	R	Ob.			
Staves, wood, sponge, { 11 feet..... 8..... Of sorts..... 201..... Brass gun..... 3..... 113..... Straps, tube, box..... 3..... Scrapers, shell..... Swingstrees, general service..... 6..... 24 pounder..... 4..... Tampoons with wads, { 12 do..... 4,404..... Tubes, friction, copper { 68 pounder..... 32 do..... 23 do..... 24 do..... 73..... 18 do..... 2..... 5..... 18 do..... 8..... 12 do..... 3..... H.wr., 24 pounder..... do 32 do..... 19..... Gun, 24 pounder..... 88..... do 18 do..... 16..... do 12 do..... 8..... do 9 do..... 6..... do 24 do..... 1,020..... do 24 do..... 166..... Wads, {Grunnel, 33 pounder..... do do..... 7,179..... Gutta-percha, common..... 227..... Diaphragm..... 2..... Wad-millita..... 3..... Forage, general service..... 3..... General service..... 1..... Sling..... 1..... Ammunition, with limbers, gun, 9 pr do do..... 4..... H.wr., 24 pr..... 4..... Washers, carriage..... 38..... Knockup..... 3..... Wrenches, {Sight, L.S..... do..... 20..... Handle, with bar platform..... 1.....	19			19					
						2	Received from "B" Battery.....		Should be given to Armour Sergeant for jobbing.
									Should be repaired; two new hind wheels imported from the Royal Carriage Department, Woolwich

	6	2	6	2	Received from "B" Battery.	Should be repaired.
Ordnance, guns, 6 pounder.						
do do Howr., 24 pounder.	2		2			
do do do 12 do	14		14		Received from "B" Battery.	
Ammunition gun, S. E. 6 pr.	4		4			
do do B. L., 12 pr	2		2			
do do Howr., 24 pr.	5		5			
do do do 12 pr.	1		1			
Small arm.	3		3			
Store						
<i>Necessaries, Soldiers.</i>						
Knives, clasp.	84		84			
Covers for.	236		236			
Mess tins. } Tins	180		180			
<i>Barrack Stores.</i>						
Bedsteads, hospital	26		26			
Blankets, do	187		139	48	Moth eaten before leaving the Imperial Store.	
Broom, bass.	12		12		Received from "B" Battery.	Should be repaired.
Cases, bolster barrack.	2,214		2,214	40		
Cases, } Slip, bed, P.	76		76			
do do do	28		28			
Palliassees, barrack.	1,580	12	1,580	12	21	Should be sold.
Rugs, barrack.						
Rugs, hospital.	51	100	51		100	Repairable, to be repaired; un-serviceable, to be sold, except 8 to repair; others, the rugs should be sold.
Sackings, bed	43		43			
Sheets, barrack.	2,601	63	2,601		63	
Bolsters, hospital	2		2			
Boxes, sentry	17		17			
<i>Articles, Pictures.</i>						
Chests, money	1		1			
Guards, window.	10		10			
Lead, sheet, cut	4		4			
Pans, ash	10		10			
Stanchions	227		227			
Stands, store.	12		12			
Stoves, common	12		12			
{ 32 pounder	2,749		2,749			
do 24 do	4,466		4,466			
do 58 do	1,893		1,893			
Shot and shell bases. } 12 do	1,670		1,670			
{ 13 inch	333		333			
{ 10 inch.	313		313			
{ 8 inch.	1,056		1,056			

SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores.)—Continued.

Description of Stores.	Ledger charge.		Present state.			Cause of their having become repaired.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	S	R	U Ob.			
Skidding, iron, feet.....	719		719					
<i>Articles in Magazine.</i>								
Azdes, coopers, handled.....	5		5					
Barrels, budge (copper hoops).....	4		4					
Barrows. { Powder.....	2		2					
{ Truck, magazine.....	5		5					
Brooms, hair, handled.....	5		5					
Bells, call.....	1		1					
Drivers. { Screw, G.M., 12 inch.....	8		8					
do 6 inch.....	3		3					
{ Wood, copper shod.....	5		5					
do.....	49		49					
Hides, tanned.....	4		4					
Hooks, can, copper.....	2		2					
Knives, laboratory, G.M.....	3		3					
Keys for opening cases.....	3		3					
Ladders, step.....	3		3					
Measures, copper, quart.....	2		2					
Pincers, G.M., pairs.....	3		3					
Pots, watering, copper.....	3		3					
Scissors, laboratory, pair.....	3		3					
Shoes, magazine, pairs.....	19		19					
Shovels, copper.....	2		2					
Tackles, hoisting.....	2		2					
Boards, inventory.....	50		50					
<i>Articles in Workshops.</i>								
Azdes. { Rounding.....	1		1					
{ Chequered head.....	1		1					
Anvils. { Forge, cart.....	1		1					
{ Smiths.....	1		1					
Augers, screw.....	6		6					
{ Large.....	1		1					
{ Middling.....	1		1					

SURVEY of STORES held at Quebec on the January, 1875. (Reserve Stores.)—Continued.

Description of Stores.	Ledger charge.			Present state.			Cause of their having become repairable.	Cause of their having become unserviceable.	Board's Remarks.
	S	R	U	S	R	U			
	Ob.	Ob.	Ob.	Ob.	Ob.	Ob.			
<i>Instruments, Mathematical.</i>									
Levels, tangent, scale and cases	5				5				
<i>Tools, Artificers.</i>									
Heat or forge armours, Dods	1				1				
Adze, handled	6				6				
Cases, leather, hand saw	15				15				
Drivers. { Metal, socket	5				5				
{ Wood, shod	8				8				
{ Metal, claw, 28 oas.	3				3				
Plummers, lead	3				3				
Pincers, carpenters, pair	4				4				
Spanners, McMahon. { 9 inch	7				7				
{ 15 inch	23				23				
Horns, powder	24				24				

L. A. CASALTY, LIEUT.-COL.,
D.A.G., Mil. Dist. No. 7.
FREDERICK LAMFSON, Capt.,
Storekeeper, Mil. Dist. No. 7.

FREDERICTON, N. B.

Proceedings of a Board of Survey assembled in Military District No. 8, on the 7th, 8th, 9th and 11th days of January, 1875, under General Orders (32) No. 4, of the 4th December, 1874.

PRESIDENT—Lt.-Col. George J. Maunsell, D.A.G.

MEMBERS—Lt.-Colonel D. R. Jago, Artillery ; Lt.-Colonel J. Evans, District Storekeeper.

(1). The Board having inspected the stores and ammunition in possession of the District Storekeeper, found that the numbers, as shown and borne on the district store ledger, agree in every particular, and that as to the state thereof, they consider them to be in a serviceable condition, except such stores as are shown in enclosed Lists, marked A, B, which are recommended to be condemned and sold by auction without delay, the clothing being for the most part moth-eaten.

(2). The Board having examined all military buildings in militia charge, are of opinion that the buildings shown thus* in the accompanying lists, marked C, D, being unoccupied, are, as to their general condition, rapidly deteriorating, the details of such immediate repairs necessary being marked on the list.

The Board takes this opportunity to draw the attention of the authorities at headquarters to Lt.-Colonel Evans' suggestion, 28th October, 1873, endorsed by the Deputy Adjutant General on his submitting it for the consideration of the Adjutant-General, to the effect that the families of active militia-men of good character should be allowed to occupy the soldiers barracks at St. John.

Moreover, if the Deputy Adjutant-General's recommendation recently submitted be acted upon, as to the infantry soldiers' barracks at St. John being utilized, in the event of the erection of a drill shed on the barrack grounds, both the artillery and infantry soldiers' barracks would, by being occupied in the manner indicated, be kept in a serviceable condition, while the officers quarters, even if unoccupied, being of stone, would be far less liable to be affected by the damp climate of St. John than the wooden buildings referred to.

The fences round the barrack ground at St. John require repairs, also that at Red Head, Carleton Tower and Partridge Islands, and Fort Howe magazine.

(3). The Board having made an inspection of the ordnance, ammunition, warlike and other stores and munitions in possession of the storekeeper, are of opinion that they are in serviceable condition.

The Board desires to add the following recommendation, that in future Boards of Survey be directed to assemble during the autumn months, after the completion of the annual target practice of artillery, the better to be enabled to inspect and recommend repairs to ordnance and earthworks.

Respectfully submitted.

GEO. J. MAUNSELL, Lt.-Col.,
D.A.G., President.
DARRELL R. JAGO, Lt.-Col., Artillery.
JOHN EVANS, Lt.-Col., Storekeeper.

(A.)

LIST OF STORES condemned by Board of Survey at St. John, N.B., on
January, 1875.

Description.		Ob.	U.
	Bags, pin, marquee, H		3
	Tents, circular, linen.....		1
	Barrels powder, common.....		101
	Basins, washing, earthen.....		20
	Blankets		9
	Boots, pairs, O.P.....		37
Clothing.	Artillery—Jackets, cloth.....		4
	do Caps, forage.....		10
	do Tunics, cloth.....		22
	do Trowsers, serge.....		25
	Infantry—Tunics, cloth, O.P.....	31	
	do do cloth.....		64
	do do serge.....	249	
	do Caps, forage, serge.....	236	
	do Trowsers, serge.....		35
	Rifles—Tunics, cloth.....		6
do Trowsers, serge.....		14	
do Coats, great.....		403	
	Poles, tent, circular.....		23
	Pins, tent, small.....		19
	Scales, weighing.....		1
	Stoves, of sorts.....		4
	Stays, for targets.....		1
	Targets, iron.....		1
	Mallets, tent.....		6
	Hoops, copper.....		403

The whole of the accoutrements in this district are obsolete, and the greater part are unserviceable, as reported by Board of Survey, 1874. They are now condemned, and a fresh issue solicited.

GEO. J. MAUNSELL, Lt.-Col.,
D.A.G., President of Board.

(B.)

LIST OF STORES condemned by Board of Survey at Fredericton, 11th
January, 1875.

Description.	Ob.	U.
Boots, pairs, O.P.....	50	
Carbine, buckets.....	140	
Coats, great.....		40

GEO. J. MAUNSELL, Lt.-Col.,
D.A.G., President of Board.

(C.)

List of Barrack Buildings, St. John.

- *Artillery Barracks,
- *Cookhouse,
- *Armourer's Shop,
- *Collar-maker's Shop,
- *No. 1 Stable,
- *No. 2 Stable,
- *Lavatory,
- *Harness Room,
- *Wheeler's Shop,
- *Three Orderly Rooms,
- Officers Quarters and Mess Room—New sill to porch required ; outside woodwork requires painting.
- *Ration Store,
- Gun Shed—Occupied by the District Storekeeper,
- *Main Guardroom—Part wood and part brick,
- *Infantry Barracks—New floor to verandah required ; ceiling in two rooms require repairs.
- *Tailor Shop,
- *Lavatory,
- *Cookhouse,
- *Engine House,
- *Canteen,
- Hospital—Lent to Board of Health ; occupied by Board.
- Gun Shed—Side-arm shed requires new roof.
- *Armourer's Shop—Brick.
- Military Store—Occupied by the District Storekeeper.
- do No. 1, do do do
- Commissariat Office, do do do
- *Ordnance Guard Room,
- *Engineer Workshop.
- Commissariat Store, No. 1—Leased ; occupied.
- do No. 2 do do

General Remarks.

- (1.) All woodwork exposed to weather, roofs excepted, requires painting.
- (2.) Broken glass reported by District Storekeeper and Board requires repairs.

GEO. J. MAUNSELL, Lt.-Col.,
D.A.G., President.

(D.)

List of Barrack Buildings, Fredericton.

- Soldiers Barracks—In charge of Provincial Government, in good condition.
- Officers Square.
- A House—Custom House in good condition.
- B do Militia Storekeeper's charge in good condition.
- C do Office of D.A.G.'s roof requires repairs.
- D do School Trustees—Good condition.
- Militia Store—Requires painting outside.

Partridge Island, St. John.

Guard House—Requires slight repairs (new platform outside door) and painting; being unoccupied, is deteriorating. Magazine roof requires repairs. Storehouse roof requires repairs.

Carleton Tower, St. John.

- (1.) Gun Shed on top of tower has been blown off and destroyed.
- (2.) Sidearm sheds require roof.

GEO. J. MAUNSELL, Lt.-Col.,
D.A.G., President.

Referring to the memorandum of extracts from War Office letter, &c., dated Dec. 4th, 1874, the Board make the following answers to the questions therein proposed :

Artillery.

Q. 1.—A. They are all in a serviceable condition and working order, and their proportion of side-arms and small stores are under proper military protection.

The carriages need painting, it having been last done in 1872, and they are all much exposed to the weather.

The guns also require examination by an armourer sergeant, as some of them have fired sufficient rounds to call for an examination. The guns would all be better for lacquering, particularly their boxes, which might be done by resident caretakers if extra pay and materials were allowed. They were last done in 1872.

Q. 2.—A. There is no regular proportion of made up ammunition, there being about six hundred rounds of all descriptions given over by the Imperial Government at the same time as the guns.

Q. Is this sufficient?—A. Taking into consideration the obsolescence of the armament, we consider that it is so.

Q. What quantity is loose in bags?—A. None.

EXPENSE MAGAZINE.—The one in Dorchester Battery is in a ruinous condition, and has shared in the general destruction of all the earthworks from the action of the weather. It is certainly not bomb-proof.

The one at Partridge Island leaks badly.

At Partridge Island there are two 68-pounder gun carriages that require new cheeks.

Q. 3.—A. The service field guns are in good and efficient condition, together with their carriages, with the exception of one 6-pounder gun and one 12-pounder howitzer carriage which are unserviceable. They are all under suitable cover and protection.

Magazine.

The contents of the magazine were in excellent order, but the Board consider that the amount of loose powder in reserve (20 barrels) is far too small, and recommend that, as St. John is the distributing point for the whole Province, there should always be in reserve in the magazine at least one hundred (100) barrels.

Field Artillery.

NEWCASTLE FIELD BATTERY.—The gun carriages urgently require painting, this service having already been estimated for without effect. The guns and carriages are much exposed to the weather. The Board recommend that Lt.-Col. Foster's suggestions, embodied in his report of inspection this year as to erection of gun shed, be carried into effect.

CHATHAM.—The Board desire to call attention to Lt-Col. Jago's suggestion in his report for 1873, as to the proper position of the 24-pounder guns in charge of No. 7 Battery. The carriages of all the guns of position in New Brunswick require painting. From what the Board were able to see of the following earthworks, they being covered with snow, it appeared they are much damaged from the action of the weather, and it is recommended that authority be granted for their repair in the spring:—"Dorchester Battery," Partridge Island, Fort Tipperary, Saint Andrews. At Partridge Island the brickwork at gateway to fort requires re-laying.

HALIFAX.

Proceedings of District Board of Survey held at Halifax, N.S., in accordance with General Order dated Ottawa, 4th December, 1874, on the 3rd February, 1875.

PRESIDENTS—Col. J. Wimburn Laurie, D.A.G.

MEMBERS—Lieut.-Col. Jago, Capt. George Guy.

The Board having met pursuant to order, proceeded to inspect the drill shed and buildings adjacent, and the ordnance used for drill purposes as well as the Field Battery guns, &c., and have to report as follows:—

ARTILLERY BRANCH.

Guns in Drill Room.

1. There is no ordnance mounted in defensive positions in the neighborhood of Halifax in charge of the Militia. The guns mounted in drill room, as per return A., enclosed are in a serviceable condition and working order with side-arms and small stores complete, under charge of a caretaker employed for that purpose.

The carriages and platforms require some small repairs to the wood work and re-painting, and the guns lacquering; this has not been done since the year 1868.

Guns in Drill Yard.

The carriages of the 32 pounder guns, on return B., are mostly unserviceable through exposure to weather, but are available for drill purposes, the guns want lacquering badly, the carriages re-painting, and the plank platform on which they are placed is so rotten that the trucks have sunk down and the guns cannot be run forward or back.

Guns in Store without Carriages.

4. Eighteen pounder guns removed from the site of the Dartmouth drill shed which was burnt down about three years ago, are under storekeeper's charge; they are of no service to the Militia, and it is recommended that they be disposed of.

Carriages without Guns.

7. Standing carriages sea-service pattern are also in possession; they are quite unserviceable, and should be disposed of, the iron work may, however, be useful if a fresh supply of carriages should be required.

No Magazine.

2. As there is no ordnance mounted for service in the neighbourhood of Halifax under Militia charge, and as there is no magazine belonging to, or in charge of, Militia, no supply of service ammunition is maintained. Practice ammunition for the artillery is drawn as required from the Imperial magazines.

Field Guns and Field Gun Shed.

3. The six Armstrong guns (6 pounder) in charge of the Halifax Light Battery are in an efficient condition, carriages, &c., lately painted, but the field gun shed is racked out of shape, damp under foot, and roof leaky, and it has shifted from the wall against which it was built, leaving the back partly open, so that it has been found necessary to dismount the guns and store them away for safekeeping and preservation, and the Board strongly recommend that the shed be repaired.

Artillery Stores.

4. There are no artillery stores in possession other than those enumerated.

Drill Sheds.

The infantry and artillery drill buildings have been lately re-roofed and re-painted and colored inside, and they are in good order; the floor of the former is very damp, owing, probably, to a drain being choked and backing up the water; the Board recommends that this drain be opened up and extended to a proper outfall.

Armoury.

The former armoury having been vacated by the stores is now available for its proper purpose, and the Board recommend that the proposals of the Deputy Adjutant General for its adaptation for use as an armoury for the City Brigade be carried out.

Coal Cellar.

As the coal for use in drill shed and offices is stored in the field gun shed over 50 yards away owing to the want of a coal cellar, the Board recommend that the underground room at present used for the Deputy Adjutant General's office be converted to that use.

Offices for Militia Staff.

And that a suitable building for offices for the Militia Staff be erected fronting on the street.

Militia Stores.

The Board next proceeded to inspect the Militia Stores and find that the number of articles in possession of the Military Storekeeper correspond with the entries on the District store ledger, several items taken indiscriminately having been carefully counted and found correct.

Articles to be disposed of.

A list of articles marked C. is herewith enclosed and the Board would recommend that these articles be disposed of as shewn in the column of remarks opposite each item.

Naval Brigade Clothing.

As there appears but little prospects of the Naval Brigade clothing being utilised in this district, the Board would suggest that this clothing which is new might be transferred to another part of the Dominion where a permanent force is maintained, and where it might be made available for issue as a working dress, or it would be suitable for such an organisation as a river police.

Store Building.

The roof of the store building is not watertight, and as the stores may be damaged, the Board would recommend that the building should be placed in a proper state of repair. The Board then adjourned.

J. WIMBURN LAURIE, COLONEL,
D.A.G., Commanding Mil. Dist. No. 9,
President.
DARELL R. JAGO, Lieut.-Col.,
Artillery, N.B.
GEORGE GUY, Captain,
Storekeeper.

Halifax, N.S., February 4th, 1875.

(C.)

LIST of obsolete and unserviceable Stores passed by Board of Survey at Halifax, N.S.

Articles.	Number.		Remarks.
	O.	U.	
<i>Accoutrements.</i>			
Slings, musket.....		14	Should be disposed of.
Pouches, 50 rounds.....		33	May be utilized.
<i>Arms.</i>			
Rifles, Enfield, short.....	2		Should be disposed of.
<i>Camp Equipment.</i>			
Blankets, grey.....		26	23 should be disposed of; 3 repaired.
Tents, circular.....		1	Repairable, should be repaired.
<i>Clothing—Artillery.</i>			
Great coats.....		2	Should be disposed of.
<i>Clothing—Infantry.</i>			
Tunics.....		110	May be utilized.
Trousers.....		93	do
Great coats.....		28	Should be disposed of.
<i>Clothing—Naval Brigade.</i>			
Trousers.....	500		May be utilized.
Jackets.....	500		do
Drill blouses.....	780		do
Caps.....	500		do
<i>Miscellaneous.</i>			
Sets scales, small.....		1	Should be disposed of.
Brushes, hair.....		1	do
Haversacks, white.....		299	May be utilized.
Medicine chest.....		1	To be repaired and re-filled.

J. WIMBURN LAURIE, Colonel,
D.A.G., Commanding Mil. Dist. No. 9.

Halifax, N.S., February 4th, 1875.

 FORT GARRY.

Proceedings of a Board of Survey assembled at Winnipeg in accordance with General Order No. 4, dated Ottawa, December 4th, 1874.

Detail of Board.

PRESIDENTS—Lieutenant-Colonel W. Osborne Smith, C.M.G., D.A.G., Military District No. 10.

MEMBERS—Major A. Peebles, Supply Officer; Captain Allan Macdonald, Provisional Battalion of Infantry.

Pursuant to District Orders, the Board assembled on the 29th day January, and adjourning from time to time, and having inspected according to instructions laid down in General Orders (32) No. 4, of 4th December 1874, have now the honor to report.

Stores.

1st. That the state and number of the ordnance ammunition, warlike and other stores in possession of the Supply Officer in this district is as reported in return marked "A" attached hereto.

2nd. That the ordnance and stores in charge of the Officer commanding the Battery of Artillery on service here are of condition and number as reported in return marked "B" attached hereto.

"3rd. That return marked "C" shows the articles which the Board consider un-serviceable and should be either destroyed or disposed of.

Stores and Buildings.

The Buildings belonging to the Government occupied by the force on service here, are twenty-two in number, including the large stables and the bakery erected by the troops during the past year, these two latter buildings are in thoroughly good condition, but the whole of the buildings erected by the contractor in the autumn of 1873 are from the fact of hurried construction, with unseasoned lumber much in want of repair; the total cost of putting them into thorough order may be estimated at from three thousand to three thousand five hundred dollars.

The stores are at present housed in the entire of two, and a portion of a third of the men's huts, accommodation which though sufficing temporarily is not of a nature adapted for the due care of the valuable stores and arms in charge at this station.

The spare small arms (Snider Enfield) are stored in arm racks temporarily fitted up in one of the store huts.

A proper magazine is an urgent necessity to be constructed within the lines proposed for the circumvallation of the fort or barracks.

It appears to the Board most desirable that the fort or barracks should be enclosed at as early a date as feasible.

The danger of fire, and consequent heavy loss is greater on these exposed prairies and with wooden buildings than in other conditions, and the Board would respectfully recommend that a fire engine and hose be supplied to this station.

With reference to paragraphs 3 and 4 of Artillery Branch, and the latter portion of paragraph 3 of Military Store, the Board beg to forward herewith a report marked (D) with which they concur, made by Lieutenant Cotton of the Dominion Artillery in accordance with instructions from the officer commanding the District.

W. OSBORNE SMITH, Lieut.-Colonel.

A. PEEBLES, Major, Supply Officer.

A. MACDONALD, Captain, Prov. Batt. Inf.

Winnipeg, February 17th 1875.

(A.)

LIST OF ARTICLES in Store at Winnipeg, 30th January, 1875.

Articles.	No.	Remarks.	Articles.	No.	Remarks.
ACCOUTREMENTS.			CAMP EQUIPMENTS.—		
<i>Artillery.</i>			<i>Continued.</i>		
Belts, pouch	106		Marquee Valises	2	1 unserviceable
do waist	72		do Poles, sets	2	
Union Lockets	72		CLOTHING.—MILITARY DISTRICT No. 10.		
Pouches, 20 rd	109		<i>Artillery.</i>		
Frogs	72		Buttons, large	400	
<i>Infantry.</i>			do small	160	
Belts, pouch	284		<i>Rifle.</i>		
do waist	257		Chevrons, Sergeants	12	
Union Lockets	243		do Corporals	12	
Pouches, 50 rd	148		Shakos, complete	155	
Frogs	306		Tunics	110	
Ball Bags	265		<i>Infantry.</i>		
Oil Bottles	319		Great Coats	25	
Rifle Slings	235		Shakos, complete	75	
<i>Rifle.</i>			Grey Cloth, yds	202½	
Belts, pouch	707		Bugles	1	
do waist	615		MILITARY CLOTHING.		
Pouches, 50 rd	679		<i>Artillery.</i>		
do 40 rd	25		Great Coats	277	116 do
Frogs	692		Tunics, cloth	92	
Ball Bags	659		do serge	3	1 do
Oil Bottles	469		Trowsers, cloth	77	
Slings	643		Caps, forage	94	1 do
<i>Arms.</i>			do Sergeants, fur	3	
Snider Rifles, long	298		do Gunners, fur	75	
Bayonets	307		<i>Infantry.</i>		
Scabbards	310		Chevrons, Sergeants	6	
Snider Rifles, short	502	1 unserviceable.	do Corporals	18	
Swords	492	1 do	Sashes, Sergeants	17	
Scabbards	491		Swords, Staff Sergeants, with belts and knots	2	
Carbines, Cavalry	50		<i>Band.</i>		
Peabody Rifles	244		Tunics	20	1 do
Bayonets	244		Trowsers	1	1 do
Spencer Rifles	1		Caps	9	1 do
CAMP EQUIPMENTS.			<i>Infantry.</i>		
Axes, felling	28	10 do	Great Coats	102	
Axe Handles	44	35 do	Cloth Tunics	471	
Axes, Pick	65		Serge do	313	1 do
do Handles	64		Cloth Trowsers	248	3 do
Blankets, grey	348	77 do	Serge do	272	
Kettles, Flanders	70	24 do	Forage Caps	140	
Pans, frying	10				
Spades	10	10 do			
Shovels	6	6 do			
Bell Tents	70				
Bags	47	6 do			
do Pin	28	6 do			
Mallets	68				
Poles	46				
Pins	109				
Floors	57				
Marquees	2				

(A.) LIST OF ARTICLES in Store at Winnipeg, &c.—Continued.

Articles.	No.	Remarks.	Articles.	No.	Remarks.
MILITARY CLOTHING.— <i>Continued.</i>			MISCELLANEOUS.		
<i>Rifle.</i>			<i>Infantry.</i>		
Great Coats	183	115 unserviceable	Haversacks	370	80 unserviceable
Cloth Tunics	381		Knapsacks	105	
Serge do	128		Knapsack Slings	201	
Cloth Trowsees	33		Mess Tin Straps	145	
Serge do	89		<i>Rifle.</i>		
Linen do	24		Great Coat Straps	449	
Numerals, 1's	82		Haversacks	394	
do 2	86		Knapsacks	478	
Forage Caps	271		Knapsacks Slings	576	
MILITARY CLOTHING.— <i>Kits.</i>			Mess Tin Straps	236	
Ankle Boots	594		<i>Mess Tins</i>		
Beef do	326	Mess Tins	154	5½ prs. do 1 do 25 sets returned by Mt. Police unserviceable	
Artillery, long, Boots	116	do Tin Covers	160		
Infantry, do do	362	Leggings, prs	94		
Braces	329	Rangoon Oil, galls	12½		
Blacking Brushes, large	216	Buffalo Robe Mitts, prs.	1		
do small	218	Harness and Saddlery, sets	43		
Button Brushes	177	<i>Cavalry Spurs, prs</i>			
Cloth do	217	Cavalry Spurs, prs	30		
Common Blacking Boxes	278	AMMUNITION.			
Waterproof do	138	Snider Ball Cartridges	226,881		
Button Brasses	174	do Blank Cartridges	37,277		
Fur Caps	72	Spencer Carbine	11,309		
Night Caps	6	Peabody Musket	8,000		
Capots	64	Boxes	376		
Combs	179	Barrels	66		
Tin Cups	10	Friction Tubes	2,409		
Knitted Drawers	270	BARRACK FURNITURE.			
Hold-alls	85	Bed Boards	193		
Clasp Knives	2	do Trestles	229		
Table do	73	do Bolsters	210		
do Forks	80	do Palliasses	281		
Winter Mitts, prs	335	Linen Sheets	1,097		
Moccasins	286	Forms	24		
Mufflers	263	Table Tops	11		
Tin Plates	51	do Trestles	25		
Razors	277	Hair Brooms, heads	16		
Grey Shirts	465	Corn do	8		
Under do	266	Chip do	7		
Socks, prs	170	Scrubbing Brushes, hand	21		
Spoons	236	do long, heads	38		
Socks	248	do long, handles	6		
Sponges	344	Mops	2		
Sheets, W. P.	53	Stand Lamps	4		
Thread, knots	200	Passage Lamps & Lanterns	10		
Towels	277	Hanging Lamps	11		
IMPLEMENTS.			Lamp Chimnies	16	
Nipple Wrenches, without	15	Oil Measures	6		
Snap Caps	957	Stoves, large cooking	9		
Muzzle Stoppers	36	do small cooking	7		
Great Coat Straps	193	do large heating	16		
Brown Leather Straps	100	Stoves, small heating	2		
		Farmers' Boilers	5		

(A).—LIST of ARTICLES in Store at Winnipeg, &c.—Continued.

Articles.	No.	Remarks.	Articles.	No.	Remarks.
BARRACK FURNITURE.—Con.			HOSPITAL STORES.—Con.		
Buck Saws	4	4 unserviceable	Warming Pots	1	
Tongs (pairs)	4		Stomach Pots	1	
Wood Boxes	4		Mustard Pots	6	
Stove Pipes, 7 inch	279	250 do	Pewter Plates	1	
do 10 inch	103	103 do	Tin Plates	10	
do T 7 inch	3	3 do	Iron Saucepans (1 quart)	2	
do T 10 inch	16	16 do	do (4 quarts)	1	
do 10 inch lengths			do (2 quarts)	1	
and 7 inch branches	27	27 do	Gravy Spoon	1	
Elbows	20	20 do	Table Spoons	31	
			Mustard Spoons	3	
Tin Boilers	8	6 do	Weighing Scales	2	
Officer's Chairs	1	1 do	Weights, 1oz. to 2oz.	8	
Baking Dishes	27	27 do	do 1lb. to 14lb.	13	
Meat Dishes	15	7 do	Tenson Saws	1	
Flesh Forks	3		Corkscrews	6	
Baking Kettles	2	2 do	Wire Gray Sieves	1	
Soup Cans	15	7 do	Scoops	2	
Ladles	1		Dressing Tray	1	
Tin Dippers	1		Round Towels	40	
Wood Filters	9	1 do	Hand Towels	26	
Water Pails	41	36 do	Pewter Urinals	2	
Wash Basins	12	12 do			
HOSPITAL STORES.			ORDNANCE STORES.		
Cork Mattresses	7		Lead Harness, double sets ..	2	
Hair Beds	14		Wheel do do ..	4	
do Bolsters	29		Brass Needles, 4-inch	25	
do Pillows	20		Quilting do ..	25	
do Bed Slips	37		Drivers Whips	6	
do Belsters	72		Cavalry Swords, with belts ..		
Straw Bed Slips	82		and knots	3	
do Bolster Slips	35		Swingle-trees, No. 2	2	
do Pillow Slips	14				
Blankets, grey	32		<i>Ammunition.</i>		
do white	61		Cartridges, 1lb., 6-pr. S.M.L ..	15	
Surgical Rugs	50		do 8oz., 7-pr. R.M.S ..	210	
Cotton Sheets	31		do 4oz. do ..	24	
Linen Sheets	35	4 do	do 5lb., L.G.	130	
Waterproof Covers	45	27 do	do 5lb., shell L.G. ..	100	
Brushes, hand sweeping	5		Empty Cartridges, silk cloth ..		
do long sweeping, heads	5		1lb., R.M.S ..	530	
do do handles			Empty Cartridges, flannel, ..		
do hand, scrubbing	2		1 1/2 lb., R.M.S.	530	
do blacklead (sets)	2		Empty Cartridges, R.M.S., ..		
Scrubbing Blocks, dry	8		8oz.	1,200	
Scrubbing Irons, dry	8		Common Bursters	106	
Diarrhoea Belts	36		Double Bursters	21	
Canteen Boxes	2		Case Shot, 7-pr. R.M.S.	114	
Pepper Castors	6		do 9 do ..	15	
Salt Cellars, wood	4		Common Shell, 7-pr. R.M.S.	404	
Dinner Forks	18		do 9 do ..	173	
Flesh Forks	1		Double Shell, 7-pr. R.M.S.	322	
Dinner Knives	23		Shrapnell Shell, 7 do ..	533	
Opening Knives	1		do 9 do ..	313	
Ladles	1		Star Shell 7 do ..	50	
Pewter Measures (1 gill)	1		Fuzes, 5 Sec.	53	
do (1/2 gill)	1		do 10 Sec.	98	
Ophania Napkins	40		do 15 Sec.	33	
Small Blood Porringers	2		do Petman's Land Ser-		
Pewter Chamber Pots	46		vice	56	

(A).—LIST of ARTICLES in Store at Winnipeg, &c.—Continued.

Articles.	No.	Remarks.	Articles.	No.	Remarks.
ORDNANCE STORES.—Continued.			ORDNANCE STORES.—Continued.		
Fuses, Pickford, case of...	1		Sponges, Staves with Caps...	2	
do Percussion, R.L....	240		Helved Spades.....	2	
do Time Wood Boxes, M.L., 3 Sec.....	688		McMahon's Spanners.....	1	
do Time Wood Boxes, M.L., 9 Sec.....	844		Spring Spikes.....	1	
Zinc Cylinders, 5 Sec.....	12		Man Harness Straps, Sets...	1	
do 10 Sec.....	2		Helved Shovels.....	2	
do 15 Sec.....	4		Tube Rocket Straps.....	2	
Leather Ammunition Boxes do Projectile Boxes...	38		Leather Tube Rockets.....	2	
Wood Cases for Shell.....	4		Wad-hook Worms.....	2	
Metal Line Cases, 1/2.....	74		White Worsted, lbs.....	10	
Travelling Carriage Axle-tree Boxes, Cartridges...	8		Brass Weights, 8lbs. to 1oz.	1	
Travelling Carriage Axle-tree for Fuze.....	6		Iron Drug Washers.....	2	
Slow Match, lbs.....	2		BAND INSTRUMENTS.		
Powder do.....	1760		Baritones.....	1	
Brass Primers.....	886		E♭ Cornets.....	1	
Signal Rockets, 1lb.....	15		B♭ do.....	4	
do do 1/2lb.....	26		Clarionettes.....	3	
Sticks for Rockets.....	40		Alto Horns E♭.....	1	
Blue Lights.....	24		Fugal Horns.....	1	
PapierMaché Wads for Shell	108		Tenor do.....	1	
Metal Fuze-hole Plugs.....	1764		Euphonium.....	1	
Felling Axes, 4lbs.....	2		Trumpets E♭.....	2	
Pick do 6 1/2 lbs.....	2		Bass Trombones.....	2	
Copper Scoops.....	1		Tenor do.....	1	
do Pans for weighing powder.....	1		Wooden Cases for instruments.....	1	
Canvas Cartouches.....	20		MISCELLANEOUS STORES.		
Tube Pocket Cases.....	2		<i>Flags.</i>		
Sponge Cloths.....	4		Large Union Jack 21 + 10 1/2 ft		
Carriage complete, 9-pr., R.M.L.....	2		Red 6ft. Square.....	2	
Coatings for Sponges.....	2		do 4 + 3 ft.....	2	
Files.....	1		do and White, 2 1/2 ft.....	2	
Friction Tube, Lanyards.....	4		Blue, 2 1/2 ft.....	2	
Guns, M.L.R. 9-pr.....	2		White, 2 1/2 ft.....	2	
Traversing Handspikes.....	4		<i>Tools.</i>		
Hold-alls.....	3		Wheeler's Adze.....	1	
Handled Bill Hook.....	4		do do Handles.....	1	
Implements complete, Fuze on Shell.....	5		Broad Axes.....	1	
Instructions.....	1		Augers.....	13	3 unserviceable
Iron Work for Mortar Beds	1		Centre Bits.....	2	
Keys for opening Metal Lined Cases.....	5		Steel Blade Bevil.....	1	
Keys for Iron Spring Lock.	2		Brace Iron.....	1	
Knives Laboratory.....	2		Caulking Iron.....	1	
Hambro Lines.....	1		Chisels.....	2	
Oil, Tin of.....	5		Cooper's Compasses, prs.....	1	
Iron Linch Pins.....	2		do Stakes.....	1	
Oak Planks.....	2		Files.....	18	10 do
Carpenters' Pincers.....	2		Chalk Lines.....	2	
Measuring Tape.....	1		Grass Hooks.....	6	
Gunnery Quadrant.....	1		Grindstone.....	1	
Gun Metal Scale Beams.....	1		Gimlets.....	1	
Wood Tangent Scales, R.M.L.			Claw Hammers.....	2	
Laboratory Scissors.....	5		Hand Hatchets.....	15	
Screwdrivers.....	1				

(A).—LIST of ARTICLES in Store at Winnipeg, &c.—Continued.

Articles.	No.	Remarks.	Articles.	No.	Remarks.
MISCELLANEOUS STORES.			MISCELLANEOUS STORES.—		
<i>Tools.—Con.</i>			<i>Continued.</i>		
Butcher Knives.....	3	1 unserviceable.	Platform Scales.....	1	
Drawing do.....	2		Wheelbarrows.....	1	1 unserviceable.
Meat Choppers.....	1		Tarpaulings.....	1	
Wood Mallets.....	1	1 do	Water Kegs.....	25	8 do
Mortise Guages.....	2				
Planes.....	4		HORSE AND STABLE		
Saws, pre.....	1		EQUIPMENT.		
Punches.....	2		Buffale Robes.....	2	
Rivets, lbs.....	9		Cutters.....	1	
Common Rules, 2ft.....	1		Logging Chains.....	1	
Rug Stones.....	5	5 do	Hay Forks.....	1	
Butchers' Saws.....	1	1 do	Manure Forks.....	1	
Cross-cut and rip saws, hand	7		Horse Pads.....	1	
do do long.....	5		Single Harness, sets.....	1	
Key-hole Saws.....	2		Monkey Wrenches.....	1	
Saw Sets.....	4				
Spirit Levels.....	1		LUMBERING PLANT.		
Screwdrivers.....	1		Cant Hooks.....		
Scythes, blades.....	2		Pike do.....	9	
do handles.....	2		Picaroons.....	3	
Paint Brushes.....	13	6 do	Coupling Dogs, sets.....	2	
do Pots.....	6		Iron Rings for Mallets.....	3	
Whitewash Brushes.....	8	8 do	Sewing Machine, complete.....	1	
			Iron Wedges.....	4	
MISCELLANEOUS STORES.			GARDEN IMPLEMENTS.		
Blanket Bags.....	9		Garden Forks.....	1	1 do
Linen do.....	85		Hoes.....	3	1 do
Baking Pans.....	10		Rakes.....	2	1 do
Funnels.....	1		Water Pots.....	4	
Pipe-clay, lbs.....	79		HARROWS.....	1	
Portage Straps.....	11		Ploughs.....	1	
Rope Slings.....	121		Hot Bed Frames.....	3	
Manilla Rope, lbs.....	604		do Sashes.....	9	
Snow Shoes.....	169				
Spikes and Nails, lbs.....	50				
Steel, 5/16in. to 7/8in. (feet)	15				
Spring Balance Scales.....	1				

(B)

LIST of Stores belonging to 7 Pounder Mountain Guns remaining in charge of the Officer commanding Battery of Artillery in Manitoba.

Description of Articles.	Number of Articles.	Remarks.
Axes, helved. { Felling	2	
{ Pick	2	
Bearers, wood, M. S., (pairs)	3	
Boxes, grease, half round, tin	2	
Buckets, leather, cavalry	1	
Caps, sponge, canvas	4	
Carriages, travelling with shafts	2	
Cartouches { Leather, ammunition	2	
{ Leather, shot or shell	5	
{ Canvas, ammunition	4	
{ Gun, flannel, 6 pounders, 1 lb.	10	9 expended at Qu'Appelle Treaty.
{ Gun, flannel, 7 do 8 ozs.	236	{ 10 expended at Fort Francis and
{ Gun, shalloon, 7 do 4 ozs.	27	{ Qu'Appelle Treaty
Cartridges, filled. { Bursters, shell, flannel, 6 ozs.	72	
{ do calico, 18 drms.	21	
{ With sawdust, flannel for 7 pr. guns.	1	
{ Time, Wood, 5 seconds	175	
Fuzes. { do 10 do	170	
{ do 15 do	39	
{ Percussion, Petman's, L. S.	20	
Hold-alls, leather	1	
Implements. { 7 pr., complete set	2	
{ do instructional	1	
Irons, priming, F. S., sets	2	
Keys, metal, for opening cases	1	
Knives, laboratory	1	
Lanyards, friction tube, F. S.	6	
Lines, Hambro, 12 thread	1	
Match, lbs. { Slow	8½	Expended on Qu'Appelle Treaty, '74
{ Quick	8½	
Ordnance, bronze, M. I., Wishart sights.	2	
Punches, (carpenter's) pairs	1	
Pins, lynch, F. S., 3rd class	2	
Plugs, metal, G. S., fuze hole	293	
Pockets, tube, leather with straps	1	
Portfires, common	3	
Primers, brass	153	
Ropes, drag, prs., light	2	
Scales, tangent, wood	2	
Scissors, laboratory, steel prs.	1	
Screws, for fixing sights	6	
Shells, empty, 7 prs., without plugs. { Common	107	
{ Double	38	
{ Shrapnell	150	
Short, tin case, 7 pr.	49	
Shovels, iron, common	1	
Sights, 7 pounders. { Muzzle	2	
{ Tangent soale, brass	2	
Spikes { Common	3	
{ Spring	2	
Sponges, with staves, rammers and wad hooks	4	Unserviceable.
Spades	1	
Straps { Breast or shoulder	7	
{ Shaft	7	
Tubes, friction, copper	193	125 expended for saluting, &c.
Wads, papier maché, fuze hole	127	
Washers, iron, T. S. Drag (3rd class)	2	
Boxes, shot or shell	58	
Cases, metal lined { Quarter	8	
{ Whole	1	
Cases, packing	3	
Cylinder. { Tin, of sorts	52	
{ Zinc	19	

J. E. M. TASCHEREAU, Captain,
Comd'g. Baty. Art. on service in Manitoba.
288

WINNIPEG, Feb. 15th, 1875.

(C.)

ARTICLES CONDEMNED by Board, 30th January, 1875.

Articles.	No.	Articles.	No.
Snider Rifle, long	1	<i>Infantry—Continued.</i>	
do do short	1	Mops	2
Swords	10	Barrack Lamps	4
Felling Axes	35	Passage Lamps and Lanterns	10
do do Handles	77	Hanging Lamps	4
Grey Blankets	24	Stoves, Large Cooking	9
Flanders Kettles	10	do Small do	4
Spades	6	do Large Heating	13
Shovels		do Small do	2
<i>Artillery.</i>		Buck Saws	4
Great Coats	116	Stove Pipes, 7 inch	250
Serge Tunic	1	do do 10 inch	103
Forage Cap	1	do do T 7 inch	3
<i>Band.</i>		do do T10 inch	16
Cloth Trowsers	1	Elbows	20
do Tunic	1	10 inch lengths, 7 inch Branches	27
do Cap	1	Farmers' Boilers	1
<i>Rifle.</i>		Tin do	6
Great Coats	115	Officers' Chairs	1
Cloth Tunics	1	Baking Dishes	27
Serge do	3	Meat do	7
Cloth Trowsers	2	Soup Cans	7
Winter Mitts, prs	1	Wood Fillers	1
Moccasins, do	1	Water Pails	36
Mufflers	2	Wash Basins	12
Socks, prs		Augers	3
<i>Infantry.</i>		Files	10
Coat Straps	80	Butcher Knives	1
Haversacks	5½	Wood Mallets	1
Leggings, pairs	1	Rug Stones	5
Buffalo Robe Mitts	16	Butchers' Saws	1
Hair Brooms (Heads)	3	Paint Brushes	6
Corn do	2	Whitewash Brushes	8
Chip do	21	do do Pans	2
Hand Scrubbing Brushes	32	Wheelbarrows	1
Long do Heads		Water Kegs	8
		Garden Forks	1
		Hoes	1
		Rakes	1
		<i>Hospital Stores.</i>	
		Cotton Sheets	4
		Linen do	27
		Tent Bags	6
		do Pins	6
		Marquee Valise	1

(D.) WINNIPEG, February 10th, 1874.

SIR,—In reply to your letter of the 31st January, 1875. I have the honor to inform you that I have inspected the guns, carriages, ammunition stores, &c., in accordance with instructions, contained in noted paragraphs of War Office circular letter, of the 7th November, 1859, and beg to report on the different points mentioned as follows:—

ARTILLERY BRANCH.

Guns.

Paragraph 3. I inspected the 7 pr. Mountain Guns (bronze) in possession of the Battery of Artillery on service in Manitoba. The guns are in efficient condition with exception of the thumb screw of one, which is deficient.

Gun Carriages.

The gun carriages need some few repairs, which can be done in this country, thus rendering them as efficient as they were originally.

The Limbers.

The limbers made for these guns (which I am informed were manufactured in Quebec) are light, weak in construction, and the workmanship very inferior, consequently they are badly damaged, but not unserviceable, and could be repaired in this country.

The ammunition and equipment are in efficient condition, and under suitable cover and protection.

Gun Carriages (Iron). 9 pr. M. L. Guns.

I have also inspected the carriages (iron) of the 9 pr. M. L. R. Guns in possession of the Supply Officer here; the carriages are in efficient condition in every respect with the exception of a few very slight breakages, which I presume occurred on transport, and can be easily repaired here. The ammunition and equipments are also in efficient condition, and under suitable cover and protection.

Guns—9 pr. M. L. R.

The 9 pr. M. L. R. Guns in possession of the Supply Officer, are not unpacked consequently I could make no inspection of them.

Paragraph 4. The Military Stores in possession of the Officer Commanding Artillery, are of a thorough efficient and serviceable character, and with the exception of the undermentioned articles are in every respect fit for the requirements of the service, and I consider them in just proportions with the undermentioned exceptions:—

Unserviceable.

Four sponges with rammers and wad-hooks.

In Defect.

Two keys and chains for cap-squares; one hammer (claw).

The only stores in possession of the Officer Commanding Battery of Artillery on service in Manitoba, are stores pertaining to the 7 pr. Mountain Guns.

MILITARY STORE BRANCH.

Paragraph 3. I made as close an inspection of the powder, rockets (signal), fuzes, ammunition, &c., in charge of Supply Officer, as circumstances would permit, but as I had no facility to subject these stores to a minute inspection, and the requisite proof, I cannot, therefore, report in detail.

Rockets, Fuzes and made-up Ammunition.

The rockets, fuzes (time and percussion), and made-up ammunition, in metal-lined cases, are all in thoroughly good condition and perfectly serviceable.

I inspected the Barrels of loose powder in charge of Supply Officer, I opened four*

Barrels, Loose Powder.

out of the sixteen Barrels in his possession, two out of the four I found in good serviceable condition, the other two were in very bad condition, and unserviceable, from evident exposure and wet. These barrels shewed signs of very rough handling in Transport, some of the hoops had come off, and had been nailed with "iron nails." I opened the quarter barrel of "pistol powder" and found it damaged but not totally unserviceable.

I have the honor to be, Sir,

Your obedient servant,

JOHN COTTON, LIEUT.,
Canadian Artillery.

To

Lt.-Col. OSBORNE SMITH, C.M.G., D.A.G.,

Commanding Dominion Forces in North West.

* MEMO.—As the temporary nature of the magazine presented no facilities without hazard, of a thorough examination by opening the Barrels I instructed, Lieut. Cotton, to confine "minute inspection" at present to the four barrels he notes.

W. OSBORNE SMITH, *Lieut.-Col.*

 CHARLOTTETOWN, P. E. I.

Proceedings of a Board of Survey held in accordance with General Orders dated Ottawa, 4th December, 1874, at Charlottetown, Monday 18th January, 1875.

PRESENT:—Col. John Hamilton Gray, C.M.G., Deputy Adjutant General, Major Robert A. Cropley, Military Storekeeper.

The Board having carefully examined the stores and ammunition in possession of the Military Storekeeper, as shewn in the district store ledger, have to report:

800 Standard Snider Enfield Rifles in good order.

200,000 rounds of ball, and 80,000 rounds of blank ammunition for Snider Enfields in good order.

47,291 rounds of ball, and 23,000 rounds of blank ammunition for old muzzle loading rifles damaged and unfit for use, in consequence of having been stored in a damp and improperly constructed magazine, and should be condemned and sold.

The Board recommend that the articles in lists one and two obsolete and unuseable, be condemned and sold.

The articles in list "A," although old are not unfit for further service, and may be of use hereafter.

List No. 3, artillery uniforms, being requisition from the Deputy Adjutant General to the Storekeeper dated Charlottetown, 1st October, 1874, but which the Storekeeper was obliged to decline receiving, not having any store in which to secure the contents.

The Board recommend that as the Deputy Adjutant General has provided storage at his private expense since July 1873, he be now relieved from this charge.

The articles in the list are sound and good, and well calculated to be made up into artillery uniforms.

With respect to the Artillery branch the Board have to report:

A rough earthen parapet, situate on the Governor's farm, commanding a portion of the harbour, with an expense magazine in rear, which is unfit for occupation owing to its dampness; no store room.

Three 32 por. cast iron M.L., S.B., 41 cwt, eight feet, guns mounted on naval wood standing carriages; guns serviceable, require lacquering; carriages require repairs; small stores insufficient; 12 rounds of ammunition serviceable.

Three 9 por. cast iron M.L., S.B., 28½ cwt, 8 feet 6 inches: guns mounted on cast-iron standing carriages; guns, carriages, side arms, and no ammunition; no small stores fit for drill purposes.

Six light 6 por. bronze guns mounted on travelling carriages; guns serviceable; carriages require slight repairs; side arms and straps renewed; one ammunition waggon only; no other carriages; 164 rounds of ammunition serviceable.

A temporary gun shed situate on Governor's Grounds, too small to accommodate Field Battery; out of repair and wholly unfit.

There is neither office nor store room for the accommodation of officers commanding Artillery, except the gun shed herein alluded to.

Harness and saddlery, sufficient for two guns only; very old and of old pattern; ought to be condemned.

The Board have to report that the armoury in the city requires alteration; the rooms are very damp from being without proper ventilation; the locks on the doors are unsafe, and the entrance door should be changed to another part of the building.

The magazine in Victoria Barracks is improperly built, too limited in size and without proper ventilation.

A store room for the custody of clothing and equipments is absolutely required. This could be fitted up in the part of the Barracks now occupied by the Local Government, and which is to be given up in the spring.

The coal shed, stable &c., and various locks and fastenings of doors on general store require repair.

JOHN HAMILTON GRAY, COLONEL,
Deputy Adjutant General, M. D. No. 12.

R. A. CROPLEY, Major,
Storekeeper, M.D., No. 12.

CHARLOTTETOWN, 18th January 1875.

LIST ONE.

Cavalry Accoutrements.

- 92 Holsters Pistol.
- 44 Sabre Taches.
- 85 Buff Straps for Sabre Tache.
- 97 Pouches, Black Patent.
- 44 Sword Knots.
- 108 Sword Belts.
- 43 Belts, Pouch.

Infantry Accoutrements.

- 1,159 Pouches, Black, very old pattern.
- 112 Pouches, Flat (Island make).
- 402 Pockets cap, buff sliding.
- 43 Belts, Sword, N.C. Island make.
- 790 Belts, Waist, (buff coloured, black.)
- 380 Sling's Rifle, do do
- 790 Frogs Sliding, do do
- 790 Buff Belts, Waist, Pouch and Slings.

Pouches and Ball Bags Black Leather.

- 66 Pouches.
- 89 Ball Bags.

LIST TWO.

Arms Cavalry.

- 79 Pistols, Rifle (14 years in use).

Arms Infantry.

- *59 Rifles, old pattern, (belted ball) 20 years in use.
- 86 Sword Bayonets for do
- 990 Long Enfield Rifles (M.L.) 15 years in use.
- 382 do do 13 do
- 486 do do 9 do
- 195 Short do do 9 do
- 1,846 Bayonets Rifle for above.
- 195 Bayonets Sword do

1,846 Scabbards Bayonet do
 195 do Sword do
 24 Swords with Scabbards N.C. Officers.

Miscellaneous.

9 Iron Targets.
 10 do Stays.
 11 do Nuts and Screws.
 1 Pace Stick.
 176 Nipples for Enfield Rifles.
 713 Jags Brass.
 52 Wrenches, Nipple.

* There are also 41 stand of this Rifle in charge of Adjutant Owen in Georgetown.

LIST No. 3.

	\$ cts.
248½ Yards Militia Military Blue Cloth at per yard.....	2 31
18 do Scarlet Cloth for faceings at do	2 55
10 Gross White Metal Artillery Buttons at per gross.....	3 04
5 do do Small do	2 31
1 do do Plated Grenades for Forage Caps...	8 76
200 White Worsted Grenades for shoulder straps.....	16 00
200 Yards White Worsted Cord at per yard.....	00 04
156 do Red do do	00 05
20 Silver Grenades for Non-Com'd. Officers Artillery, each...	00 75
38½ Yards Silver Cord for do at per yard...	00 75
2 Silver Badges Battery Sergeant Major each.....	3 65
8 do do Sergeants	3 04
8 do do Corporals	00 97

NOTE—The above being the prime cost from Manufactures, excluding freight and all other charges.

LIST A.

135 Cavalry Swords.
 108 do Sword Belts.
 573 Buff Pouch Belts. .
 1,000 do Waist Belts.
 1,028 do Frogs for Bayonets.
 910 do Rifle Slings.
 112 Black Waist Belts and Frogs.
 89 do Rifle Slings.

APPENDIX No. 6.

PROVINCE OF ONTARIO.

LIST of the names of Officers, Non-Commissioned Officers and others, in the Active Militia Artillery, who have obtained Certificates at the School of Gunnery, Kingston, ("A" Battery,) during the year 1874.

Rank and Name.	First Class Certificate, and Date.	Second Class Certificate, and Date.	Long or Short Course.	Regimental Division.
Bigger, Sergt. Charles, St. Catherine's Battery	18th June		Short	Lincoln.
Browne, Corp. C. W. F., Kingston Field Battery	30th Nov.		do	City of Kingston.
Byrnes, Corp. Alex. J., Ottawa Brigade Garrison Artillery	13th October		do	City of Ottawa.
Baldock, Gunner Jas., Toronto Field Battery		31st January		City of Toronto.
Cross, Gunner W., Wellington Field Battery	6th May		Short	Wellington.
Davy, Sergt. D., Napanee Garrison Artillery		31st January		Lennox.
Drury, Lieut. C. W., N.B. Brigade Garrison Artillery	13th October		Short	City of St. John, N. B.
Ellis, Sergt. C., Sarnia Garrison Battery	31st January			Lambton.
Ellis, Bom E., Wellington Field Battery	3rd April		Short	Wellington.
Exener, Acting Bom. W., Kingston Field Battery		15th April	do	City of Kingston.
Gifford, Lieut. W., Cobourg Garrison Battery	18th June		do	Northumberland
Gowdie, Gunner Geo., Ottawa Brigade Garrison Artillery		6th May	do	City of Ottawa.
Greene, Lieut. E. G., Toronto Garrison Artillery	26th Feb.		do	City of Toronto.
Harris, Gunner John, St. Catherine's Garrison Battery	3rd April		do	Lincoln.
Hennessey, Gunner T. J., Ottawa Brigade Garrison Artillery		31st January		City of Ottawa.
Hewer, Gunner John, Wellington Field Battery		6th May	Short	Wellington.
Howie, Sergt. W., Welland Canal Field Battery		11th Nov.	do	Welland.
Hutchings, Gunner C., Toronto Field Battery		31st January		City of Toronto.
Lake, Sergt. Thos., Kingston Field Battery	31st January			City of Kingston.
Large, Bom. J. W., Ottawa Field Battery		31st January		City of Ottawa.
Logan, Gunner Frank, St. Catherine's Garrison Artillery	31st January			Lincoln.
Miller, Gunner Alex., Goderich Garrison Battery		6th April	Short	Huron.
Miller, Gunner James, do		do	do	do
Montgomery, Acting Bom. R., Ottawa Field Battery	18th June		do	City of Ottawa.
McCloud, Acting Bom. F., Kingston Field Battery		30th Nov.	do	City of Kingston.
McMullen, Bom. W., London Field Battery		6th May	do	London.
McWatters, Gunner W., Sarnia Garrison Battery		31st January		Lambton.
Needham, Bom. A., Toronto Garrison Battery	30th Nov.		Short	Toronto.
Norris, Acting Bom. H., do		30th Nov.	do	do
Orr, Gunner S. R., Kingston Field Battery		31st January		City of Kingston.
Percey, Gunner W., Ottawa Field Battery		15th April	Short	City of Ottawa.
Percey, Gunner John, Toronto Field Battery	31st January			City of Toronto.
Peters, Lieut. Jas., "A" Battery	do		Short	City of Kingston.
Reavely, Bom. J. E., Welland Field Battery		3rd April	do	Welland.
Saunders, Gunner R., St. Catherine's Garrison Battery		6th May	do	Lincoln.
Spicer, Gunner F., Ottawa Garrison Artillery		31st January		City of Ottawa.
Thatcher, Corp. H., Wellington Field Battery		15th April	Short	Wellington.
Thorn, Sergt. John, Winnipeg Field Battery	3rd April		do	T'n of Winnipeg.
Walters, Sergt. Henry, Kingston Field Battery	31st January			City of Kingston.
Watson, Bom. W., do	13th June		Short	do

RECAPITULATION.

First Class Certificates, (Long Course)	0
do (Short Course)	19
Second do	21
Total	40

RESUMÉ.
PROVINCE OF ONTARIO.

REGIMENTAL DIVISION.	ACTIVE MILITIA.	
	First Class Certificates.	Second Class Certificates.
Addington (<i>vide</i> Lennox).....		
Bothwell.....		
Brant.....		
Brockville (<i>vide</i> Leeds).....	1	
Bruce.....		
Cardwell.....		
Carleton and City of Ottawa.....	13	6
Dundas.....	8	4
Durham.....	4	1
Elgin.....		
Essex.....	4	1
Frontenac and City of Kingston.....	23	11
Glengarry.....	1	
Grenville.....		
Grey.....		1
Haldimand.....	1	
Halton.....	1	
Hamilton, City of (<i>vide</i> Wentworth).....		
Hastings.....	16	3
Huron.....	5	2
Kent.....		
Kingston, City of (<i>vide</i> Frontenac).....		
Lambton.....	5	1
Lanark.....	3	
Leeds and Brockville.....	6	1
Lennox and Addington.....	7	2
Lincoln.....	10	2
London (<i>vide</i> Middlesex).....		
Middlesex and London.....	5	1
Niagara.....	1	
Norfolk.....		
Northumberland.....	8	1
Ontario.....	2	
Ottawa, City of (<i>vide</i> Carleton).....		
Oxford.....		1
Peel.....	1	
Perth.....		
Peterborough.....	1	
Prescott and Russell.....	1	
Prince Edward.....	1	
Renfrew.....		
Russell (<i>vide</i> Prescott).....		
Simcoe.....	9	2
Stormont.....		
Toronto, City of (<i>vide</i> York).....		
Victoria.....		
Waterloo.....		
Welland.....	4	3
Wellington.....	6	7
Wentworth and City of Hamilton.....	3	
York and City of Toronto.....	76	13
Town of Winnipeg, Manitoba.....	1	
Grand Total.....	227	62

PROVINCE OF QUEBEC.

LIST of names of Officers, non-commissioned Officers and others, in the Active Militia Artillery, who have obtained Certificates at the School of Gunnery, Quebec, (" B Battery ") during the year 1874.

Rank and name.	First class Certificate and Date.	Second Class Certificate and Date.	Long or Short Course.	Regimental Division.
Baker, Gunner John,— " B Battery," School of Gunnery		2nd Dec....	Short..	City of Quebec.
Becharvais, Sergeant John, Gaspé Gar. Artillery		28th April..	do ..	Gaspé.
Blackhall, Sergeant, Montreal Brigade Artillery		26th May....	do ..	Montreal.
Boswell, Lieutenant Geo., Montreal Brigade Artillery	9th Dec....		do ..	do
Carter, Sergeant, Alfred, Gaspé Garrison Artillery		28th April..	do ..	Gaspé.
Dolan, Gunner, P., late Quebec Garrison Artillery Brigade.		21st July....	do ..	City of Quebec.
Dolby, Corporal, Joseph, Montreal Garrison Artillery		14th Nov....	do ..	Montreal.
Duffy, Gunner P., " B. Battery " School of Gunnery		2nd Dec....	do ..	City of Quebec.
Duchesnay, Lieut. C.E., late Beauce Field Battery	14th Dec....		Long..	Beauce.
Elliot, Lieut. T.W., G.T.Ry Brigade Gar. Artillery.		15th May....	Short..	Montreal.
Elvin, Acting Bombr. Richard, " B Battery " School of Gunnery.		2nd Dec....	do ..	City of Quebec.
Erskine, Bombr. Ira, Shefford Field Battery		15th April..	do ..	Shefford.
Fairley, Gunner Alex. " B Battery " School of Gunnery		2nd Dec....	do ..	City of Quebec.
Filton, Corporal Ozora, Shefford Field Battery		15th April..	do ..	Shefford.
Gardiner, Gunner Geo. A., late Quebec Gar. Artillery		15th April..	do ..	City of Quebec.
Hindle, Gunner Jonathan, late Quebec Gar. Artillery		21st July....	do ..	City of Quebec.
Huddle, Captain A.O.R., G.T.Ry Brigade Garrison Artillery		25th May....	do ..	Montreal.
Holman, Captain, Montreal Garrison Artillery		25th May....	do ..	do
Ingalls, Captain Allen G., Shefford Field Battery		15th April..	do ..	Shefford.
Kay, Sergeant William, Shefford Field Battery		15th April..	do ..	Shefford.
Kirk, Bombr. M. J., late Quebec Garrison Artillery.		do	do ..	City of Quebec.
Laloux, Corporal E., late Beauce Field Battery		14th Nov....	do ..	Beauce.
Langlois, Gunner P., " B Battery " School of Gunnery		2nd Dec....	do ..	City of Quebec.
Martin, Sergeant, Grand Trunk Artillery.		25th May....	do ..	Montreal.
Murphy, Acting Bombr. P., late Quebec Garrison Artillery		21st July....	do ..	City of Quebec.
McDonald, Gunner Alex., late Quebec Garrison Artillery		21st July....	do ..	City of Quebec.
Neil, Corporal Ulric A., Shefford Field Battery		15th April..	do ..	Shefford.
Noakes, Corporal, Grand Trunk Railway Battery		25th May....	do ..	Montreal.
Pangman, Lieut. John, Montreal Garrison Artillery.		25th May....	do ..	Montreal.
Patterson, Acting Sergeant William, Gaspé Garrison Artillery		28th April..	do ..	Gaspé.
Pendleton, Sergt-Major, Montreal Garrison Artillery		25th May....	do ..	Montreal.
Perry, Gunner Richard, " B Battery " School of Gunnery.		2nd Dec....	do ..	City of Quebec.

 PROVINCE OF QUEBEC.—List of Candidates for Commissions, &c.—Continued.

Rank and Name.	First-Class Certificates and Date.	Second-Class Certificates and Date.	Long or Short Course.	Regimental Division.
Richie, Acting Bombr. Alex., late Quebec Garrison Artillery.....		21st July...	Short ..	City of Quebec.
Riddle, Sergeant, Montreal Garrison Artillery		25th May...	do ..	Montreal.
Seale, Bombr. George, Shefford Field Battery.....		15th April...	do ..	Shefford.
Sheppard, Lieut. H. C. late Quebec Garrison Artillery.....	19th Dec., '74		Long...	City of Quebec.
Scott, Driver Anderw, late Quebec Garrison Artillery.....		15th April...	Short ..	do
Slous, Major John, Gaspé Garrison Artillery.....	6th May.....		do ..	Gaspé.
Taschereau, Captain E., Manitoba Garrison Artillery.....	20th May.....		do ..	Quebec.
Taylor, Lieut. J. W., Shefford Field Battery.....		15th April...	do ..	Shefford.
Thompson, Acting Bombr. S., late Quebec Garrison Artillery		21st July.....		City of Quebec.
Watson, Gunner John, "B Battery" School of Gunnery		2nd Dec....	Short ..	City of Quebec.
Walsh, Corporal E. P., Sherbrooke Garrison Artillery.....		14th Nov....	do ..	Sherbrooke.
Wilson, Sergeant, Montreal Brigade Garrison Artillery.....		25th May....	do ..	Montreal.
Wynne, Sergeant, Montreal Brigade Garrison Artillery.....		do ..	do ..	do
Whittaker, Lieut. S., Grand Trunk Brigade Garrison Artillery		do ..	do ..	do
Wisemborn, Lieut. J. R., Grand Trunk Brigade Garrison Artillery		do ..	do ..	do
Wolly, Corporal A., late Quebec Garrison Artillery.....		15th April...	do ..	City of Quebec.

RECAPITULATION.

First Class Certificates (Long Course)	2
do (Short Course)	3
Second do	43
Total.....	48

RESUMÉ
PROVINCE OF QUEBEC.

REGIMENTAL DIVISIONS.	ACTIVE MILITIA.	
	First Class Certificates.	Second Class Certificates.
Argenteuil and Two Mountains.....		
Arthabaska and Drummond.....		
Assomption and Montcalm.....		
Bagot.....		
Beauce.....	5	6
Beauharnois and Laprairie.....	1	
Bellechasse and Dorchester.....		
Berthier.....		
Bonaventure.....		
Brome and Stanstead.....		
Chambly and Verchères.....		
Champlain.....		
Charlevoix and Montmorency.....		
Chateauguay.....	1	
Chicoutimi and Saguenay.....		
Compton and Sherbrooke.....	1	3
Gaspé.....	1	3
Hochelaga and City of Montreal.....	29	52
Huntingdon.....	2	
Iberville.....		
Jacques Cartier and Laval.....	2	
Joliette.....		
Kamouraska.....		
Levis.....		
L'Islet and Montmagny.....		
Lotbinière.....		
Maskinongé and St. Maurice.....		
Megantic.....	1	
Miseiquoi.....		
Napierville and St. Johns.....	3	
Nicolet and Yamaska.....		
Ottawa and Pontiac.....	2	
Portneuf.....		
Quebec, City of.....	12	69
Richelieu.....	1	
Richmond and Wolfe.....	2	
Rimouski.....		
Rouville.....	2	
St. Hyacinthe.....	2	
Shefford.....		15
Soulanges and Vaudreuil.....	1	
Temiscouata.....		
Terrebonne.....	1	
Victoria, Province of British Columbia.....	1	
Grand Total.....	73	148*

APPENDIX No. 7.

PROVINCE OF ONTARIO.

LIST of Officers and Non-Commissioned Officers in the Active Militia, and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, during the year 1874.

Rank and Name.	First Class	Second Class	Regimental Divisions.
	Certificate and Date.	Certificate and Date.	
	1874.	1874.	
Adams, W. Douglas, Lieutenant, 59th Battalion	16th April	13th March	Cornwall
Allen, Charles, W.	29th May		E. R. Toronto.
Ayerst, Walter G. R.		10th April	S. R. Simcoe.
Backus, Andrew S., Ensign, 25th Battalion		29th April	W. R. Elgin.
Baxter, John B.		31st March	Frontenac.
Beam, Morris, J., Ensign, 44th Battalion		10th April	Welland.
Belanger, George		8th April	City of Kingston.
Bertram, Alexander, Ensign, 77th Battalion		29th April	N. R. Wentworth.
Bilby, James		30th April	City of Kingston.
Bollard Joseph		14th March	do
Boswell, Charles M., Lieutenant, 40th Battalion	15th May		W. R. Northumber-land.
Brady, James, Sergeant, 2nd Queen's Own	1st May	5th February	C. R. Toronto.
Blight, Henry M., Sergeant do		23rd March	do
Bruce, William H., Ensign, 12th Battalion		23rd May	N. R. York.
Buchanan, James, Corporal, 26th Battalion		29th April	W. R. Middlesex.
Bull, Walter J.		30th May	W. R. York.
Cameron, Hugh		11th June	Frontenac.
Campion, Robert	15th May	16th March	Lennox.
Chambers, Charles C., Private, 35th Battalion		24th January	S. R. Simcoe.
Chaytor, William		30th May	W. R. Toronto.
Chesnut, John		30th April	Frontenac.
Chesnut, William		16th March	do
Cherry, James		23rd March	W. R. York.
Christie, William A.		24th January	W. R. Toronto.
Close, Henry S.		15th May	Addington.
Collins James		23rd March	C. R. Toronto.
Corbert, Edmund		23rd February	W. R. Toronto.
Colquhoun, John M., Lieutenant, 35th Battalion		8th May	N. R. Simcoe.
Cornish, John C.		23rd May	W. R. York.
Craig, James J.		11th June	Cornwall.
Cryler, Alexander		5th February	N. R. Norfolk.
Cunningham, John R., Ensign, 16th Battalion	27th February		Prince Edward.
Curtis, Peter		24th April	Frontenac.
Davis, William		18th April	Addington.
Dawson, Edmund, Captain, 36th Battalion		23rd March	Peel.
Dearnaly, William C.		30th April	City of Kingston.
Dearnaly, Charles M.		30th May	do
Denison, Herbert F.		5th February	W. R. Toronto.
Dickie, Arthur W., Sergeant, 38th Battalion		26th March	S. R. Brant.
Dooley, John		15th May	Frontenac.
Draper, William		8th April	do
Driscoll, Michael		14th March	City of Kingston.
Duke, Charles T., Private, 2nd Battalion		10th April	W. R. York.
Dumphy, James		8th April	City of Kingston.

PROVINCE OF ONTARIO.—List of Candidates for Commissions, &c.—Continued

Name and Rank.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Divisions.
	1874.	1874.	
Fatt, Frederick H.		29th April	C. R. Toronto.
Fisher, James D.		23rd March	Lambton.
Fox, William W.		23rd May	C. R. Toronto.
Friend, John		15th May	Frontenac.
Gifford, Francis S.		14th May	W. R. Northumber- land.
Gibson, William J.		11th June	Frontenac.
Glenn, Charles W.		8th April	do
Glenn William, Captain, 37th Battalion.		30th May	Haldimand.
Graham, Francis		21st March	Frontenac.
Hamilton, William A.		14th March	Frontenac.
Hatt, John T., Corporal		30th May	N. R. Wentworth.
Harrold, Henry		31st March	City of Kingston.
Newton, Robert, Lieutenant, 47th Battalion.	20th March	28th February	Frontenac.
Hicks, William, Sergeant, 2nd Battalion		5th February	W. R. Toronto.
Higgins, Samuel R.		23rd May	C. R. Toronto.
Holmes, James W.		14th May	do
Hume, Robert, Sergeant, 27th Battalion.		23rd March	Lambton.
Jackson, George E.		30th May	City of Kingston.
Jenner, Frederick Thomas		11th June	Frontenac.
Kains, Robert		5th February	E. R. Elgin.
Kane, Paul		30th May	C. R. Toronto.
Kenward, Franklin, Corporal, 27th Battalion		23rd February	Lambton.
Kerr, Alexander, Lieutenant, 27th Battalion		23rd March	do
Lavell, J. R.		11th June	Frontenac.
Lewis, Albert T., 2nd "Queen's Own" Battalion.		14th March	C. R. Toronto.
Lenahan Bernard		30th April	City of Kingston.
Loan, William		8th April	do
Lynn, John E.		11th June	Frontenac.
Lyons, John		10th April	C. R. Toronto.
Maloney, John B., Sergeant-Major, 2nd Battalion.		21st April	C. R. Toronto.
Macdonald, P. A.		11th June	Frontenac.
Mason, George John		23rd February	W. R. York.
Meagher, F. W.		11th June	Frontenac.
Miller, Quarter-Master Sergeant, 36th Battalion.		8th May	Peel.
Milsap, Stewart	15th May	27th February	Lennox.
Moore, William J.		14th March	City of Kingston.
Morton, A. W.		15th May	do
Motherwell, James W.		11th June	Frontenac.
Mowatt, Henry		27th February	City of Kingston.
Munro, James, Captain, 22nd Battalion.	27th February		N. R. Oxford.
Murphy, Denis		14th March	City of Kingston.
McCune, John		8th April	do
McCull, Angus		11th June	Frontenac.
McDowall, Henry G.		do	Prince Edward.
McDowell, Charles		do	Frontenac.
McGrath, James	20th March	27th February	do
McGurn, William		21st March	City of Kingston.
McIntosh, David C., Ensign, 35th Battalion		23rd March	N. R. Simcoe.
McIntosh, George, Sergeant, 22nd Battalion		30th May	N. R. York.
McKeller, William, Captain, 26th Battalion	27th February		N. R. Middlesex.
McLaren, Archibald		23rd March	N. R. Oxford.
McLaren, John		26th March	N. R. Perth.
McLean, Neil		14th March	Prince Edward.

PROVINCE OF ONTARIO.—List of Candidates for Commissions, &c.—Continued.

Name and Rank.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Divisions.
	1874.	1874.	
McLean, A. C		30th May	City of Kingston.
McNalley, John		27th February	do
McOwen, William H		5th February	W. R. Toronto.
McSpadden, William		23rd March	C. R. Toronto.
Newlands, Richard		18th April	City of Kingston.
Nugent, Andrew		11th June	Addington.
O'Brien, Peter		11th June	Frontenac.
O'Conner, Francis Joseph	30th April	8th April	City of Kingston.
Otter, Harold C., Private, 2nd "Queen's Own" Batt.		23rd May	W. R. Toronto.
Patterson, Robert, Captain, 48th Battalion	14th March		Lennox.
Payne, Henry W	15th May	27th February	City of Kingston.
Pickering, Charles W., Private, 2nd "Queen's Own"		2nd May	C. R. Kingston.
Pidgeon, John		18th April	City of Kingston.
Potter, Samuel		8th April	Carleton.
Roche, William		15th May	City of Kingston.
Ross, Samuel		31st March	Lennox.
Rush, Edward F		23rd May	W. R. Toronto.
Sands, William C		8th April	City of Kingston.
Sanderson, G. R.		11th June	Frontenac.
Sharp, Alexander		7th March	do
Sharp, Frederick George		do	City of Kingston.
Shaw, George A., Captain, 10th "Royals" Batt.	27th February		W. R. Toronto.
Shaw, John, Ensign, 20th Battalion		10th April	Halton.
Sherlock, William		30th April	City of Kingston.
Sinclair, William		do	Lennox.
Smith, Robert		11th June	Frontenac.
Stacey, James	15th May	31st March	City of Kingston.
Stratton, J. G.	do	7th April	do
Summers, James		15th May	Frontenac.
Sutherland, J. H.		9th April	City of Kingston.
Telman, Oscar		18th April	Frontenac.
Todd, A. H., Ensign, "Governor-Gen's Foot Guards"		24th January	City of Ottawa.
Trendall, Thomas		7th March	do
Tye, George, Ensign		16th May	Peel.
Unitt, Fred. W., Ensign, 10th "Queen's Own" Batt.	27th February		W. R. Toronto.
Vanduson, Albra, Captain, 16th Battalion	5th June	26th March	Prince Edward.
Veale, Elijah		14th March	City of Kingston.
Walker, Michael		31st March	Frontenac.
Webb, Ashton		25th May	N. R. York.
Webber, Frederick W		29th April	W. R. Toronto.
Whitehead, James John		18th April	City of Kingston.
Woods, Robert, Sergeant, 2nd "Queen's Own" Batt.		5th February	E. R. Toronto.
Woods, Edwin T		2nd May	C. R. Toronto.
Wright, A. Trooper, "Governor-Gen's Body Guard"		29th April	Peel.
Wyndham, Alfred, Captain, 12th Battalion	29th May	8th May	N. R. York.

RECAPITULATION.

First-Class Certificates 20
 Second-Class Certificates 134

Total 154
 302

RÉSUMÉ.
PROVINCE OF ONTARIO.

REGIMENTAL DIVISIONS.	ACTIVE MILITIA.		Remarks.
	Officers and N.C.O. in the Active Militia and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, since their first opening.		
	First Class Certificates.	Second Class Certificates.	
Addington (<i>vide</i> Lennox).....		2	The Schools closed 1st May, 1874.
Bothwell		51	
Brant	7		
Brockville (<i>vide</i> Leeds)		15	
Bruce	5		
Cardwell		3	
Cornwall	1	2	
Carleton and City of Ottawa.....	34	50	
Dundas	3	8	
Durham	18	71	
Elgin	3	27	
Essex	2	16	
Frontenac and City of Kingston	120	560	
Glengarry	8	17	
Grenville	4	18	
Grey	5	21	
Haldimand	5	28	
Halton	3	44	
Hamilton, City of (<i>vide</i> Wentworth)			
Hastings	17	62	
Huron	2	18	
Kent	1	12	
Kingston, City of (<i>vide</i> Frontenac)			
Lambton	3	29	
Lanark	14	35	
Leeds and Brockville	8	34	
Lennox and Addington	23	69	
Lincoln	7	41	
Middlesex and London	21	102	
Norfolk	5	32	
Northumberland	17	59	
Ontario	13	61	
Ottawa, City of (<i>vide</i> Carleton).....			
Oxford	10	56	
Peel	6	57	
Perth	4	31	
Peterborough	4	42	
Prescott and Russell.....	16	15	
Prince Edward	11	39	
Renfrew		5	
Russell (<i>vide</i> Prescott).....			
Simcoe	18	96	
Stormont	9	25	
Toronto, city of (<i>vide</i> York)			
Victoria	2	26	
Waterloo		15	
Welland	3	33	
Wellington	12	36	
Wentworth and City of Hamilton	14	83	
York and City of Toronto	605	636	
Total	563	2,683	
Prince Edward Island	1	1	
Grand Total	564	2,683	

PROVINCE OF QUEBEC.

LIST of Officers and Non-Commissioned Officers in the Active Militia, and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, during the year 1874.

Rank and Name.	First Class	Second Class	Regimental Divisions.
	Certificate and Date.	Certificate and Date.	
	1874	1874	
Allard, Joseph, W.		16th April	Rouville.
Andrews, William, M.	16th April	13th March	Montreal East.
Andrews, John Boyd	2nd May	24th do	Quebec Centre.
Barcelo, George		25th March	Montreal East.
Beaudry, Joseph A.		9th May	do
Bellefeuille, Frederic		24th March	Hochelaga.
Bergeron, Horace		24th April	Montreal East.
Bilodeau, Pierre D.		8th do	Quebec West.
Bropéard, Rodolphe		21st March	Laprairie.
Brown, N. J.		23rd May	Stanstead.
Bulman, John A. P., Sergt.		2nd do	Missisquoi.
Carter, John		30th March	Gaspé.
Clifford, James	15th April		Quebec Centre.
Cook, George W.	8th May	11th April	Stanstead.
Coutu, Euclide		16th do	Berthier.
Coyns, James		16th March	Montreal West.
Davis, Charles G.		1st April	Gaspé.
Davis, Francis		24th do	Argenteuil.
Dansereau, Clement		7th March	Montreal East.
Dent, Frederick, F. D.		20th Feb.	Montreal West.
Derry, Pierre		15th April	Quebec West.
D'Equilly, H. Morin		20th Feb.	Montreal East.
Desaulniers, Dionis L.		24th April	St. Maurice.
Desmarais, Arsène		9th May	Berthier.
Dorion, Louis C. W.		23rd do	Montreal East.
Dosteler, Daugeville		16th April	Berthier.
Duchesnay, Charles	8th May	21st March	Montreal East.
Duffet, George		7th May	Quebec Centre.
Duffey, Patrick		16th do	Quebec West.
Duhig, John		18th do	do
Emond, J., Bte.	24th April	13th March	Berthier.
Evetts, Frederick W.		2nd May	Quebec Centre.
Fafard, Théogène		15th May	Montreal East.
Fages, John A.		27th April	Quebec East.
Farley, James T.		23rd do	Montreal West.
Forget, Adelard		23rd May	Rouville.
Fortier, Alexandre		do	Montreal West.
Fève, David		13th May	Temiscouata.
Fyfe, Charles		15th do	Montreal East.
Garon, Emile		13th May	Kamouraska.
Giroux, Joseph		23rd do	Montreal West.
Gosselin, Pierre		do	Hochelaga.
Graham, John		do	Montreal West.
Grogan, William H. A.	24th April	11th April	do
Guindon, Cleophas		21st March	do
Hamilton, Gavin F.		4th April	Bonaventure.
Hébert, Avila		24th do	Montreal East.
Héroux L. Dolor		7th March	St. Maurice.

PROVINCE OF QUEBEC.—List of Candidates for Commissions, &c.—Continued

Rank and Name.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Division.
Jacques Joseph		1874. 20th Feb.	Maskinongé.
Jameson Claude B.	8th May	28th March	Missisquoi.
Jechill Isaac, Sergt.	20th March .....	.....	Argenteuil.
Kelly John		7th May	Quebec West.
Kennedy, Peter		24th April	Montreal West.
Kenny, Wm. J., Ensign.		do	do
Lambert, Capt. Frs. IX.	21st May	2nd May	Maskinongé.
Lamiraude, Alexander		16th May	Hochelaga.
L'Amoureux, Henri	11th April	12th March	Montreal East.
Lapierre, Ensèbe		24th April	do
L'Archevesque, Emmanuel		23rd May	do
La Rocque, Alphonse		9th do	do
Lauthier, Horace		23rd do	do
Le Bel, Guillaume		13th March	do
Lee, Horatio Gaspard		5th May	Quebec East.
Le Sage, Arthur		9th do	Iberville.
LeMoine, J. Henri		2nd do	Montmorency.
Lothrop, Edward, Lieut.		7th March	Compton.
Mackay, Stephen Alex.		23rd May	Two Mountains.
Mancotel, Alfred		16th do	Montreal East.
Meek, James A.		23rd do	Montreal West.
Merrill, Geo. Henry		2nd do	do
Morgan, Richard J.		9th do	do
McCord, F. A.	23rd March .....	.....	Quebec Centre.
Nadeau, Alexander		23rd May	Rouville.
Olazenslri, Jean		23rd May	Montreal West.
Pageau, Cleophas		11th April	Montreal West.
Paquette, Alfred		23rd do	Portneuf.
Peard, Wm. S.		9th May	Montreal West.
Piché, Narcisse		11th April	do East.
Pleau, Joseph O.		7th March	Three Rivers.
Prefontaine, Napoleon		24th April	Verchères.
Prevost, Theodore		9th May	Laval.
Procton, Richard		24th March	Quebec Centre.
Frudhomme, L. A., Ens.		20th Feb.	Beauharnois
Ramage, John, pte.		13th March	Compton.
Richard, Evangeliste		10th April	Dorchester.
Robert, Alfred, Sergt.		16th May	Chateauguay.
Robinson, Charles W.		11th April	Montreal East
Rolfe, Marshall, Capt.		16th March	Sherbrooke.
Rolland, Charles C.	20th March	20th Feb.	Rouville.
Sabourin, Elzear		23rd May	Montreal East.
Shilejko, Adolp.		28th March	do West.
Simard, Pierre		23rd May	St. John's.
Sorel, Medard.		21st March	Laprairie.
Stacey, Fredk. G., Corpl.	11th April	13th do	Compton.
Stevenson, Gugy.		4th May	Quebec Centre.
St. Arnauld Alfred.		15th do	Champlain.
Tetreault Jos. E.		24th April	Montreal East.
Thompson, Wm. J.		16th May	Quebec Centre.
Tournageau, Roch. J.		22nd do	do East.
Vigeault, Louis D.		7th March	Richelieu.
Vosburgh, Newton, Capt.		16th May	Montreal West.
Watier, Oscar A.	8th May	11th April	Montreal West.

RESUMÉ.
POVINCE OF QUEBEC.

REGIMENTAL DIVISIONS.	ACTIVE MILITIA.		Number of Ca- dets attending the Schools of Military In- struction, on the 1st Jan., 1874.
	Officers and N.C.O. in the Active Militia, and Candidates for Com- missions therein, who have ob- tained Certificates at the Schools of Military Instruction, since their first opening.		
	First Class Certificates.	Second Class Certificates	
Argenteuil and Two Mountains.....	22	50	
Arthabaska and Drummond.....	7	18	
Assomption (L') and Montcalm.....	11	18	
Bagot.....	2	10	
Beauce.....	13	25	
Beauharnois and Laprairie.....	11	26	1
Belchase and Dorchester.....	12	67	2
Berthier.....	13	27	
Bonaventure and Gaspé.....	7	41	4
Brome and Standstead.....	7	19	
Chambly and Veronères.....	22	49	
Champlain.....	15	47	
Charlevoix and Montmorency.....	14	63	
Chateauguay.....	14	18	
Chicoutimi and Saguenay.....	3	22	
Compton.....	16	32	
Hochelaga and City of Montreal.....	171	662	8
Huntingdon.....	17	27	
Iberville.....	4	11	
Jacques Cartier and Laval.....	16	39	
Joliette.....	5	18	
Kamouraska.....	13	58	
Levis.....	29	87	
L'Islet and Montmagny.....	22	46	
Lobinière.....	9	28	
Maskinongé and St. Maurice.....	11	38	3
Mégantic.....	11	32	
Missisquoi.....	15	34	
Napierville and St. John's.....	9	24	
Nicolet and Yamaska.....	17	38	
Ottawa and Pontiac.....	6	20	
Portneuf.....	9	50	1
Quebec, City of.....	179	583	7
Richelieu.....	5	11	1
Richmond and Wolfe.....	17	28	
Rimouski.....	11	55	
Rouville.....	14	28	1
St. Hyacinthe.....	14	29	
Shefford.....	5	22	
Soulanges and Vandreuil.....	4	11	
Sherbrooke.....		1	
St. Johns.....		1	
Temiscouata.....	13	29	
Terrebonne.....	9	26	
Grand Total.....	824	2,568	28

PROVINCE OF NEW BRUNSWICK.

LIST of Officers and Non-Commissioned Officers in the Active Militia, and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, during the year 1874.

Rank and Name.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Division.
Agnew, Wm. Henry		20th April	York.
Baker, Lieut. Jesse W., 67th Battalion		17th Feb	Victoria.
Barnes, Wm. Anderson		25th April	York.
Belyes, Wm. Henry		2nd do	do
Brannen, George Frederick		4th March	do
Broderick, Christopher A.		2nd April	do
Calder, Wm. Henry, jun		6th March	do
Cagney, Daniel		19th do	do
Carman, William		14th April	do
Carrier, John E., Sergeant		28th March	Carleton.
Clark, Duncan M		14th do	York.
Coro, Albert		28th do	do
Crophy, Lieut. H. A.		9th May	do
Curren, Lemuel A.		9th do	Queen's.
Doherty, George		27th Feb	York.
Dugan, Michael		2nd April	do
Elliott, Edward Harvey		27th Feb	do
Ellsworth, Wm. Henry		7th April	do
Eaty, Charles E.		20th do	do
Estabrooks, Charles W		21st do	Carleton.
Estabrooks, George A		25th do	do
Hawse, Wm. J. B.		14th March	York.
Hanson, Daniel W.		14th April	Charlotte.
Hilland, Hugh Gregory		14th do	York.
Jack, Thos. C.		7th do	Charlotte.
Johnson, Ensign Christopher		19th March	York.
Johnston, Joseph		7th April	do
Jones, Lothrop A.		25th do	Carleton.
Kay, John		21st do	York.
Lindsay, Alexander		9th May	Carleton.
Linforth, John Henry		28th March	York.
Linerick, Joshua		9th May	do
Maoky, Samuel		25th March	do
Miller, George S.		4th do	do
Moss, Charles H.		19th do	do
McCaffrey, John		14th do	do
McBean, James S.		1st May	do
McCarty, John		13th March	do
McDiarmid, John C		28th do	do
McGee, Thos. Frederick		25th do	do
McIntosh, Wm. John		4th do	do
McLaughlin, Michael Jos		27th Feb	do
McLeod, Samuel A.		9th May	King's.
McPherson, John A.		25th April	Albert.
Needham, George Clarence		14th do	York.
Owens, William James		1st May	Carleton.
Pachett, Mathew		17th Feb	York.
Perkins, James Daniel		19th March	do
Perley, Lewis Benjamin		6th do	do
Read, Burt. S.		4th do	Gloucester.
Rees, Titus David		2nd April	York.
Reid, David		6th March	do
Richards, Charles Long		27th Feb	do
Robinson, Frederick Phillipic		6th March	do
Ross, Malcolm Alex			

PROVINCE OF NEW BRUNSWICK.

LIST of Candidates for Commissions, &c.—Continued.

Rank and Name.	First Class Certificates and Date.	Second Class Certificates and Date.	Regimental Division.
Stafford, William James.....	25th do ..	do
Segee, William Vincent.....	12th do ..	do
Smith, Edward A.....	6th do ..	do
Stratton, James Murray.....	9th May ..	do
Ribbits, Lemuel Allan Wilmot.....	21st April ..	do
Vincent, Isaac.....	9th May ..	do
Watters, George Howard.....	1st do ..	Carleton.
West, Lieut. Charles Abraham, 67th Battalion.....	1st do ..	do
Wiggins, William Burnett.....	4th March ..	King's.
Wilson, Samuel F.....	7th April ..	do
Worden, Sergeant Isaac Anderson.....	17th Feb ..	do

RECAPITULATION.

First Class Certificates	0
Second do	66
Total.....	66

RESUMÉ.

PROVINCE OF NEW BRUNSWICK.

Regimental Divisions.	ACTIVE MILITIA.		Number of Cadets attending the Schools of Military Instruction, on the 1st of Jan., 1875.
	Officers and N.C.O. in the Active Militia, and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, since their first opening.		
	First Class Certificates.	Second Class Certificates.	
Albert		3	
Carleton	1	32	
Charlotte		7	1
Gloucester		3	
Kent		5	
King's		33	
Northumberland		3	
Queen's		7	
Hestigouche		2	
St. John (first)		8	1
St. John (second)	9	108	
Sunbury		10	
Victoria		3	
Westmoreland		13	
York	3	119	17
Grand Total	13	356	19

PROVINCE OF NOVA SCOTIA.

LIST of Officers and Non-Commissioned Officers in the Active Militia, and Candidates for Commissions therein, who have obtained Certificates at the Schools of Military Instruction, during the year 1874.

Rank and Name.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Divisions.
	1874.	1874.	
Boak, J. A., 2nd Halifax Brigade Garrison Artillery	5th May	25th March	Halifax City.
Cummins, John D., Captain, 63rd Battalion		7th May	Halifax City.
Cunningham, A. G., Private, 63rd Battalion		25th June	do
Curren, Arthur, Ensign, 66th Battalion	25th June	5th May	do
Cutler, T. M., Private, 63rd Battalion		25th June	do
Crane, J. N., Private, 63rd Battalion		do	do
Dart, Richard, Private, 66th Battalion		1st April	Halifax County.
Fitch, John, E., Ensign, 78th Battalion		9th June	Hants.
Gammon, H., Gunner, 2nd Halifax Brigade Garrison Artillery		25th June	Halifax City.
Graham, H. A., Gunner, 1st Halifax Brigade Garrison Artillery		12th May	do
Hamilton, Henry M., Ensign, 66th Battalion		5th May	Halifax City.
Hallidwell, Thomas, Private, 63rd Battalion		25th March	do
Hart, Lewis E. E.		5th May	Guysboro'.
Kelly, James N., Sergeant, 69th Battalion		7th May	Digby.
Knight, W. C., Sergeant-Major, 1st Halifax Brigade Garrison Artillery		1st April	Halifax City.
Lawlor, James E., Private, 63rd Battalion		27th May	Halifax City.
Lockhart, Edwin A., Sergeant, 66th Battalion		26th March	do
Lockhart, W. M., 2nd Halifax Brigade Garrison Artillery		27th May	do
Maloney, M., Gunner, 2nd Halifax Brigade Garrison Artillery		25th June	Halifax City.
Marshall, Osbert, Ensign, 69th Battalion	27th May	5th May	Annapolis.
Metzgewroth, P., Private, 62nd Battalion		9th June	Halifax City.
Mowbray, T., Captain, Halifax Garrison Artillery	9th June	25th March	do
Mumford, James M., Lieutenant	12th May		do
Murray, A., Private, 63rd Battalion		27th May	do
MacIntosh, John D., Captain, 63rd Battalion	7th May	25th March	do
McCallum, A., Private, 63rd Battalion		27th May	do
McCrow, John, Sergeant-Major, Halifax Garrison Artillery		25th March	do
McKay, J. S., Quarter-Master Sergeant, 1st Halifax Garrison Artillery		5th May	do
McLellan, A. D., Private, 63rd Battalion		9th June	do
McPherson, D., Captain, 2nd Brigade Garrison Artillery	8th June	1st April	do
Nalder, John, Ensign, 66th Battalion		12th May	Halifax City.
Oland, John C., Lieutenant, 1st Halifax Brigade Garrison Artillery		7th May	Halifax County.
Reeves, James, Captain, 2nd Brigade Garrison Artillery		5th May	Halifax City.
Ritchie, Henry, Corporal, 63rd Battalion		1st April	do
Rogers, W. F., Private, 63rd Battalion		25th June	do

PROVINCE OF NOVA SCOTIA—List of Candidates for Commissions, &c.—Continued

Rank and Name.	First Class Certificate and Date.	Second Class Certificate and Date.	Regimental Divisions.
	1874.	1874.	
Kalter, Arthur F., Ensign, 66th Battalion	.....	1st April	Halifax City.
Smith, C. R., Private, Cumberland Provincial Batt.	.....	do	Cumberland.
Stairs, Edward, 2nd Lieutenant, 2nd Halifax Brigade Garrison Artillery	.....	27th May	Halifax City.
Stevens, W. H., Corporal, 66th Battalion	.....	25th June	Halifax County.
Stewart, Daniel S., Sergeant, 2nd Halifax Brigade Garrison Artillery	25th June	1st April	Halifax City.
Thomson, James R., Private, 69rd Battalion	.....	12th May	Halifax City.
Thomson, John A., Lieutenant, 1st Halifax Brigade Garrison Artillery	.....	27th May	do
Wainright, W. R. S., Captain, 1st Halifax Brigade Garrison Artillery	9th June	26th March	Halifax City.
Wainright, F. G., Lieutenant, 1st Halifax Brigade Garrison Artillery	.....	9th June	do
Walsh, Thomas J., Lieutenant, 63rd Battalion	.....	1st April	do
Whitman, A., Sergeant, 69th Battalion	.....	12th May	Annapolis.
Wilson, G. H., Lieutenant, 1st Halifax Brigade Garrison Artillery	.....	do	Halifax City.

RECAPITULATION.

First Class Certificates	.....	9
Second Class Certificates	.....	46
Total	.....	55

RESUMÉ.
PROVINCE OF NOVA SCOTIA.

REGIMENTAL DIVISIONS.	ACTIVE MILITIA.		Number of Ca- dets attending the Schools of Military In- struction, on the 1st Jan., 1875.
	Officers and N. C. O. in the Active Militia, and Candidates for Com- missions therein, who have ob- tained Certificates at the Schools of Military Instruction, since first opening.		
	First Class Certificates.	Second Class Certificates.	
Annapolis	2	38	52
Antigonish		4	
Cape Breton	1	10	
Colchester		9	
Cumberland	1	3	
Digby		6	
Guyaboro'		138	
Halifax City	14	29	
Halifax County		2	
Hants		4	
Inverness		8	
King's		10	
Lunenburg	2	23	
Pictou		2	
Queen's		13	
Richmond			
Shelburne			
Victoria			
Yarmouth			
Grand Total	20	299	52

APPENDIX No. 8.

LIST of Officers of the Active Militia, and of Candidates for Commissions therein, who have obtained Certificates from Boards of Examiners, during the year 1874.

Rank and Name.	First Class Certificate.	Second Class Certificate.
PROVINCE OF ONTARIO.		
	1874	1874
Aumond, Telmont, Ensign, Governor General's Foot Guards		20th February.
Biggar, John, Captain, 32nd Battalion	8th July.....	
Dunlevie, Horace G., Ensign, Governor General's Foot Guards		20th February.
Morton, John, Captain, 32nd Battalion	8th July.....	8th July.
Rice, Frederick T., Lieutenant, Windsor Infantry Company		16th September.
Sheffield, E. H., Lieutenant, 41st Battalion	2nd July.....	
Smart, John F., Lieutenant and Adjutant, 59th Battalion	do	
Stewart, John, Cornet, Ottawa Troop of Cavalry		2nd July.
Walsh, John, Captain, Governor General's Foot Guards	20th February	
Ward, James, Ensign, 35th Battalion		26th May.
PROVINCE OF QUEBEC.		
Boyer, Pierre, Lieutenant, 64th Battalion	10th November	
Brooks, Lyman, H., 79th Battalion		23rd September.
Bulman, James, Ensign and Adjutant, 79th Battalion	23rd September.	
Claxton, F. J., Ensign, 1st Prince of Wales Rifle Regiment		4th December.
Codd, George S., Captain, 79th Battalion	23rd September.	
Cox, Thomas H., Major, do	do	
Damour, J., Bte.-Lieut., 76th Battalion		10th November.
Dawson, William Bell, Lieut., 1st Prince of Wales Regiment		9th April.
Faubert, Joseph, Sergeant, 64th Battalion		10th November.
Feeney, James, Captain, 50th Battalion		23rd September.
Fiddes, George, Lieutenant, Huntingdon Troop of Cavalry		do
Gardner, William S., Ensign, 6th Battalion		19th December.
Gibson, James, B., Quarter-Master, 50th Battalion		23rd September.
Gibson, W. H., Ensign do	23rd September.	
Gleason, James C., Cornet, Brome Troop of Cavalry		23rd September.
Goodwin, John H. G., Ensign, 6th Battalion		19th December.
Haire, Joseph, Sergeant, 51st Battalion		23rd September.
Hawley, William G., Sergeant, Missisquoi Troop of Cavalry		do
Henderson, Samuel, Lieutenant, 50th Battalion		do
Kenny, William J., Lieutenant, 6th Battalion	19th December	
Laberge, Eduoard, Captain, 76th Battalion	10th November.	10th November.
Livingstone, Donald A., Captain, 51st Battalion		23rd September.
Mayner, James, Captain, 79th Battalion	23rd September	

LIST of Officers of the Active Militia, &c.—*Continued.*

Rank and Name.	First Class Certificate.	Second Class Certificate.
PROVINCE OF QUEBEC.—Continued.		
	1874	1874
McArthur, Colin, Lieutenant, Montreal Troop of Cavalry		4th December.
McKenney, Taber, Ensign, 60th Battalion		23rd September.
MacLaren, Archibald, Captain, 50th Battalion	23rd September.	
McNaughton, Donald, Captain, 51st Battalion		23rd September.
Paxton, Samuel, 6th Battalion		19th December.
Pickle, J. T., Lieutenant, 52nd Battalion		23rd September.
Porter, Thomas, Sergeant, Montreal Troop of Cavalry		4th December.
Prudhomme, L. A., Captain, 64th Battalion		10th November.
Robertson, Alexander, Ensign, 1st Prince of Wales Rifle Regiment ..		9th April.
Robison, J. A., Sergeant, 60th Battalion		23rd September.
Ryan, Daniel D., Ensign, do		do
Ste Marie, Louis, Captain, 51st Battalion		do
Salls, H. B., Lieutenant, Missisquoi Troop of Cavalry		do
Shepherd, C. W., Sergeant, Sutton do		do
Smith, E. E., Cornet, Missisquoi do		do
Stewart, James, Lieutenant, 51st Battalion		do
Watt, A. M. T., Captain, 1st Prince of Wales Rifle Regiment ..		do
Wright, Thos. Howard, Ensign, do		4th December ..
PROVINCE OF NEW BRUNSWICK.		
King, William A., 1st Lieutenant, New Brunswick Artillery		1st April.
PROVINCE OF NOVA SCOTIA.		
Cummins, J. D., Captain, 63rd Battalion ..	25th June ..	.....

APPENDIX No. 9.

REPORT OF DIRECTOR OF STORES, &c.

DEPARTMENT OF MILITIA AND DEFENCE,
STORE BRANCH, 1st February, 1876.

SIR,—I have the honor to submit for your information the following report, relating to Militia Stores and lands under my charge:—

CLOTHING.

The clothing remaining in store to date, is shown by the statement underneath, as also the receipts and issues of the past year. The former have been small as compared with the previous year's receipts, while the issues, generally speaking, have been greater. During the past season two of the new muzzle loading rifle 9-pounder guns, with their proportionate quantity of ammunition, shot, shell and other stores. Also a quantity of Ordnance Stores for the 7-pounder mountain guns, at Fort Garry, were forwarded to that station. In September last Major Macdonald, of this Department, was also sent in charge of a quantity of clothing, necessaries and other stores for the service of the Militia at Manitoba. This step was rendered necessary to ensure their safe arrival, prior to the close of the navigation. The previous year a portion of the stores sent had been frozen in 'en route.' Their detention was cause of great inconvenience to the Militia Force at Fort Garry, and their recovery during the winter an expensive operation. To prevent the recurrence of a similar mishap, it was deemed prudent to place them in charge of an officer of this Department, so as to ensure their safe arrival in time. Major Macdonald performed the duties entrusted to him in a most satisfactory manner, the stores reaching Fort Garry in good season and in perfect order. The whole of the stores thus sent during the season's operations were forwarded by the Dawson route.

STATEMENT OF CLOTHING.

Description of Clothing.	In Store Dec. 31st, 1874.	Received into Store in 1874.	Issued from Store in 1874.
<i>Cavalry.</i>			
Busbies.....	64		
Forage caps.....	1,162	832	323
Great coats.....			79
Trowsers, pairs.....	643		283
Tunics.....	895		242
<i>Artillery.</i>			
Busbies.....	119	87	3
Forage caps.....	662	633	1,905
Great coats.....	1,684	105	370
Trowsers, cloth, pairs.....	540	14	656
Trowsers, size, pairs.....	1,075	1,146	1,435
Tunics, cloth.....	718	118	1,736
Tunic, serge.....	986	1,086	295

Statement of Clothing.—Continued.

Description of Clothing.	In Store, December 31st, 1874.	Received into Store, in 1874.	Issued from Store, in 1874.
<i>Engineers.</i>			
Busbies.....	64		
Tunics, cloth.....	109		2
<i>Infantry.</i>			
Forage caps.....	119		3,098
Great coats.....	6,124	6,037	2,961
Shakos.....	793		236
Tunics, cloth.....	750	200	2,307
do serge.....	319		882
do band.....	233		324
Trowsers, serge, pairs.....	1,927		6,293
<i>Rifle.</i>			
Forage caps.....	687		580
Shakos.....	974		4
Tunics, cloth.....	1,681		1,040
do serge.....	236		13
Trowsers, serge, pairs.....	1,793		1,566
<i>Naval.</i>			
Forage caps.....	703		7
Frocks, linen.....	930		10
Jackets, serge.....	1,143		
Trowsers, serge, pairs.....	792		
<i>Linen Suits.</i>			
Blouses.....	877		359
Trowsers, pairs.....	109		26
<i>At St. John, N. B.</i>			
Forage caps.....	500		522
Great coats.....	4,613		21
Tunics, cloth.....	978		522
Trowsers, serge, pairs.....	910		522
<i>At Halifax, N. S.</i>			
Forage caps.....	316		252
Great coats.....	917		541
Tunics, cloth.....	1,150		110
Trowsers, serge, pairs.....	705		1,139
<i>At Victoria, B. C.</i>			
Forage caps.....	1,000	}.....}	{ No return has yet been recy'd of the issues in this District.
Great coats.....	1,000		
Tunics, cloth.....	1,000		
Trowsers, serge, pairs.....	1,000		

AMMUNITION.

The Gunpowder and Small Arm Ammunition on hand at the close of the year is shown in the statement underneath.

Stations.	S. A. Ammunition.—Rounds.				Blank.	Gunpowder.	Friction Tubes.
	Ball.						
	Snider.	Spencer.	Colt's.	Martini Henry.			
<i>District Magazines.</i>							
London	205,869		1,426		92,000	1,300	.....
Toronto	31,280	1,008	10,214		4,655	1,726	187
Kingston	1,154,070	2,646			135,490	28,824	9,150
Ottawa	55,976	150	2,200		79,650	440	819
Montreal	3,140,103	92,831	124,542	500,000	81,770	15,979	27,095
Quebec	166,835		27,300		438,535	148,350	4,404
St. John, N. B.	740,445	10,588			392,090	1,775	255
Halifax, N.S.	96,480				67,255		
Manitoba	138,689	11,309			37,277	1,760	2,409
British Columbia.	300,300				50,700		
P. E. Island.....	200,000				80,000	307	320
Total in District Stores.	6,230,047	118,532	165,682	500,000	1,459,422	200,471	44,619

The issues of small arm ammunition during the year for practice has been 861,514 rounds of ball and 302,338 rounds of blank. From the former, however, must be deducted 142,040 rounds sold to various corps and Rifle Associations for rifle practice for which deposit receipts amounting \$3,549.86 have been received in payment. This is nearly \$1,000 in excess of the previous years receipts for similar sales. During the month of June last one million rounds of Snider ball, and half a million blank, were received at St. John, N.B. These were obtained from the Imperial authorities in England. It will be noticed that the issues of ball and blank for practice last year, are only about half the quantity expended the previous year. This was no doubt owing to the reduction of the days set apart for the annual drill, and the number of men that were drilled.

The gunpowder and friction tubes expended for Artillery practice, have been 16,146 lbs. of the former, and 5,571 of the latter. Should this be the average rate of demand for the years to come for similar purposes, there is enough to meet it for many years.

The deposit receipts received during the year by this branch of your Department, have amounted to \$18,810 33. The different heads under which this amount has been received are shown in the detailed statement underneath.

DEPOSIT RECEIPTS RECEIVED IN 1874.

Ammunition.	Clothing.		Rent.	Miscellaneous.	Total Amount.
	Officers.	Mens.			
\$ c.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
3,812 01	372 45	1,314 05	7,317 44	5,994 38	18,810 33

The rents received this year for Militia properties under lease amount to \$7,317 44, this is about \$600 in excess of the receipts of the previous year. The arrears amount to \$279 36. Some of these arrears have been since received, and others are in course of payment. Means have been taken to collect those that have been long overdue.

The number of tenants, the localities of the lease holds, and the annual rental derived therefrom is shown as follows :

Localities	Tenants.	Rental.	
		\$	cts.
Chatham.....	1	5	00
Navy Island.....	1	100	00
Niagara.....	11	205	00
Toronto.....	3	240	00
London.....	1	100	00
Ottawa.....	1	1	00
Kingston.....	39	791	30
Montreal.....	6	1,173	25
Isle Aux Noix.....	2	56	00
Sorel.....	36	1,056	92
Quebec.....	35	2,324	68
Point Levis.....	28	1,015	25
New Brunswick.....	32	645	09
Nova Scotia.....	1	50	00
Total,	197	\$7,763	49

ARMS, ETC.

There have been received from England during the past year 2,100 Martini-Henry rifles, also 500,000 rounds of ball cartridge for that arm. Twelve more of the M.L.R. 9-pr. guns and carriages have also been received and distributed, as follows: Two with their carriages, have been sent to Fort Garry for service there; two more have been issued to the "B" Battery; the remainder have been issued to the Ottawa and Hamilton Field Batteries, in exchange for the S.B. 9-pr. guns, and the 24-pr. Howitzers in possession of those Batteries. The whole of the old Field Batteries with the exception of the Welland Canal and Newcastle Field Batteries have now been equipped with the improved Gun. The S. B. guns and Howitzers, formerly in possession of the Ottawa Field Battery have been transferred and are now in possession of the Gannanoque Field Battery. The old guns of the Hamilton Field Battery are stored at Toronto.

CAMP EQUIPAGE.

Has been issued as usual to the different camps, on the demand of the officers commanding districts. I regret still having to report heavy loss, as shown by the detailed statement below, as chargeable to the several districts. The loss of this year exceeds that of the previous one. I can only again on this subject, repeat my remarks of the previous year, which were to the effect, that these annually recurring losses, would go on with an increasing ratio, unless some better system, than any now in force, was devised and enforced for preventing them. I would particularly direct attention to the heavy loss sustained of tents and blankets, and also of tent and pin bags. The estimated loss is \$1,316 54. The amount received to cover such loss has been \$67 51.

CAMP LOSSES for the season of 1874.

Articles.	Military Districts.									Total.	Amount.
	No. 1.	No. 2.	No. 3.	No. 4.	Nos. 5 & 6.	No. 7.	No. 8.	No. 9.	No. 10.		
Bags, pin, marquee	1									1	\$ 1 00
do Tent, circular	4	3	13	3	3	14	6		10	56	28 00
Mallets, large		2		4				3		9	4 50
do Small	7	13	9	7	9	5	3	12	13	78	15 60
Pins, large	18	6		13	2	2	94	27		162	8 10
do Medium	112	54	32	15				30		243	7 29
do Small	1,336	1,157	568	1,118	845	816	543	337	710	7,430	74 30
Poles, marquee						1				1	6 00
do Tent	7		2	5	13	1	1	2	8	39	29 25
Tents, marquee											
do Circular	2	1	1	3		1			4	12	258 00
Valises, marquee											
do Tent, circular	7	2	8	3	3	4		2	8	32	32 00
Blankets, gray	12	132	52		90	40	26	12		364	782 60
Medicine chests			1		1		1			3	60 00
Nose bags			5		11					16	10 40
											1,316 54.

NOTE.—No. 11 Military District has not issued any No. 12 has none.

Boards of Survey were held as usual in the different districts, in the month of January. By these Boards, a quantity of obsolete and unserviceable stores were condemned, and subsequently sold by public auction, at Montreal, Quebec, St. John, N.B., Halifax, N. S., and Fort Garry, Manitoba. The stores condemned at Toronto, Kingston and Ottawa, were concentrated at Montreal, which offered a better market for their sale, excepting a few sold at Toronto and Kingston, which were not worth the transport. This method of offering such stores to public competition, having been adopted on my recommendation, in preference to the old system of calling for tenders for their purchase. The result, as was anticipated, has proved itself most satisfactory, their public sale having realised the aggregate sum of \$4,072.06, as against \$473.25, the amount produced by the previous year's sales. It is to be noted, however, that the sales this year include the Kingston, St. John, and Halifax stores, condemned the previous year, and whose sale I could not at the time recommend, in consequence of the very unfavorable tenders received for them. At London, Military District No. 1, nothing had been condemned.

The sales above referred to, took place at the following stations, and realised at each place the amount placed opposite:—

		\$	cts.
Toronto	Military District No. 2	24	00
Kingston	„ No. 3	3	00
Montreal	„ Nos. 5 & 6	679	97
Quebec	„ No. 7	559	82
St. John, N.B.	„ No. 8	2,266	81
Halifax, N.S.	„ No. 9	298	61
Fort Garry, M.	„ No. 10	239	85
		\$4,072	06

The assistance I have received in the discharge of my duties, from the storekeepers and others under my orders, in that branch of the Militia service committed to my charge, has been great, and I bear willing testimony to their zeal, and the efficiency of their co-operation with me, in carrying on its work.

THOS. WILY, Lieut.-Col.,

Director of Stores and Keeper of Militia Properties.

To the Honorable
The Minister of Militia and Defence,
Ottawa.

RETURN of Ammunition sold in 1874.

Date.	By whom Purchased.	Station.	No. of Rounds.	Amount
				\$ cts.
1874				
Mar. 20	Captain Macdonald, Field Battery	Guelph	2,000	48 00
April 2	Major Fraser	Montreal	500	12 00
do 2	Captain Macdonald, Field Battery	Guelph	500	12 00
May 6	Prince of Wales' Association	Montreal	1,000	24 00
do 8	P. Marston, Armour Sergeant	Toronto	2,000	48 00
do 11	Captain J. J. Mason, 13th Battalion	Hamilton	1,000	24 00
do 12	W. A. Alger, District Paymaster	Toronto	4,000	96 00
do 21	Prince of Wales' Association	Montreal	1,000	24 00
do 23	Major Fraser	do	500	12 00
do 29	Lieutenant Todd, Governor General's Foot Guards	Ottawa	500	12 00
do 29	Major Cotton, "A" Battery	Kingston	1,000	24 00
do 29	Captain Guy, District Storekeeper	Halifax	1,000	24 00
do 29	do do	do	500	12 00
do 29	do do	do	500	12 00
do 21	Lieutenant-Colonel McPherson	Ottawa	500	12 00
June 3	Joseph White	Whitby	500	12 50
do 5	Lieutenant-Colonel Fletcher, C. M. G., D. A. G.	Montreal	2,000	48 00
do 15	Capt. McPherson, Governor General's Foot Guards	Ottawa	500	12 00
do 16	Major Fraser	Montreal	1,000	24 00
do 17	Lieutenant-Colonel Gemmill, 42nd Battalion	Almonte	500	12 00
do 17	R. K. Hope	Hamilton	1,000	24 00
do 18	Captain Macdonald, Field Battery	Guelph	2,000	48 00
do 26	Lieutenant-Colonel Moffat, B. M.	London	1,000	24 00
do 27	Captain Walsh, Governor General's Foot Guards	Ottawa	500	12 00
do 27	Captain Scott	Quebec	500	12 00
do 26	" Guy, D. S.	Halifax	500	12 00
do 26	" Guy, D. S.	do	500	12 00
July 2	F. C. Wurtle	Quebec	500	12 00
do 3	J. W. Anderson	do	500	12 00
do 10	Lieutenant-Colonel Gemmill, 42nd Battalion	Almonte	500	12 00
do 10	Captain Morehouse	Sherbrooke	1,500	36 00
do 10	R. Woodcock	Woodstock	500	12 00
do 18	G. Bate, Governor General's Foot Guards	Ottawa	500	12 00
do 18	Capt. Duchesnay, "B" Battery	Quebec	1,000	24 00
do 28	J. Deslaurier, Governor General's Foot Guards	Ottawa	500	12 00
do 28	J. R. Wilkinon	London	1,000	24 00
do 29	E. Wilson	Goderich	500	12 00
Aug. 4	H. Cawdron	Ottawa	500	12 00
do 4	Captain Weatherley	do	500	12 00
do 6	" Cook	Goderich	500	12 00
do 10	" Guy, D. S.	Halifax	5,000	120 00
do 12	" Cook	Goderich	500	12 00
do 19	R. A. Woodcock	Woodstock	500	12 00
do 22	Captain J. J. Mason, 13th Battalion	Hamilton	760	18 24
do 22	Major Fraser	Montreal	3,500	84 00
do 24	Captain H. Cook	Goderich	500	12 00
do 28	" Mason, 13th Battalion	Hamilton	2,000	48 00
do 29	Major Carroll	London	1,000	24 00
do 31	Dr. Harkins, 18th Battalion	L'Orignal	1,000	24 00
do 31	Captain Macdonald, Field Battery	Guelph	1,000	24 00
do 31	J. A. Shaw	do	1,000	24 00
do 31	Lieutenant-Colonel Evans	St John, N. B.	7,780	210 72
do 31	Captain Guy, D. S.	Halifax	13,500	324 00
Sept. 4	H. Cawdron	Ottawa	1,000	24 00
do 3	H. Cook	Goderich	3,000	72 00
do 5	Lieutenant Grant	Ottawa	1,000	24 00
do 8	Major Alger, District Paymaster	Toronto	5,000	120 00
do 9	J. Macdonald	Ottawa	1,000	24 00
do 12	Stadacona Rifle Association	Quebec	1,000	24 00
do 17	Captain Mason, 13th Battalion	Hamilton	1,000	24 00
do 17	R. H. Attwood	London	1,000	24 00
do 17	Captain Cates	Ottawa	500	12 00

RETURN of Ammunition sold in 1874.—Continued.

Date.	By whom Purchased.	Station.	No. of Rounds.	Amount
1874				\$ cts.
Sept. 17....	Captain Macdonald	Guelph	1,500	36 00
do 24....	Captain Walsh, Governor General's Foot Guards	Ottawa	1,000	24 00
do 24....	H. J. Miller	Quebec	500	12 00
do 26....	Major Peebles	Winnipeg	1,000	24 00
do 29....	Captain J. J. Mason, 13th Battalion.....	Hamilton	1,000	24 00
do 29....	G. F. Carruthers	Winnipeg	7,000	168 00
do 29....	do	do	1,000	24 00
do 30....	Lieutenant Todd, Governor General's Foot Guards	Ottawa	1,000	24 00
Oct. 1....	Captain McPherson, do do	do	1,500	36 00
do 1....	G. F. Carruthers	Winnipeg	1,000	24 00
do 1....	Captain Guy, D. S.	Halifax	6,000	144 00
do 7....	Captain Wilkinson	London	1,000	24 00
do 7....	Captain Guy, D. S.	Halifax	500	12 00
do 9....	do	do	500	12 00
do 10....	do	do	500	12 00
do 10....	Lieutenant-Colonel Laurie	do	1,000	24 00
do 15....	Captain Phin	do	1,000	24 00
do 17....	G. Merrick	do	500	12 00
do 21....	H. P. Attwood	London	1,000	24 00
do 21....	Captain Guy, D. S.	Halifax	500	12 00
do 21....	do	do	500	12 00
do 25....	Lieutenant-Colonel Fletcher, D. A. G.	Montreal	1,500	36 00
do 26....	W. P. Marston	Toronto	2,000	48 00
do 28....	Captain McPherson, Governor General's Foot Guards	Ottawa	500	12 00
do 29....	Lieutenant-Colonel Evans	St. John, N. B.	5,000	120 46
do 29....	Dominion Rifle Association	Ottawa	9,000	223 94
do 29....	S. Spurr	Halifax	500	12 00
Nov. 6....	L. J. Bland	do	1,000	24 00
do 13....	R. A. Woodcock	London	1,000	24 00
Dec. 4....	J. Birkett	Ottawa	500	12 00
do 16....	Captain Macdonald	Guelph	2,000	48 00
do 30....	„ Guy, D. S.	Halifax	500	12 00
do 30....	„ Pope, D. S.	Montreal	500	12 00
	Other Ammunition			262 00
	Total			3,812 01

THOS. WILY, Lieut.-Col.,
Director of Stores, &c.

 APPENDIX No. 10.

 REPORTS ON CORPS WHICH HAVE COMPLETED THE DRILL FOR
 1873-74, SINCE 1ST NOVEMBER, 1873.

MILITARY DISTRICT No. 1.

 DEPUTY ADJUTANT GENERAL'S OFFICE,
 LONDON, July 18th, 1874.

SIR,—I have the honor to enclose my inspection report of the 25th Elgin Battalion Infantry, for their annual drill of 1873-74.

The battalion assembled for drill at Battalion Camp, near St. Thomas, from the 11th to the 19th June, 1874.

The camp was carried on in a regular orderly manner, and I heard very favourable reports as to the general behaviour of the men while in camp.

I carefully inspected the uniform of every man and have to report it good and serviceable. No. 2 Company will require new uniform next year, and numerals for forage caps are generally wanted. No. 5 Company, lately changed from mounted rifles, require issue of new belts and pouches.

The arms are in a good state of repair except a few pins required for the breech blocks.

The companies are very fairly drilled as companies but the battalion drill was not satisfactory, though the captains appear to know their battalion drill.

The target practice was strictly and carefully performed under Major Carswell.

I have the honor to be, Sir,

Your obedient servant,

JOHN B. TAYLOR, LT.-COL.,
 Deputy Adjutant General, Mil. Dis. No. 1.

The Acting Adjutant General,
 Ottawa.

 MILITARY DISTRICT No. 2.

OLD FORT, TORONTO, September 24th, 1874.

SIR,—I have the honor to forward the enclosed inspection report of corps of the Active Militia of this district, which have performed their annual drill of the year 1873-74, subsequent to my last report of the annual drill of that year, and therefore not included in it, viz: 1 Field Battery, Welland; 1 Garrison Battery, 7 Battalions of Infantry.

Of the above force the Welland Field Battery and three Battalions of Infantry: 2nd Battalion Queen's Own Rifles, 36th Battalion (Peel), and 39th Battalion (Norfolk), not having performed their annual drill on the promulgation of the General Orders of the 2d June last, in accordance therewith were not required to do so. The remaining corps: St. Catherines Garrison Battery, 10th Battalion (Royals), 13th Battalion, Hamilton; 19th Battalion, Lincoln, 5 Companies; 34th Battalion, Ontario, 1 Company; and 44th Battalion, performed their drill at their local, regimental and company headquarters.

The 10th Battalion laboured under great disadvantage, having no headquarter drill shed in which to muster and drill.

As a rule the above corps turned out and mustered very well. Arms, accoutrements and clothing in very fair order. Their general appearance on parade, soldierlike; drill quite as good as could be expected.

The 13th Battalion mustered in their drill shed at Hamilton, in good order; moved very steady; the appearance of the regiment on parade very creditable.

The target practice returns are not as satisfactory as I could have wished, but there was much difficulty experienced in effectively carrying out this most essential part of the annual drill.

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

W. S. DURIE, LT.-COL.,
Deputy Adjutant General, Mil. Dis. No. 2.

The Acting Adjutant General of Militia,
Ottawa.

MILITARY DISTRICT No. 3.

KINGSTON, September 26th, 1874.

SIR,—In reply to your letter (memorandum) 21st Sept., instant, I have honor to report that the only corps in this district reported to me as having performed the drill for 1873-74, since 1st November last, is the 16th Prince Edward Battalion, Lieut.-Colonel Walter Ross, commanding, as recorded in the accompanying inspection report by the Brigade Major of the 7th Brigade Division.

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

S. P. JARVIS, LT.-COL.,
Deputy Adjutant General, Mil. Dis. No. 3.

The Acting Adjutant General of Militia,
Headquarters, Ottawa.

MILITARY DISTRICT No. 4.

DEPUTY ADJUTANT GENERAL'S OFFICE,
BROCKVILLE, 9th July, 1874.

SIR,—I have the honor to inform you that, since my former report dated 1st November, 1873, on corps which had up to that date performed the annual drill for 1873-74. The following corps have completed the drill for the above period at their local head quarters, viz:

No. 4 Company, 41st. Battalion, Merrickville, Captain P. Y. Merrick, which I inspected on the 27th November, 1873. Present on parade, 2 officers, 53 non-commission-officers and men and 6 others accounted for; of the above 13 were bandmen.

The company paraded fairly, and performed manual and firing exercises, company drill and skirmishing. Companies performing the annual drill at local headquarters, do not as a rule acquire the same proficiency as those drilling in camp, consequently I considered this company an average one and fairly efficient. The band is also efficient. The target practice was carried on and completed.

Nos. 1, 2, 4 and 6 Batteries, Ottawa Brigade Garrison Artillery, performed the annual drill at their local headquarters, and paraded at the Brigade Camp on the 1st instant, for inspection, and were of the following strength.

	Officers.	Sergeants.	Rank and File.
Staff.....	5	2	
No. 1 Battery.....	1	2	42
„ 2 „.....	3	3	32
„ 4 „.....	2	3	52
„ 6 „.....	2	3	42
	13	13	168

Total officers and men, 194.

Major Egleson in command, Captain Graham acting Major, Captain Cluff, acting Adjutant. The batteries being commanded by Lieutenant Evans, Captain Patrick, Lieutenant Grant and Lieutenant Mara.

The brigade paraded very clean and soldierly, and took part in a Brigade field day, marching past in column, quarter-column, general field movements and route marching, all of which was smartly and creditably performed. There is an efficient band of about 28 performers. Target practice returns have not been received from this corps.

The abstract inspection report is herewith enclosed.

I have the honor to be, Sir,

Your obedient servant,

W. H. JACKSON, Lt.-Col.,

Deputy Adjutant General, Mil. Dis. No. 4.

The Acting Adjutant General of Militia,
Ottawa.

MILITARY DISTRICT No. 6

MONTREAL, July 6th, 1874.

SIR,—According to your instructions I have the honor of forwarding you for your information, the last part of the annual report for Military District No. 6 under my command.

The officers commanding the different corps in No. 4 Division of Brigade, have availed themselves of the advantages conferred by the General Order fixing the time of the annual drill of 1873-74, so as to allow these officers to select such times as they thought fit and proper for the assembling of their companies for drill purposes.

The choice of time and season has proved very advantageous in so much as the men have mustered in larger force this year than usual.

The first corps that was inspected (in the 4th Brigade Division) was the 64th Batt., the "Mont Royal Voltigeurs," under the command of Lieut.-Colonel Beaudry. There were present 18 officers and 194 non-commissioned officers and men.

The Band is good but has not the summer uniform of the Regiment. This corps was inspected on the 26th December, 1873.

The 76th Battalion under command of Lieut.-Colonel P. A. Bodier, was inspected by companies at their own headquarters and at different times or epochs. This battalion has no band; the uniforms are very good.

The nature of the movements gone through at inspection was company, manual and firing. This is a new corps, the men have a fine appearance and a good deal of credit is due the officers for the care and trouble they take in order to get along. There were present at inspection 22 officers and 263 non-commissioned officers and men.

The 64th Battalion under command of Lieut.-Colonel C. S. Rodier, was inspected in the same manner. This corps has no band; it has been provided with good new uniform since the day of the inspection. Company drill, manual and firing and skirmishing drill were the movements gone through. Present at inspection 17 officers and 231 non-commissioned officers and men.

The only Independent Company that has performed the annual drill for 1873-74 in the 4th Brigade Division, is that of Laprarie under Captain Brosseau. This company is a credit to Military District No. 6. Three officers and 51 men were present at the inspection on 16th March last.

On the 20th May last, No. 1 Company of the Joliette Battalion was inspected at its own headquarters, Joliette, after 16 days drill. Present on parade at inspection, 3 officers, 36 non-commissioned officers and men. The manual, company and skirmishing drill was fairly gone through; the general state of arms, &c., was good.

On the 26th May, No. 3 Company Three Rivers Battalion, was inspected at Berthier after 16 days drill. Present at inspection, 3 officers, 45 non-commissioned officers and men; the manual and firing, company and skirmishing drill was gone through; the general state of clothing, arms and accoutrements was good.

Nos. 2 and 3 Companies Joliette Battalion, and No. 1 Company Three Rivers Battalion, have yet to be inspected, which will be done as soon as they have performed the annual drill.

On the 9th July, 1873, the 55th Battalion, under Lieut.-Colonel Barwiss, entered on a 8 days drill (eight days drill) at Inverness. Present at inspection, 18 officers, 256 non-commissioned officers and men. The general conduct of the corps was good. This corps has a band of seventeen (17) musicians; the band is a good one. Arms and accoutrements good; new issue of clothing required. The movements gone through at inspection were:—General salute, marching past at open and quarter distance column, skirmishing and forming square. The prescribed course of "target" was performed, but could only obtain No. 4 Company's return, Sergeant Thompson; figure of merit 45.

On the 7th July, the Independent Company of St. Gertrude, was inspected after eight days drill. Present at inspection, officers 3, non-commissioned officers and men 20.

On the 22nd July, the Independent Company of Victoriaville, was inspected; 16 days drill. Present at inspection, officers 3, non-commissioned officers and men 34.

On the 20th August, the Independent Company of Gentilly, was inspected; 16 days drill. Present at inspection, officers 3, non-commissioned officers and men 11.

On the 15th October, the Company of Sorel, was inspected; 16 days drill. Present at inspection, officers 3, non-commissioned officers and men 27.

On the 3rd October the Company of St. Simon was inspected; 16 days drill. Present at inspection, officers, 3, non-commissioned officers and men, 43.

On the 15th March, 1874, the Company of St. Pie was inspected. Present at inspection, officers, 2, non-commissioned officers and men, 39; 16 days drill.

On the 3rd March, 1874, the Independent Company of St. Gregoire was inspected after 16 days drill. Present at inspection, officers, 3, non-commissioned officers and men, 43.

On the 18th March last, the Independent Company of Bécancour was inspected after 16 days drill. Present at inspection, officers, 2, non-commissioned officers and men, 35.

On the 16th March the Company of St. Hyacinthe was inspected after 16 days drill. Present at inspection, officers, 3, non-commissioned officers and men, 55.

On the 16th June last, the Independent Company of Nicolet was inspected after 16 days drill, officers, 3, non-commissioned officers and men, 33

The arms and accoutrements of the above named Independent Companies are in good order, but they all require a complete re-issue of clothing.

At the inspection of the above named Independent Companies, the nature of the movements performed by them was very much the same, that is, they went through the general salute-firing exercise, company movements and skirmishing. The conduct of the different corps was good during drill.

The prescribed course of target practice has been performed.

Figure of Merit, St. Gertrude Company, Honori Lemarch...	56
do Victoriaville do Landry Rhéault....	57
do Gentilly do René Malhoit.....	49
do Sorel do Selon Sickman. ...	70
do St. Simon do George St. Germain	40
do St. Pie do Damase Fontaine..	70
do St. Gregoire do Louis Rinfret.....	59
do Bécancour do Adelard Lupien ...	82
do St. Hycinthe do N. Chaput.....	50
do Nicolet do N. Barnsque... ..	51

I have endeavored to make this report as complete as possible, and that it will meet with your approval.

Yours sincerely,

A. C. DE LOTBINIERE-HARWOOD, LT.-COL.,
Deputy Adjutant General, Mil. Dis. No. 6.

The Acting Adjutant General of Militia,
Ottawa.

MILITARY DISTRICT NO. 7.

QUEBEC, 27th June, 1874.

SIR,—In pursuance to the instruction contained in No. 10 of the General Order (14 under date 3rd June, 1874. I have the honor to forward enclosed the supplementary report for such corps in this district as had not completed their drill on the 1st November.

I also forward herewith a return of target practice for the same corps and the same period and a detailed statement which shows the average attendance and nominal strength of corps who drilled since 1st November, as well as the total average of corps drilled for 1873-74.

I have the honor to be, Sir,

Your obedient servant,

L. A. CASAULT, LT.-COL.,
Deputy Adjutant General Commanding Mil. Dis. No. 7.

The Acting Adjutant General Headquarters
Ottawa.

ABSTRACT of nominal and actual strengths of Corps mentioned in the annexed report :

Names of Corps.	Nominal strength.		Actual strength.	
	Officers.	N.C.O. and Men.	Officers.	N.C.O. and Men.
17th Battalion, No. 6 Company.....	3	55	1	52
"Rimonski" Provisional Battalion, No. 1 Company.....	3	55	3	44
Foxes River Independent Company.....	3	55	3	49
Quebec Squadron of Cavalry, 2 Troops and Staff.....	12	110	9	98
8th Battalion do do Companies.....	21	275	17	260
"Portneuf" Provisional Battalion, No. 2 Company.....	3	55	3	51
do do No. 3 do.....	3	55	1	49
"Charlevoix" do do No. 3 do.....	3	55	2	49
Total.....	51	715	39	643

The total of nominal strength of corps who have performed their annual drill of 1873-74, since the 1st November, 1873 up to date is (officers, non-commissioned officers and men) 766 ; actual strength, (officers, non-commissioned officers and men) 682, representing an average attendance of 0.89 for that period of annual drill.

The total of the same respective strengths, as per the report,

	Nominal	Actual
For the first part of 1873-74 is.....	2,066	1,676
For the last period.....	766	682
Grand Total for 1873-74.....	2,832	2,658

or an average attendance of 0.938.

L. A. CASUALT, Lt.-Col.,
Deputy Adjutant General, Mil. Dis. No. 7.

QUEBEC, 27th June, 1874.

MILITARY DISTRICT No. 8.

DEPUTY ADJUTANT GENERAL'S OFFICE,
FREDERICTON, N. B., 12th October, 1874.

SIR,—I have the honor to enclose herewith the report called for in your memorandum of 21st ultimo, and forward papers connected therewith.

In explanation of the delay that has occurred in carrying out your instructions I beg to inform you, that I have but this moment received the target practice returns made by the New Brunswick Engineers.

As I was at my post at Fredericton as Adjutant of Military School, when this corps was inspected by the Deputy Adjutant General Commanding the District in January last, I found some discrepancies in the target practice returns and sent them back for corrections on 4th February and have only now received them.

I have the honor to be, Sir,

Your obedient servant,

A. C. OTTY, Lt.-Col.

Acting for Deputy Adjutant General, Mil. Dis. No. 8.

The Acting Deputy Adjutant General,
Headquarters, Ottawa,

MILITARY DISTRICT No. 9.

HALIFAX, June 30th, 1874.

SIR,—I have the honour to forward herewith the report on corps which have lately completed the annual training for 1873-74.

I have the honor to be, Sir,

Your obedient servant,

J. WIMBURN LAURIE, Lt.-Col.,

Deputy Adjutant General, Commanding Mil. Dis. No. 9.

The Acting Adjutant General of Militia,
Ottawa.

MILITARY DISTRICT No. 11.

DISTRICT HEADQUARTERS,

VICTORIA, B.C., July 14th, 1874.

SIR,—I have the honor to submit my report of the annual Inspection of the Militia of this District, held by me at Victoria on the 27th of last month, and at New Westminster on the 2nd instant; also to inform you that the total number of officers and men authorized to be enrolled therein is 235, viz:—

Victoria.....	2 Companies ;	106 Officers and Men.	
New Westminster..	1 Company ;	43	„
Nanaimo	1	43	„
Burrard Inlet	1	43	„
Total.....		235	„

Of these, the Burrard Inlet Company has not yet been organized, for reasons already stated in my letter of the 19th January last.

The Nanaimo Company has only very recently completed its service roll, and has not yet been armed or equipped.

The only Companies, therefore, of which it was necessary to make an inspection were the two Victoria and one New Westminster Companies.

These three companies have performed their annual drill at their respective headquarters, under authority of the General Order dated 30th May, 1873, but as a paymaster has not as yet been appointed to the district, the men have up to the present time received no pay for their services. I herewith enclose the certificates of officers commanding companies as to the number of drills performed by each man, and for which they are entitled to receive the regulation pay of 50 cents per diem.

I made a minute inspection of the arms of these companies, and with one or two very trifling exceptions, I found them well cared and in good order. The accoutrements and clothing were also in very good order, and much pains has been taken with the fitting of the latter.

The men, however, complain of the quality of the forage cap, which is rather a coarse article, and without any ornament, I must myself admit, is by no means a becoming head dress.

I enclose a claim for one year's care of arms for each company up to the end of June last, Captain Roscoe informing me that he understood from you at Ottawa that it was the intention to grant a full year's allowance for this service.

I have much pleasure in testifying as to the proficiency in drill which has been attained by these companies during the short time which has elapsed since their organization. The different movements performed by them during my inspection being admirably executed, and reflecting much credit both on the men themselves and their officers. Both the marching past and skirmishing of the Victoria Companies (particularly No. 1) was exceedingly good, and the manual and firing exercise of the New Westminster corps was excellent.

My inspection of the Victoria corps took place on the 27th June, and that of the New Westminster company on the 2nd July, instead of the 30th June, as at first intended, but which had to be altered to suit the steamer days.

In conclusion, I beg to add that I was unable to comply with the instructions contained in a circular dated Department of Militia and Defence, June 1st, 1874, which did

not reach me by post until the 22nd of June, although requiring all ordinary monthly claims to be at the Departmental Office at Ottawa before the 20th of the same month.

I have the honor to be, Sir,

Your obedient servant,

C. F. HOUGHTON, Lt.-Col.,

Deputy Adjutant General, Mil. Dis. No. 11.

The Acting Adjutant General,
Headquarters, Ottawa.

INSPECTION OF ARTILLERY, PROVINCE OF QUEBEC.

GUNNERY SCHOOL, CITADEL QUEBEC,

August 24th, 1874.

SIR,—I beg to submit this supplementary report to accompany that of the training of the artillery and engineer corps of Military District No. 5, which was only completed on the 30th June, 1874, for the preceding year, and the corps inspected by me finally at the conclusion of their drill. A report was submitted on the prescribed form, which does not admit of a place for the following points I wish to bring to your notice, viz :—

The very excellent results obtained from a branch school of gunnery in connection with the detachment of the Quebec School under Captain Short's command. This officer has a special ability for instruction, which I brought to the notice of the late Adjutant General in the Militia Report for 1872.

From the nature of their civil occupations, it appears impossible for officers or men of the Montreal Artillery Corps, viz :—Montreal Garrison, Grand Trunk Brigade, and Montreal Field Battery Volunteer Artillery to join for courses of instruction at Quebec, and those men who engage for one year in "B" Battery, and are enrolled according to order for a further term of two years in the Montreal Volunteer Garrison, and Field Battery Artillery cannot be compelled to return to those corps when their time expires in "B" Battery: moreover there are not always vacancies for them in volunteer corps.

I think it most desirable that the detachment of "B" battery at Montreal should be more utilized as a training school of gunnery, and some facilities given by Government. Captain Short was often detained at Montreal consequent upon the breaking up of the ice, and his hotel and other expenses incidental to the instruction he was giving were considerable.

The same applies to the sergeants of "B" battery employed on the same duty, and I beg to request permission to submit a claim for compensation on the part of this officer and non-commissioned officer, viz : Captain Short and Sergeant Howard. Captain Short's report herewith.

My thanks are due to Lieut.-Col. McKay, commanding Montreal Garrison Artillery, and Lieut.-Col. Worsley, Brigade Major Grand Trunk Railway Brigade, for the excellent example they set to all ranks. I would suggest that Lieut.-Col. McKay's expenses in repairing the floor of drill shed, &c., be refunded to him.

I have the honor to be, Sir,

Your obedient servant,

T. B. STRANGE, Lt.-Col.,

Inspector of Artillery.

The Acting Adjutant General,
Ottawa.

CITADEL, QUEBEC, July 29th, 1874.

SIR,—I have the honor to report that, according to instructions from you, a Branch School of Gunnery was established in Montreal under my command, commencing on the 20th of January, 1874, and ending the 16th of May, 1874, composed of officers and non-commissioned officers of the Grand Trunk and Montreal Garrison Artillery Brigades. The average attendance was about 18, 13 of whom obtained 2nd class certificates. The course of instruction consisted in garrison gun drill, mortar drill, gyn drill, &c., &c., mounting and dismounting ordnance without a gyn, with theoretical lectures on gunnery and artillery material. Most of the officers also went through their mortar practice on the Island, and were instructed in boring and fixing fuzes, &c. The practice was fair, the best shot being made by Lt.-Col. Worsley.

I must thank Lt.-Colonels McKay and Worsley for the assistance and interest they took in the school, who to show a good example to their officers, used to fall in and take a number at gun drill, &c.

I have the honor to be, Sir,

Your obedient servant,

CHAS. J. SHORT, CAPTAIN,
Commanding Branch School.

Lt.-Col. Strange, Commandant,
School of Gunnery, Quebec

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT. No. 1. Lieut.-Col. J. E. TAYLOR, D.A.G.M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battalion or Corps.	Com- pany.	Battalion or Corps.	Com- pany.					
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
25th Battalion.....	5	Major Tweedale, St. Thomas.	275		240						
No. 1 Company.....		Capt. Corlis, do	3	55	3	67					
No. 2 do.....		„ Watts, Vienna	3	55	3	33		30			
No. 3 do.....		„ Weisbrod, Aylmer	3	55	3	44		12			
No. 4 do.....		„ Osborne, Wallace- town.	3	55	2	44		22		Waggon.	
No. 5 do.....		„ Edgecombe, Iona.	3	55	3	41		15			
		Staff.....			7	6					
		Total.....	22	275	21	240	At St. Thomas from 11th June to 19th June.	In Battalion Camp.			24 hours.

Annual Drill for 1873-74, since 1st November, 1873.

<p>22 cents. Very good. None.</p>	<p>21 Musicians ; good Band. Uniform good ; Arms fair.</p>	<p>Battalion and Skirm'ing Cos. were fairly drilled as Cos., and in Skirm'ing, but Batt. Drill was very deficient, tho' the Capt's appear to know their Drill well.</p> <p>Yes.</p> <p>The men fired their 20 rounds per man at target practice, and the duty was strictly performed under Major Carswell, but no duplicate of the scores was kept.</p>	<p>Cost of rations per diem, at encampment General conduct of Corps. If any, and what casualties. Whether in possession of Band. Number of Musicians and proficiency. General state of Clothing, Arms, and Accoutrements. Nature of Movements at Inspection, and how performed. Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.</p>	<p>Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.</p> <p>F. of M. Batt. F. of M. Comp. Date of Inspection. Date when drill was completed.</p>	<p>REMARKS.</p>
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INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2. Lieut.-Colonel W. S. DURIE, D.A.G.M.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.		
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.			Officers.	N. C. O. and Men.		Officers.	N. C. O. and Men.	Miles.	Mode.
<i>Field Battery of Artillery.</i> Welland Canal.....		Major King, Port Robinson.....	5	75									
<i>Garrison Battery of Artillery.</i> St. Catherines		Capt. Holmes, St. Catherines.....	3	55	2	38	11th Dec., 1873, St. Catherines, 16 days.	Not under canvas.	Nil.	Nil.			12 hours.
<i>Infantry.</i> 2nd Batt. Q. O. Rifles	10	Lieut.-Col. Gillmore, Toronto.....											
No. 1 Company													
No. 2 do													
No. 3 do													
No. 4 do													
No. 5 do													
No. 6 do													
No. 7 do													
No. 8 do													
No. 9 do													
No. 10 do													
		Staff	8	6									
		Total	38	6	650								
10th Royals.....	10	Major Stollery, Toronto.....											
No. 1 Company		Capt. Anderson do ..	3	65	2	43	14th May, 1874, Toronto, 16 days.	Not under canvas.	Nil.	Nil.			12 hours.

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
None allowed.	Nil.											
Good	Good.	None.	None.	Good order; Clothing worn.	Company and Big Gun Drill; latter very good.	Yes; Enrolled men.				9th April, 1874.	9th April, 1874.	This Battalion was Inspected by Lt. Col. Villiers, B. M., who report'd very favorably. General appearance clean and soldier like.
None reported.												
Yes; good Band.												
Clothing in fair condition, but deficient; Arms in very good order.												
Company and Battalion Movements.												
Yes; All reported enrolled men.										26th June, 1874.	26th June, 1874.	This corps was not required, by authority, to perform annual drill.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.				
10th Royals.—Con.											
No. 2 Company		Capt. Hirshfelder, Toronto	3	65	2	50		May, 1874, Toronto, 16 days.			
No. 3 do		„ Rolph do	3	65	2	49		14th May, 1874, Toronto, 16 days.			
No. 4 do		„ Noverre do	3	65	3	51		Toronto, 16 days.			
No. 5 do		„ Fleming do	3	65	2	39		Jan. to June, 1874, Toronto, 16 days.			
No. 6 do		„ Canavan do	3	65	2	50		Toronto, 16 days.			
No. 7 do		„ Thompson do	3	65	2	49		Toronto, 16 days.			
No. 8 do		„ Patterson do	3	65	2	58		Jan. to June, 1874, Toronto, 16 days.			
No. 9 do		„ Pamsay do	3	55	2	49		May to June, 1874, Toronto, 16 days.			
No. 10 do		„ Thompson do	3	55	1	44		Toronto, 16 days.			
		Staff	8	6	7	1					
		Total	38	6	28	1	532				12 hours.

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.		
None allowed.	Good.	None reported.	Yes; good Band; 25 musicians.	Clothing, in fair condition, but deficient; Arms in very good order.	Company and Battalion Movements.	Yes; All reported enrolled men.			26th June, 1874.	26th June, 1874.	No. 3 Company drilled May to June, 1874.	No. 5 from May 14	This regiment mustered strong. One or two of the Companies not properly clothed or accoutered. Much difficulty was experienced in the performance of the annual drill, there being no drill shed, which militates much against the general efficiency of the Toronto Corps.	No. 10 Jan. to June

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection. Date when drill was completed.	REMARKS.				
							<table border="1"> <tr> <td>F. of M.</td> <td>Batt.</td> <td>E. of M.</td> <td>Comp.</td> </tr> </table>	F. of M.	Batt.	E. of M.	Comp.		
F. of M.	Batt.	E. of M.	Comp.										
None allowed.	Good.	None reported.	Very good Band, 33 Musicians.	In good condition.	Company and Battalion Movements.	Yes, all reported enrolled.		10th June, 1874. 10th June, 1874.	This Regiment is composed of a very fine body of young men, and is in a good and creditable state. Very soldierlike.				

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Mode.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
19th Battalion.....	6	Lieut.-Col. Currie, St. Catharines.									
No. 1 Company		Capt. Thompson, Niagara	3	....	55	2	....	60		Nil.	Nil.
No. 2 do		" Thompson, St. Catharines	3	....	55	3	....	55		do	do
No. 3 do		" Carlisle, St. Catharines	3	....	55	3	....	48		do	do
No. 4 do		" Walker, Beamsville			55	2	....	43		do	do
No. 6 do		" Hiscott, Virgil...	3	....	55	2	....	48		do	do
		Staff	8	6	....	....	....	....
		Total	23	6	275	12	....	254			

10th July, 1873. Niagara, 16 days.
31st Oct., 1873. St. Catharines, 16 days.
3rd Nov., 1873. Beamsville, 16 days. St. Catharines, 16 days. Virgil 16 days.
15th Nov., 1873. Virgil 16 days.

Not under canvas.
Drill, Shed at Headquarters.

1 hour.

Annual Drill for 1873-74, since 1st November, 1873 —Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	REMARKS.	
							F. of M. Batt.	F. of M. Comp.	Date when drill was completed.	
None allowed.	Good.	None reported.	Nil.	Arms clean, Accoutrements worn out. Clothing much worn.	Squad and Company Drill. Target Practice.	Yes, all reported enrolled men.				
							Sergt. W. Vosburgh	39.00	12th Nov., 1873. 13th Nov., 1873.	40 rounds per man at 200, 400, 500 and 600 yards.
							Pt. J. Sandham	21.50	6th February, 1874. 6th February, 1874.	20 rounds at 200 and 400 yards. Fair average.
							Pt. C. Miller,	19.12	8th Dec., 1873. 8th Dec., 1873.	20 rounds at 200 and 400 yards.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to Muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Office, and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
34th Battalion.....		Lieut.-Col. Warren, Whitby.....									
No. 1 Company		Capt. Gordon, Whitby	3	.....	55	3	.....	56		Nil	Nil
No. d		" Jillon, Oshawa...	3	.....	55	2	.....	58		do	do
No. 3 do		" Dickie do ..	3	.....	55	3	.....	60		do	do
No. 4 do		" Paterson, Beaverton.....	3	.....	55	3	.....	41		do	do
No. 5 do		" Billings, Port Perry.....	3	.....	55	2	.....	36		do	do
									Not under canvas.		
									26th May 1874. 19th May 1874. 11th May 1874. 14th May 1874. 11th May 1874. 16 days. Oshawa, 16 days. Oshawa, 16 days. Oshawa, 16 days. Whitby, 16 days.		

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>found fit</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
None allowed.	Good.	None reported.	Yes, very good Band, 20 performers.	Clothing in fair order, but worn. Arms and Accoutrements in fair order.	Squad and Company Drill. Target Practice.	Yes, all reported enrolled men.	Sergt. A. El-dridge.....		39.09			
							Corpl. Watson.....		24.96			
							Sergt. Cameron.....		41.56			

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'on or Corps.	Com-pany.	Battal'on or Corps.	Com-pany.	Com-pany.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.				
34th Battalion.—Con												
No. 6 Company		Capt. White, Brooklin	3	.....	55	2	.....	55			Nil.	Nil.
No. 7 do		" Cowan, Cannington.	3	.....	55	2	.....	35			do	do
		Staff	8	6		6	1					
		Total	29	6	385	23	1	338	16th May, 1874. Cannington, 16 days.			
36th Battalion		Lieut.-Col. Gracy, Brampton.	27	.....	495							
		9 Companies	8	6								
		Staff										
		Total	35	6	495							
39th Battalion		Lieut.-Col. Tuabe, Simcoe.										
No. 1 Company												
No. 2 do												
No. 3 do												
No. 4 do												
No. 5 do												
No. 6 do												
No. 7 do												
No. 8 do												
		Staff	8	6								
		Total	32	6	440							

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2. — Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
44th Battalion	8	Lt.-Col. Barnett, Clifton									
No. 1 Company		Capt. Bender, Drummondville	3		55				Did not perform Annual Drill.		
No. 2 do		Capt. James, Thorold	3		55	3		28	27th Oct., 1873, Thorold, 16 days.	Not under canvas.	Nil.
No. 3 do		Capt. Stiff, Chippewa	3		55				Did not perform Annual Drill.		
No. 4 do		Capt. Treble, Fort Erie	3		55	3		37	30th Oct., 1873, Fort Erie, 16 days.	Not under canvas.	Nil.
No. 5 do		Capt. Hamilton, Welland	3		55				Did not perform Annual Drill.		
No. 6 do		Capt. Tattersall, Clifton	3		55	2		64	30th Oct., 1873, Clifton, 16 days.	Not under canvas.	Nil.
No. 7 do		Capt. Beam, Ridgeway	3		55	2		44	20th Oct., 1873, 30th Oct., 1873, Ridgeway, 16 days.	Not under canvas.	Nil.
No. 8 do		Capt. Haney, Fenwick	3		55	3		42	20th Oct., 1873, Fenwick, 16 days.	Not under canvas.	Nil.
		Staff	8	5							
		Total	32	6	440	13		295			

Annual Drill for 1873-74, since 1st November, 1874.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt. F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
Nil.	Good.	None.	Yes. Good band. 20 Musicians.	All in good order.		Yes. All reported enrolled men.	Sergt. W. Haywood.....	.....	18.78		
							Pte. J. Huffman.....	.....	43.75		
							Sergt. N. Rice .....	.....	44.29		These Companies were duly mustered and inspected by Lt.-Col. Villiers, who reported favorably of general appearance and efficiency.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 3. Lieut.-Colonel S. P. JARVIS, C.M.G., D.A.G.M.			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.						
16th Battalion	8	Lieut.-Col. W. Ross, Picton										
No. 1 Company		do			2		42	March 10th, 1874. 8 days.				
No. 2 do		Wellington.....			1		46	March 11th, 1874. 8 days.				
No. 3 do		Consecon.....			3		40	January 27th, 1874. 8 days.				
No. 4 do		Milford			3		55	March 11th, 1874. 8 days.				
No. 5		do			3		54	January 27th, 1874. 8 days.				
No. 6 do		Picton			3		50	March 10th, 1874. 8 days.				

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
			16 Instrumenta.				Nil.					This Battalion performed Annual Drill at company headquarters. All were inspected but No. 8 Company. The Battalion performed Company Drill fairly.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 2.—Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.						
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.				
16th Battalion—Con.												
No. 7 Company		Rollins				3		55				
No. 8 do		Rednersville				3		55				
		Staff										
		Total				21		397				
												12 hours.

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians, and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
			16 Instruments.				Nil.					

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 4. Lieut.-Col. W. H. JACKSON, D.A.G.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Ottawa Brigade Garrison Artillery.....		Major Egleson, Ottawa.									
No. 1 Battery		Lieut. Evans, Ottawa	3	.....	55	1	.....	44			
No. 2 do		Capt. Patrick, do	3	.....	55	3	.....	35			
No. 4 do		Capt. Cluff, do	3	.....	55	2	.....	55			
No. 6 do		Capt. Graham do	3	.....	55	2	.....	45			
		Staff.....	5	2	.....	5	2	.....		
		Total.....	17	2	220	13	2	179			
									Local Headquarters.		
									32 days drill performed.		
41st Battalion.....	* 4	Lieut.-Colonel Cole, Brockville.									
No. 4 Company.....		Capt. Merrick, Merrickville.....	3	.....	55	2	.....	53			
									Local Company Headquarters		
									32 days drill performed.		

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt. F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
			An efficient band of about 28 musicians.	Good.	Marching post in column and quarter column. General Brigade Field Day and route marching. Efficient.	Reported so.	No Returns.	.....	1st July, 1874. 26th June, 1874.		
	The Battalion Band, 13 strong, were attached to this Company, and is efficient.			Serviceable.	Manual and firing exercises. company drill and skirmishing. Fairly executed.	Yes.	Five shots each at 200, 400, 500 and 600 yards.	..... 51.01	27th November, 1874. 27th November, 1874.		

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT. No. 5. Lieut.-Col. JOHN FLETCHER, C.M.G., D.A.G.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.				
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.		
No. 1 Troop of Cavalry.....		Capt. Muir, Brevet-Major, Montreal...	3	35	1	25	Montreal 16 days.	At Troop Head Quarters.		6 hours.
1st Battalion.....	6	Lieut. - Col. Bond, Montreal.					Montreal 16 days, at Battalion Head Quarters.			
No. 1 Company		Capt. Mudge, Montreal	3	55						
No. 2 do		„ Stevenson, Montreal	3	55						
No. 3 do		Lieut. Shepherd, Montreal	3	55						
No. 4 do		Capt. Armstrong, Montreal	3	55						
No. 5 do		„ Roddick, Montreal	3	55						
No. 6 do		„ Watt, do	3	55						
		Staff	7		19					
		Total	25	335	19	283				6 hours.
3rd Battalion	6	Lieut.-Col. Bethune, Montreal.					Montreal, 16 days.			
No. 1 Company		Capt. Crawford	3	55	2	42				
No. 2 do		Lieut. Oswald	3	55	2	35				
No. 3 do		Capt. Allan	3	55	4					
No. 4 do		„ Greenshill	3	55						
No. 5 do		„ Gates	3	55						
No. 6 do		„ Redpath	3	55						
		Staff	7							
		Total	25	335	8	150				6 hours.
							Drilled at Battalion Head Quarters.			

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.	Date of Inspection.	REMARKS.
							F. of M. Batt.	F. of M. Comp.	Date when drill was completed.
Good.	Good.	None.	No.	*Good.	Marching Post, increasing and diminishing front, Sword Exercise, well done.	Yes.		26th January.	* Two carbines short, saddlery deficient. Inspected by Lt.-Col. Bacon.
None.	None.	Have good Drum and Fife Band, 26 performers.	Good.	Marching Post, Manual and Firing Exercise, increasing and diminishing front, Countermarching, opening and closing to and from the front, fairly performed.	Yes.			6th March.	Inspected by Lt.-Col. Bacon.
Brass Band, 22 performers. Very good.	None.	Marching Post, Manual and Firing Exercise, Forming Column, Countermarching, Changing Front, Forming Square, Marching in Column to a Flank, &c.	Very good.	Yes.				29th June. 29th June.	Inspected by Lt.-Col. Fletcher.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 5. — <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.			Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Mode.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.	Officers.							N. C. O. and Men.	N. C. O. and Men.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
6th Battalion.	4	Major Martin, Montreal.											
No. 1 Company	.....	Capt. Millen	3	.....	55	.....	.....	43					
No. 2 do	.....	„ Gardner	3	.....	55	.....	.....	32					
No. 3 do	.....	„ Sinton	3	.....	55	.....	.....	31					
No. 4 do	.....	„ Henshaw	3	.....	55	.....	.....	26					
		Staff	5	.....	.....	.....	.....	.....
		Total	17	225	.....	13	.....	136	Montreal 16 days.				
									Drilled at Battalion Head Quarters.				6 hours.

* For Return of Montreal Field Battery, Montreal Garrison Artillery, and No. 1 Engineer Company, good

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.	None.	Drum and Fife, 22 musicians, Very good.	Good.	Marching Past, Manual and Firing Exercise, Advancing and Retiring in Line, 2 Columns moving to a Flank in Column, Countermarching, Wheeling in Column, Forming Square, Deploying.	Yes.				18th June.	18th June.	Inspected by Lt.-Col. Fletcher.

see Inspection Report of Lieut.-Col. Strange, R.A. The arms and accoutrements of these corps are in order.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 6. Lt.-Col. DeLOTBINIERE HARWOOD, D. A. G. M.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Com- pany.	Battery or Corps.	Com- pany.			Miles.	Mode.		
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.						
<i>4th Brigade Division.</i>												
6th Battalion.....	6	Lieut.-Col. C. S. Rodier, Beauharnois										
No. 1 Company...		Capt. Baker do			2	54	19th March, 1874.					
No. 2 do		„ Bazinet do			3	44						
No. 3 do		do do	This company has obtained to be dispensed of its drill this									
No. 4 do		„ DeLorimier do			3	40		22nd April, 23rd, April, 14th April, 1874.				
No. 5 do		Lieut. Danis do			2	47						
No. 6 do		Capt. Langevin do Staff.....			2 5	46						
		Total			17	231						
<i>65th Battalion.....</i>												
	6	Lieut.-Col. Beaudry, Montreal					26th December, 1873.	At headquarters.		They mustered at their own headquarters.		
No. 1 Company...		Capt. Chagnon do			2	25						
No. 2 do		„ Trudeau do			2	33						
No. 3 do		„ A. Oulmet, M. P. P. do										
No. 4 do		„ S. Dolje do			1	30						
No. 5 do		„ T. Bélanger do			3	53						
No. 6 do		„ Lapointe do Staff.....			7	47 6						
		Total			18	194						

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 6. —Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battalion or Corps.	Company.	Battalion or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
76th Battalion.....	6	Lt.-Col. P. A. Rodier, St. Martine									
No. 1 Company.....		Capt. Laberge, M.P.P..... do				3		29			
No. 2 do		„ Durocher do				3		51			
No. 3 do		„ Legault do				3		55			
No. 4 do		„ Beaudreau do				3		55			
No. 5 do		„ Turcot do				3		51			
No. 6 do		„ Reid do				3		22			
		Staff.....				4					
		Total				22		263			
5th Brigade Division.											
Joliette	1	Captain McConville, Joliette				3		36			
Three Rivers	3	Captain Emond, Berthier.....				3		45			

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	Date when drill was completed.	REMARKS.
No rations.	Reported good by commanding officers.	No casualties.	No band.	Very good uniforms.	Company drill, manual and firing.	I was told they were.	Impossible to give figure of merit. Target practice has not been properly carried on. Some companies when they drill at their headquarters have no ranges.			
No rations.	Reported good by commanding officers.	No casualties.	Band of 12 Musician; good; Riviere du Loup.	Good uniforms.	Company drill; manual and skirmishing drill.	Yes.	Sergt. Coutu, 124 points . . . Private St. Jean, 47 p'ts	14 00	20th May. 20th May.	20th May. 20th May.
42 00										

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 6.—Continued		Establishment.		Actual strength present at inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
		Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.		
<i>6th Brigade Division.</i>										
55th Battalion.....	6	Lieut.-Col. Barwis, Inverness.....	24	330	18	256	1st July; Inverness; 8 days.	Camp.	10 H'd 16 28 17 30	C C C C C 16 hours.
No. 1 Company.....					2	3				
No. 2 do.....					2	3				
No. 3 do.....					2	3				
No. 4 do.....					2	3				
No. 5 do.....					1	1				
No. 6 do.....					2	3				
		Staff.....			5	5				
		Total.....								
<i>Independent Companies.</i>										
	1	Capt. Moussette, St. Gertrude.....			3	20	1st July, 8 days.			3
	1	„ Beaubien, Victoria-ville.....			3	24	8th July, 16 days of drill at their own headquarters.			2
	1	„ De Foy, Gentilly.....			2	11	5th July, 16 days of drill at their own headquarters.			3
	1	„ Pratte, St. Gré-gorie.....			3	43	3rd Mar. 16 days of drill at their own headquarters.			2
	1	„ Landry, Bécan-cour.....			2	35	4th Mar. 16 days of drill at their own headquarters.			1
	1	„ Girouz, Nicolet.....			3	33	16th June.			1

Annual Drill for 1873-74, since 1st November, 1873.

Cost of rations per head, per diem, at encampment	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>boni fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
20 cents.	Good.	None.	17 Musicians.	Arms and accoutrements good; new issue of clothing required.	General salute, marching past at open and quarter column; skirmishing and forming square.	Yes.	The prescribed course was performed, but could only obtain No. 4 company's return. Sergeant Thompson.		45'00	9th July.	8th July.	
No rations.	Good.	None.	17 Musicians.	Arms and accoutrements in good order; new issue of clothing required.	General salute; firing exercises; company movements and skirmishing.	Yes.			56'00	20th July.	7th July.	
							H. Lamarche.		57'00	22nd July.	24th July.	
							R. Mailhot....		49'00	20th July.	21st July.	
							Ls. Rinfret....		69'00	3rd Mar.	3rd Mar.	
							A. Lupien....		82'00	18th Mar.	18th Mar.	
							N. Barnacque.		51'00	6th June	18th June	

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 6.—Continued.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Distance the several Corps had to proceed to Muster, and mode of transport.		Time required to concentrate the Battalion or Corps.	
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.		
Battalion or Corps.	Companies.	Commanding Officer. and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.				
St. Hyacinthe Provisional Bat.	1	„ Doherty St. Hyacinthe				3		55	3rd July. 28th Sept.			1
	2	„ Morin, St. Pie....				2		39	17th Sept.	at their own headquarters.		3
	3	„ Sylvestre, St. Simon				3		43	30th July.	16 days of drill at their own headquarters.		3
	4	„ Patenaude Sorel....				3		27	3rd July.			1
			Total									
21st Battalion.....	5	Capt. Brosseau, Laprairie.....				3		51	16th March.	Headquarters.		

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 7. Lieut.-Colonel L. A. CASAULT, C.M.G., D.A.G.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.						
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.					
17th Battalion	6	Capt. J. Poliquin, St. Michel	3	....	55	1	..	52				16 days at Head-quarters.
Rimouski Provisional Battalion.....	1	Capt. A. Martin, Rimouski	3	....	55	3	....	44				16 days at Head-quarters.
Independent Company .....	.....	Capt. Lebel, Fox River	3	....	55	3	....	49				16 days at Head-quarters.

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of band. Number of Musicians, and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.	Fair.	Good.	Good.	Manual and Firing, Squad and Company, and Skirmishing Drills, very satisfactory.	Yes.	Yes. N. Faucher.....	7.92		April 30th, 1874.	April 30th, 1874.	Inspected by Lt. Col. Duchesnay.
	Good.	Fair.	Good.	Good.	Manual and Firing, Squad and Company, and Skirmishing Drills, satisfactory.	Yes.	Yes. J. Beaudet....	5.83		May 9th, 1874.	May 9th, 1874.	
	Good.			Good.	Manual and Firing, Squad and Company, and Skirmishing Drill, very well performed.	Yes.	Yes. Geo. Ouellet.....	13.93		May 21st, 1874.	May 21st, 1874.	Inspected by Lt. Col. Duchesnay.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 7.--Continued.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.			Miles.	Mode.	
Battalion or Corps.	Battery.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Quebec Squadron of Cavalry.....	2	Lieut.-Col. Forsyth, Quebec.....									
No. 1 Troop.....		Capt. McDonald, Quebec.....	3	....	55	3	....	43			
No. 2 do.....		Major Turnbull, Quebec.....	3	....	55	3	..	55			
		Total.....	12	....	110	9	....	98	16 days at Quebec.		
8th Battalion Rifles..	5	Lieut.-Col. Reeve, Quebec.....									
No. 1 Company...		Capt. Scott, Quebec..	3	....	55	3	....	53			
No. 2 do ..		„ Morgan, do ..	3	....	55	2	....	55			
No. 3 do ..		„ Patterson, do ..	3	....	55	2	....	49			
No. 4 do ..		„ Stuart, do ..	3	....	55	2	....	48			
No. 5 do ..		Bt.-Major Pentland, Quebec.....	3	....	55	3	....	55			
		Total.....	21	....	275	17	....	260	16 days at Quebec.		
Portneuf Battalion..											
No. 2 Company.....		Capt. S. Martel, St. Raymond	3	....	55	3	....	51	16 days at Head-quarters.		
No. 3 Company.....		Capt. Fecteau, Deschambault	3	....	55	1	....	40	16 days at Head-quarters.		

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians, and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.		
	Fair.	Good.	Good.	Good.	Manual and Firing, Squad and Company Skirmishing Drills, very well performed.	Manual and Firing, Squad and Company Skirmishing Drills, and such Troop Drill as could be performed in a shed. Sword exercise. Fair.	Yes.	Yes.	Yes.	Wm. Nicholl	13.52	Mar. 2nd, 1874	Feb. 5th, 1874.	
	Good.	Good.	Good.	Good.	Manual and Firing, Squad and Company Skirmishing Drills, very well performed.	Manual and Firing, Squad and Company Skirmishing Drills, very well performed.	Yes.	Yes.	Yes.	Turgeon	7.35	Mar. 2nd, 1874	Feb. 5th, 1874.	
	Good.	Very Good.	Very Good.	Very Good.	Manual and Firing, Squad and Company Skirmishing Drills, well performed, satisfactory.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Yes.	Yes.	Yes.	Sgt. Ray	8.73	February 3rd, 1874.	February 3rd, 1874.	
	Yes.	Yes.	Yes.	Yes.	Manual and Firing, Squad and Company Skirmishing Drills, satisfactory.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Yes.	Yes.	Yes.	Sgt. Haokins	10.44	February 3rd, 1874.	February 3rd, 1874.	
	Yes.	Yes.	Yes.	Yes.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Yes.	Yes.	Yes.	Sgt. Mj. Sutherland	14.56	February 3rd, 1874.	February 3rd, 1874.	
	Yes.	Yes.	Yes.	Yes.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Yes.	Yes.	Yes.	C. Sénéchal	8.30	March 26th, 1874.	November 1st, 1874.	Inspected by Lt.-Col. Lamontagne
	Yes.	Yes.	Yes.	Yes.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Manual and Firing, Squad and Company Skirmishing Drills, well performed.	Yes.	Yes.	Yes.	A. Gravel	3.25	March 26th, 1874.	November 1st, 1874.	

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 7. — <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Charlevoix Battalion	3	Capt. Tremblay, Les Eboulements	3	...	55	2	..	49			16 days at Head-quarters.

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.			Good.	Manual and Firing, Squad and Skirmishing Drills, well performed.	Yes.	Sgt. Antoine Tremblay 2.23	November 12th, 1874.	November 12th, 1874.	Inspected by Lt.-Col. Lamontagne

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 8. Lieut.-Colonel G. J. MAUNSELL, D.A.G.M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days drill performed.	Whether in Camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Battal'n or Corps.		Battal'n or Corps.						
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
N. B. Engineers		Capt. J. Parks, St. John	3	55	2	32	St John. 16 days.	Not.	.....	.....	.....
73rd Battalion ...	1	Captain Hutchinson, Buctouche	3	55	2	42	Buctouche. 16 days.	Not.	.....	.....	.....
Independant Co.....		Captain Lloyd, Deer Island.	3	55	3	46	Deer Island. 16 days.	Not.	.....	.....	.....

Captain Burns's Company at Bathurst, and Captain Huttons Company at St. Stephen perform Drill for the

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.			REMARKS.
							F. of M. Batt.	F. of M. Comp.	Date of Inspection.	
Good.	Good.	None.	No.	Good.	Company Drill and skirmishing.	Yes.			62'95	Inspected by D. A. G.
None.	None.	None.	No.	Good.	Company Drill and Skirmishing.	Yes.			58'25	Inspected by B.M. No. 1 B Division
Good.	Good.	None.	No.	Good.	Company Drill and Skirmishing.	Yes.			44'66	This Co. is included in Inspection Report for 1873 and 1874. Pages 174 & 175.
							Pte. J. S. Kenney	Private E. Smith.		
								Sengt. J. Jones		
									27th Nov., 1873.	Jan. 30th, 1874.
									27th Nov., 1873.	June 6th, 1874.

Year 1873-74.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 9. Colonel J. W. LAURIE, D.A.G.M.		Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.	
		Battal'n or Corps.	Company.	Battal'n or Corps.	Company.						
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.		Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.		
Lunenburg Battalion G. A.	1	Lieut. G. Godley, Lunenburg..		3	55	2	53	April 8th, 1874. 16 days.	Local Headquarters.
Mahone Bay Batt. G. A.	1	Captain H. James, Mahone Bay		3	55	.....	2	53	.....	
Digby Batt. G. A.	1	Captain J. Daley, Digby		3	55	.....	3	41	.....	
		Total		9	165	June 25th, 1874. 16 days.	
75th Battalion, Lunenburg	6	Major F. Rudolf, Lunenburg.....								April 8, 1874. 16 days.	Local Headquarters.
No. 1 Company		Capt. King, Lunenburg		3	.....	55	2	.....	36
No. 2 do		Capt. T. Curl, Lunenburg		3	.....	55	1	.....	39
No. 3 do		Lieut. Parker, Lunenburg		3	.....	55	1	.....	42
No. 4 do		Capt. Ham, Mahone Bay		3	.....	55	3	.....	47
No. 5 do		Capt. Longill, Martins River.....		3	.....	55	3	.....	49
No. 6 do		Capt. Windron, New Ross		3	.....	55	3	.....	47
		Staff		3	Sep. 8, 1874.	
		Total		21	330	13	260		

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion Corps, and Company.		Date when drill was completed.	REMARKS.
							F. of M. Batt.	F. of M. Comp.		
Good.	Good.	None.	No.	Good.	Company Drill with Manual and Fring exercises.	Yes.	18'51	6th April, 1874.	Name of best shot in Company.	
None.	None.	None.	No.	Good.		Yes.	29'19	6th April, 1874.	Wm. Gooley.	
Good.	Good.	None.	No.	Good.	Squad and Company Drill and Skirmishing. Fairly performed.	Yes.	19'30	6th April, 1874.	James Twerkin.	
None.	None.	None.	No.	Good.		Yes.	17'59	6th April, 1874.	Gustavus Daly.	
Good.	Good.	None.	No.	Good.	Squad and Company Drill and Skirmishing. Fairly performed.	Yes.	15'92	8th April, 1874.	R. D. Lindsay.	
None.	None.	None.	No.	Good.		Yes.	16'31	8th April, 1874.	John Cantilope.	
Good.	Good.	None.	No.	Good.		Yes.	19'38	8th April, 1874.	Francis Seley.	
None.	None.	None.	No.	Good.		Yes.	18'79	8th April, 1874.	Alfred Heyson.	
Good.	Good.	None.	No.	Good.		Yes.	28'43	8th April, 1874.	Benj. Beaner.	
None.	None.	None.	No.	Good.	Squad and Company Drill and Skirmishing. Fairly performed.	Yes.	19'30	8th April, 1874.	G. Roast.	

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 9. - <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
			Battalion or Corps.	Company.	Battalion or Corps.	Company.					
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers	N. C. O. and Men.	N. C. O. and Men.			
Cumberland Provisional Battalion....	5	Capt. Orley, Oxford.	3	.....	65	3	.....	40	June 23rd, 1874. 16 days.	Local Headquarters.	.....
63rd Halifax Rifle Battalion.....	6	Capt. Vaughan, Halifax	3	.....	55	2	...	50	June 24th, 1874. 16 days.	Local Headquarters.	.....

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 10. Lieut.Col.- W. OSBORNE SMITH, C.M.G., D.A.G.M.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
			Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Mapleton Rifle Co..	1	Capt. Piton, Mapleton, Manitoba.....	3	55	.....	1	27	.....	Mapleton, 6th June, 1874, 16 days. Company Head Quarters.		

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.			Date of Inspection.	Date when drill was completed.	REMARKS.
							F. of M.	Batt.	F. of M.	Comp.		
					Company and Skirmishing, &c.		200, 400 and 600 yards, 12 non-exercised men. Pte. Calder, 41 points.	14	86			This practice was conducted at the Co.'s Hd. Qrs. by the officer commanding the Corp.

INSPECTION REPORT OF CORPS which have performed the

MILITARY DISTRICT No. 11. Lieut.-Col. C. F. HOUGHTON, D.A.G.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Distance the several Corps had to proceed to muster, and mode of transport.		Time required to concentrate the Battalion or Corps.
			Battal'n or Corps.	Com- pany.	Battal'n or Corps.	Com- pany.			Miles.	Mode.	
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.			
Victoria Rifles.....	Victoria.	Capt. Roscoe	3	50	2	39	Drill performed at Co.'s Hd. Qrs. between Jan. 1 and June 30, 1874.		Not in Camp.		
No. 1 Company		" Pooley	3	50	1	29					
No. 2 do			6	100	3	68					
New Westminster Rifles.		Capt. Edmonds, New Westminster	3	40	3	33	do.		Not in Camp.		
No. 1 Company											

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
Good.	Good.	None.	Band at present consists of two enrolled men, and six supernumeraries. Making fair progress.	The clothing, arms and accoutrements, are in good order.	Battalion and Co.'s Drill, and Skirmishing. The movements were well executed, and in strict accordance with the latest drill regulations.	Yes.	Yes. Most of the men. 13 did not shoot, the reasons being accounted for in the Company's Target Practice Returns. Best shot, Private Rose, No. 2 Company, 106 points.	50.83	48.20 53.47	June 27th, 1874. June 27th, 1874.		Target Practice performed in two days instead of four, at 20 rounds per day instead of ten. Authorized by me in consequence of the distance of range and shortness of time for completion of practice.
Good.	None.	Nil.	do.	Company's Drill, Movements well executed, and in accordance with Regulations.	Yes.	The Target Practice was completed by only 19 men, the Rifle Range not having been completed in time to enable them to finish the annual practice before the 30th June. Best shot Sergt. Brown, 111 pts. Sergt. Jackson scored 120 pts., but not having fired in accordance with orders, was disallowed the place of best shot in the Company.	54.97	July 2nd, 1874. July 2nd, 1874.			Target Practice performed under the same regulations as to number of rounds to be fired per day, as the above Corps.	

INSPECTION REPORT OF CORPS which have performed the

Lieut.-Colonel T. B. STRANGE, Inspector of Artillery, Province of Quebec.			Establishment.		Actual strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Mode.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.	
			Battal'n or Corps.	Company.	Battal'n or Corps.	Company.							
Battalion or Corps.	Battery.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
Montreal Field Battery Artillery.....	1	Lieut.-Colonel A. A. Stevenson, Montreal	5	69	.....	2	63	50 horses.	30th June, 1874 ; Montreal, 16 days.	Not in Camp.	Nil.	Nil.	.....
Montreal Brigade Garrison Artillery.	1	Major Fraser, Montreal	19	240	.....	8	123	.....	27th June, 1874 ; Montreal, 16 days.	Not in Camp.	Nil.	Nil.	.....

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band, number of Musicians and proficiency.	General state of Clothing, Arms, and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bonâ fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	Date of Inspection.	Date when drill was completed.	REMARKS.
Nil.	Very good.	Nil.	No.	Good.	Field Battery Movements fairly performed, considering short period allowed for drill. A half battery, guns and waggon, crossed a ravine and water course in a skilful manner. An Assistant Instructor, from "B" Battery, was attached.	Yes.	No practice.	30th June, 1874.	30th June, 1874.	The Medical officer absent. One sub-officer absent with leave, not able to ride from ill health. No officer or man been through the Gunnery School.
Nil.	Very good.	Nil.	Proficient Band ; 21.	Good.	Arm and Company Drill, Heavy Gun Drill and shifting Ordnance with and without Gyn. Smartness, precision and intelligence was shewn by this corps, which has been benefitted very much by the attendance of officers and non-commissioned officers at the Branch Gunnery School, Montreal, where Lt. Short, "B" Battery, was Instructor.	Yes.	Ammunition not supplied for practice.	27th June, 1874.	30th June, 1874.	Absent with leave : Lt.-Col. McKay, P. M. G. Lulham, Surgeon Bell, Asst Surgeon Major, Captain Taylor, Lieut. Molson, Lieut. Anderson. Absent without leave : Lt. Reed Taylor, Q. M. McKay.

INSPECTION REPORT OF CORPS which have performed the

Artillery Inspection, Province of Quebec. <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Miles.	Mode.	Time required to concentrate the Battalion or Corps.		
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.							
Battalion or Corps.	Companies.	Commanding Office. and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
Montreal Engineers, No. 1 company...	1	Lt. Devine, Montreal	3	....	40	2	....	28	30th June, 1874; Montreal, 16 days.	Not in Camp.	Nil.	Nil.	12 hours.
Montreal Engineers, No. 2 Company...	1	Major Kennedy, Montreal.....	3	....	40	.....	.....	.....	No Drill performed.				

Annual Drill for 1873-74, since 1st November, 1873.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	* General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt. F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
Nil.	Very good.		No.	Good.	Arm and Company Drill. The non-commissioned officers and men answered, with intelligence, questions on the construction of batteries, &c., having had lectures as well as practical instruction from Lieut. Devine, "B" Battery.	Yes.	Returns not yet received.			Lt. Devine, who has a 1st class certificate from Que. G. S., has given instruction to his men in elementary field fortification, knotting, lashing, making fascines, gabions and mounting guns in Battery, &c. In addition to attending the number of drills required they have attended ten voluntary drills, crossing to St. Helens for that purpose. The want of uniform has been a drawback to the corps; it was received only two days before inspection. Armoury in a bad state.	
										This Company has not drilled this year. Had better be broken up, or the men transferred to No. 1 if willing.	

ADDITION TO
INSPECTION REPORT OF CORPS which have

Lieut.-Colonel T. B. STRANGE, Inspector of Artillery, Province of Quebec.			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles. Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.			
			Battal'n or Corps.	Com-pany.	Battal'n or Corps.	Com-pany.							
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.							
Battalion or Corps.	Battery.	Commanding Officer and Head Quarters.	Officers.	N. C. O. and Men.	N. C. O. and Men.	Officers.	N. C. O. and Men.	N. C. O. and Men.					
Grosse-Isle Battery Garrison Artillery.	1	Capt. F. Montizambert, 1st class "B" Battery G. S., Grosse-Isle.....	1	.....	24	1	.....	20	19th September, 1874. Grosse-Isle, 16 days.	In quarters.	Nil.	Nil.	Half an hour.
St. John's Battery Garrison Artillery.	1	Major W. Drumm, St. John's, P. Q.	3	.....	55	3	.....	34	24th Oct., 1874. St. John's. 16 days.	In quarters.	Nil.	Nil.	Two hours probably.
Quebec Field Battery Artillery.....	1	Major W. Baby, 1st class "B" Battery G.S., Quebec	4	.....	74	4	.....	67	5th Oct., 1874, Plains of Abraham, Quebec. 12 days.	In quarters.	Nil.	Nil.	Six hours probably.

APPENDIX No. 3.

performed the Annual Drill for 1874-75.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
Nil.	Nil.	Very good.	Very good.	Very good order.	Heavy marching order parade. Company drill fair. Gun drill and shifting ordnance very good.	Yes.			19th September, 1874.	19th September, 1874.	This corps being under the commanding officer in their civil duties at the Quarantine Stat., approach a regular corps in discipline and steadiness, they require guns, vide report.	
Very good.	Very good.	None.	No.	Very good order. Ball bags required.	Heavy marching order parade. Company drill good. Gun drill and instruction indifferent, having only one gun.	Yes.			24th October, 1874.	24th October, 1874.	This corps requires guns, vide report. Magazine dangerous as reported last year. 3lb cartridges supplied which I have repeatedly represented as dangerous.	
Very good order. No spurs.	Very good.	None.	No.	Very good order. No spurs.	Gun drill, field battery movements indifferent. Twelve days insufficient for field battery.	Yes.			5th October, 1874.	5th October, 1874.	Horses poor, harness not very well fitted. Officers of this corps are well instructed and zealous, and do all in their power, especially the commanding officer, but time allowed is not sufficient for efficiency and very few of the N.C.O. have attended the G. S.	

INSPECTION REPORT OF CORPS which have

Artillery Inspection, Province of Quebec. <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in Camp or otherwise.	Miles. Distance the several Corps had to proceed to Muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Companies.	Commanding Officer and Head Quarters.	Battal'n or Corps.	Company.	Battal'n or Corps.	Company.					
			Officers. N. C. O. and Men.	N. C. O. and men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
Montreal Field Battery Artillery.....	1	Lt.-Col. A. Stevenson, Montreal.....	4	74	2	46	27th November, 1874. Montreal.				
Montreal Engineers, No. 1 Company...	1	Lieut. J. Devine, 1st class "B" Battery G.S., Montreal...	3	55	2	35	27th November, 1874. Montreal.				

performed the Annual Drill for 1874-75.—*Continued.*

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of band. Number of Musicians, and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bond fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M.	Batt.	F. of M.	Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
														Inspected on foot parade by D.A. G. of district in my absence, I have however to state as previously reported that the efficiency of this battery depends entirely on its commanding officer, who is unfortunately ill. One of the subaltern officers was reported medically unfit to ride at my last inspection, and should resign. No G.S. certificates.
														Inspected by D. A.G. of district in my absence, and also by the Major-General commanding. Both officers of this corps, 1st class "B" battery G. S. Report of commanding officer enclosed.

INSPECTION REPORT OF CORPS which have

Artillery Inspection, Province of Quebec. <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of day's drill performed.	Whether in Camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Mode.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Battery.	Commanding Officer and Head Quarters.	Battalion or Corps.	Company.	Battalion or Corps.	Company.						
			Officers.	N. C. O. and Men.	Officers.	N. C. O. and Men.						
Shefford Field Battery Artillery. . . .	1	Major T. Amyrauld, 1st Class "B" By. G. S., Grauby. . . .	4	74			23rd September, 1874 Laprairie Camp.	In Camp.	56	March.		
Montreal Brigade Garrison Artillery.	6	Lieut. - Col. McKay, Montreal.	20	330								
Sherbrooke Battery Garrison Artillery.	1	Capt. J. C. Short, 1st Class "B" By. G. S., Sherbrooke.	3	55								

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General State of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of Target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed.	REMARKS.
	Good.	One man hurt his leg. Two horses died.	No.	Good order.	Gun Drill and practice excellent. Field Artillery movements good. Knowledge of Ammunition. Non-commissioned Officers very good.	Yes.				22nd September, 1874.	22nd September, 1874.	I would recommend this Battery to be armed with 9-pr. M.L.R. guns, 6 cwt. It is well horsed & marched from Graubry to La Prairie Cp. The commanding officer submitted an excellent route map and report, forwarded herewith, requesting it may eventually be returned. The Sergt. Major and all the N.C.O. in charge of subdivisions are 2nd Class "B" By. G.S., and very intelligent.
												Inspected by D.A. G. of District, in my absence, and by Major - Gen. commanding. This Corps availed themselves eagerly of the Branch School of Gunnery at Montreal and showed a very marked improvement in efficiency at my last inspection.
												I believe this Corps exists only on paper. I recommended its being struck off Militia Artillery last year.

INSPECTION REPORT OF CORPS which have

Artillery Inspection, Province of Quebec. <i>Continued.</i>			Establishment.		Actual Strength present at Inspection.		Date and place of muster, and number of days' drill performed.	Whether in camp or otherwise.	Miles.	Distance the several Corps had to proceed to muster, and mode of transport.	Time required to concentrate the Battalion or Corps.
Battalion or Corps.	Company.	Commanding Officer and Head Quarters.	Battal'n or Corps.		Battal'n or Corps.						
			Officers. N. C. O. and Men.	N. C. O. and Men.	Officers. N. C. O. and Men.	N. C. O. and Men.					
Montreal Engineers, No. 2 Company...	1	Major Kennedy Montreal.....	3	55							
Gaspé Battery Garrison Artillery	1	Major J. Slous, 1st Class "B" By. G.S., Gaspé.....	3	55	1	33	8th October, 1874. Gaspé, 12 days.	In Quarters.	Nil.	Nil.	Six hours probably

performed the Annual Drill for 1874-75.—Continued.

Cost of rations per head, per diem, at encampment.	General conduct of Corps.	If any, and what casualties.	Whether in possession of Band. Number of Musicians and proficiency.	General state of Clothing, Arms and Accoutrements.	Nature of Movements at Inspection, and how performed.	Whether the men of the several Corps were <i>bona fide</i> enrolled members thereof, according to the Militia Act.	Whether the prescribed course of target practice has been performed, reporting number of non-exercised men, if any, giving average figure of merit of each Battalion, Corps and Company.	F. of M. Batt.	F. of M. Comp.	Date of Inspection.	Date when drill was completed	REMARKS.
Nil.	Very good.	None.	No.	Very good order.	Infantry Drill very good. Having no guns, could do nothing else.	Yes.				8th October, 1874.	8th October, 1874.	This Corps are physically the finest Battery Volunteer Garrison Artillery I have seen in Canada. Should have guns <i>vide</i> report.
												This Corps has not trained for two years. I recommend its being struck off military strength.

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GENERAL REPORT

OF THE

MINISTER OF PUBLIC WORKS,

FOR THE

FISCAL YEAR ENDING 30th JUNE,

1874.

FURNISHED IN COMPLIANCE WITH THE PROVISIONS OF THE ACT THIRTY,
FIRST VICTORIA, CHAPTER TWELVE, SECTION NINETEEN

PRINTED BY ORDER OF THE HOUSE OF COMMONS.



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PRINTED BY MACLEAN, ROGER & CO., WELLINGTON STREET,
1875.

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REPORT
OF THE
MINISTER OF PUBLIC WORKS,

FOR THE
FISCAL YEAR ENDING 30TH JUNE, 1874.

To His Excellency the Right Honorable Sir Frederick Temple, Earl of Dufferin, Viscount and Baron Clandeboye of Clandeboye, in the County Down, in the Peerage of the United Kingdom, Baron Dufferin and Clandeboye of Ballyleidy and Killeleagh, in the County Down, in the Peerage of Ireland, and a Baronet, Knight of The Most Illustrious Order of St. Patrick, and Knight Commander of The Most Honorable Order of the Bath, Governor General of Canada, &c., &c., &c.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honor to submit the Annual Report of the Department of Public Works, for the fiscal year ending 30th June, 1874, a duty imposed on the Minister of this Department by Statute 31st Vict., Chap. 12, Sec. 19.

The Report itself will lay before your Excellency a record of the transactions and general expenditure, with the cost of maintenance of the various Public Works, during the above fiscal year.

Appendix No. 1, pages 5-7, sets forth in detail this expenditure. It is followed by the Annual Reports of Superintendents, with general and special Reports from the Departmental Engineers.

The works under the control of the Department, are as follows:—

THE CANALS.
WORKS ON NAVIGABLE RIVERS.
HARBORS AND PIERS.
SLIDES AND BOOMS.
ROADS AND BRIDGES.
PUBLIC BUILDINGS.
GOVERNMENT RAILWAYS.
NORTH-WEST COMMUNICATION.
PACIFIC RAILWAY SURVEY.
PUBLIC WORKS, BRITISH COLUMBIA.

CANALS.

The Canals of the Dominion have been constructed on the following routes of inland navigation:—

1. The St. Lawrence and Western Lakes.
2. The Ottawa, to the City of Ottawa.
3. The Rideau navigation from Ottawa to Kingston.
4. The River Richelieu to Lake Champlain.
5. St. Peter's Canal, Cape Breton, N.S.

ST. LAWRENCE RIVER AND LAKES.

This navigation extends from the Straits of Belle-Ile, Newfoundland, to Duluth, at the head of Lake Superior, a distance of 2,384 statute miles.

The canals on the route are the Lachine, Beauharnois, Cornwall, Farran's Point, Rapid Plat, Galops and Welland. Their total length is 70.83 miles; total lockage, 536½ feet; number of locks, 54.

The St. Mary Canal is situated on the United States' side of the channel, and was constructed by that Government to avoid the St. Mary Rapid. It connects Lakes Huron and Superior. It is 1.17 miles long, and has 18 feet lockage.

Lake Superior is about 600 feet above the highest tidal flow of the St. Lawrence, at Three Rivers.

A statement of distances, and sections of navigation, from the Straits of Belle-Ile to Duluth, at the head of Lake Superior, are given. (Appendix No. 2, page 8, table A.)

LACHINE CANAL.

Length of canal	8½ statute miles.
Number of locks.....	5
Dimensions of locks.....	200 feet by 45 feet.
Total rise of lockage.....	44½ feet.
Depth of water on sills {	at two locks 16 "
	at three locks..... 9 "
Breadth of canal at bottom.....	80 "
Breadth of canal at water surface.....	120 "

This canal extends from the City of Montreal to the Village of Lachine, thereby enabling vessels to avoid the St. Louis Rapids, the first series of rapids which bar the ascent of the River St. Lawrence, at a distance of 986 miles from the Straits of Belle-Ile.

The canal was closed on the 29th November, 1873, and opened the 29th April, 1874. The season's navigation was uninterrupted with the exception of five hours.

The structures have been maintained in good order. Portions of Cote St. Paul's and Brewster's bridges have been rebuilt. The upper gates of locks 2 and 4, the

lower gates of lock No. 5, and both gates of lock No. 3, have received new binders. New valves were placed on upper gates of lock No. 2, and lower gates of lock No. 5. The gates of regulating weirs, basin No. 2, and lock No. 3, the four wicket gates of regulating weir, lock No. 4, have been repaired. The walls at many spots have been pointed and repaired.

The plank covering of wharves and flooring of flour sheds have been repaired. A coating of Asbestos cement has been placed on flour shed No. 1. Suspension gearing has been added to lower gates of locks Nos. 1 and 2, and upper gates lock 4. The drains have been cleaned out; banks, tow-paths and roads repaired. The dredge was engaged in deepening the approach to St. Gabriel Basin No. 3, and in clearing the canal bottom below Brewster's Bridge. It also excavated a seat for coffer dams at entrance of St. Gabriel Basin No. 2.

NEW WORKS.

This work is divided into two sections; one including the new entrance, which consists of two locks and an intervening basin. This contract has been awarded to Messrs. A. P. McDonald & Co.; work has been commenced upon it.

The second section includes the enlargement and deepening of the existing basin No. 2, and the construction of Wellington Basin. This contract was awarded to Messrs. Lemay & Bowie; work has been commenced.

The work on the St. Gabriel Basins assumed by the Department, has been completed.

Two flour sheds between the St. Gabriel Basins, constructed under contract by Messrs. Bonneville & O'Brien, were completed in June. (Appendix 3, pages 9, 11.

RIVER ST. PIERRE, PASSING UNDER LACHINE CANAL.

The excavation has been completed; the Cote St. Paul Road Bridge finished; and our farm bridges have been built.

ST. PATRICK STREET.

St. Patrick's Street, under contract with Mr. Michael Hennessey, has been partially graded. The abutments for bridge over entrance to Parkin's Basin have been built, and the bridge over the St. Pierre has been completed. (Appendix 3, page 11.)

BEAUHARNOIS CANAL.

Length of canal.....	11½ statute miles.
Number of locks.....	9
Dimensions of locks.....	200 feet by 45 feet.
Total rise of lockage.....	82½ feet.
Depth of water on sills	9 "
Breadth of canal at bottom.....	80 "
Breadth of canal at water surface	120 "

This canal lies on the south side of the St. Lawrence, $15\frac{1}{2}$ miles from the head of the Lachine Canal, and runs for some distance inland from the river, connecting Lakes St. Louis and St. Francis, and avoiding the three rapids known respectively as the "Cascades," "Cedars" and "Coteau."

This canal closed on the 24th November, 1873, and opened on the 3rd May, 1874. The drains have been cleaned out, and five farm bridges built over them. The banks near lock No. 12 have been raised and partially faced with stone. The gates at locks 12 and 13 have been repaired. A new gate was placed in lock 13. Watch-houses have been constructed at locks 6, 8 and 13. The swing bridge at lock 7 has been renewed; the bridge over lock 8 repaired. The lower gates of locks 7, 8 and 10 have been repaired. The lower gates of lock 6, the upper gates of lock 9, three of the gates of lock 11, and the gates of lock 12 have received new rollers. Other locks on the canal have been generally repaired. The retaining wall of lock 11 has been repaired. The local management of the canal is reported as being more satisfactory. (Appendix 3, pages 11 and 12.)

CORNWALL CANAL.

Length of canal	$11\frac{1}{2}$ statute miles.
Number of locks.....	7
Dimensions of locks	200 feet by 55 feet.
Total rise of lockage	48 feet.
Depth of water on sills	9 "
Breadth of canal at bottom	100 "
Breadth of water surface.....	150 "

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

The Cornwall Canal enables vessels to avoid the Long-Sault Rapids.

The Canal was closed from the 4th December, 1873, till the 29th April, 1874.

The lower lock-gates of lock 15 and the upper gates of lock 20 have been restored; the other gates generally have been repaired. The embankment has been raised in many parts, and protected by slope walls. The side drains and culverts have been cleaned out. Six new foot bridges have been constructed; the weirs and bridges repaired; and the lock-master's and labourers' houses new shingled. (Appendix 3, page 40.)

WILLIAMSBURGH CANAL.

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

FARRAN'S POINT CANAL.

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

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

It was closed 2nd December, 1873; opened 1st May, 1874.

The works have been carefully maintained throughout the season.

The navigation was uninterrupted. (Appendix 3, page 41.)

RAPID PLAT CANAL.

Length of canal.....	4 miles.
Number of locks	2
Dimensions of locks	200 feet by 45 feet.
Total rise of lockage.....	11 $\frac{1}{2}$ feet.
Depth of water on sills	9 "
Breadth of canal at bottom.....	50 "
Breadth at surface of water.....	90 "

From the head of Farran's Point Canal to the foot of Rapid Plat Canal, there is a navigable stretch of 10 $\frac{1}{2}$ miles.

This canal enables ascending vessels to avoid the Rapid Plat Rapids. Descending vessels run the rapids safely.

Closed 2nd December, 1873; opened 1st May, 1874.

The works were kept in repair throughout the season.

The navigation was interrupted for eight hours in the month of August, from the derangement of lock gate No. 23.

GALOPS CANAL.

Length of canal.....	7 $\frac{3}{4}$ miles.
Number of locks.....	3
Dimensions of locks	200 feet by 45 feet.
Total rise of lockages.....	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 Rapid Plat to the foot of the Galops Canal, the St. Lawrence is navigable for $4\frac{1}{2}$ miles.

This canal enables vessels to avoid the rapids at Point aux Iroquois, Point Cardinal, and the Galops.

Closed 2nd December, 1873; opened 1st May, 1874.

Navigation was uninterrupted throughout the season.

The works have been efficiently maintained. (Appendix 5, page 41.)

WELLAND CANAL.

MAIN LINE FROM LAKE ONTARIO TO LAKE ERIE.

Length of canal	27 miles and 1,099 feet.				
Pairs of guard gates.....	3				
Number of lift-locks.....	27				
Dimensions of locks.....	<table> <tr> <td rowspan="3" style="font-size: 3em; vertical-align: middle;">}</td> <td>2 locks of 200 feet by 45 feet.</td> </tr> <tr> <td>24 " 150 " 26$\frac{1}{2}$ "</td> </tr> <tr> <td>1 " 230 " 45 "</td> </tr> </table>	}	2 locks of 200 feet by 45 feet.	24 " 150 " 26 $\frac{1}{2}$ "	1 " 230 " 45 "
}	2 locks of 200 feet by 45 feet.				
	24 " 150 " 26 $\frac{1}{2}$ "				
	1 " 230 " 45 "				
Total rise of lockage.....	330 feet.				
Depth of water on sills	10 $\frac{1}{4}$ "				

RIVER WELLAND BRANCHES.

Length of canal :—Port Robinson Cut to River Welland.	2,622 feet.
“ From Welland Canal to River Welland, via 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 26 $\frac{1}{2}$ feet.
Total lockage from Welland Canal down to River Welland	17
Depth of water on sills	9 ft. 10 in.

GRAND RIVER FEEDER.

Length of canal	21 miles.			
Number of locks.....	2			
Dimensions of locks	<table> <tr> <td rowspan="2" style="font-size: 3em; vertical-align: middle;">}</td> <td>1 of 150 by 26$\frac{1}{2}$ feet.</td> </tr> <tr> <td>1 of 200 by 45 "</td> </tr> </table>	}	1 of 150 by 26 $\frac{1}{2}$ feet.	1 of 200 by 45 "
}	1 of 150 by 26 $\frac{1}{2}$ feet.			
	1 of 200 by 45 "			
Total rise of lockage	7 to 8 feet.			
Depth of water on sills	10 $\frac{1}{4}$ feet.			

PORT MAITLAND BRANCH.

Length of canal	1 $\frac{3}{4}$ miles.
Number of locks.....	1
Dimensions of lock.....	185 by 45 feet.
Total rise of lockage	8 $\frac{1}{2}$ feet.
Depth of water on sills	11 "

The breadth of the main line of this canal, at present, varies as follows:—

Section.	Distance.	Width at Bottom.	Width at Surface.
	Miles.	Feet.	Feet.
Dalhousie to Thorold	9½	70	110
Thorold to Allanburgh	3½	26	66
Allanburgh to Ramey's Bend	12½	50	90
Ramey's Bend to Port Colborne.....	1½	58	58
Port Colborne to outer end of West Pier.....	¾	90	.....
Port Robinson to Chippewa, River Welland.....	6½	.....	200
Dunville Branch.....	21	26	60 to 70
Port Maitland Branch.....	1½	45	85

It was closed 15th day of December, 1873; opened 9th day of April, 1874.

A break in the navigation occurred from Monday, 18th May, at 11 a.m., until Thursday, 21st May, at 11 a.m., caused by the schooner *Erie Belle*, of Port Burwell, carrying away the gates of lock No. 22.

The apron to Dunville dam has been completed. Likewise bridge across feeder.

The tow-paths and banks of canal have been maintained. Between Allanburgh and Port Colborne the repairs were of some extent. This work will be continued during the summer.

The floats near Port Colborne have been repaired.

Several lock-tenders' shanties have been put in order.

Ten new gates have been built as a reserve.

The water supply has been good. The mills at Dunville and on the upper level were enabled to run a month longer than usual. (Appendix 6, page 42.)

NEW WORK.

The Report of the Honorable the Privy Council, that the design of Mr. Page, the Engineer-in-Chief of the Department, for the enlargement of the Welland Canal be sanctioned, and authority be given to carry the same into effect, was approved by Your Excellency on the 10th April, 1873.

Consequently tenders were called for by public advertisements in the months of September and December, and the contracts were awarded as follows:—

Section 2.—At Port Dalhousie: Messrs. Denison Belden & Co.

Section 3.—Between Port Dalhousie and St. Catharines: Messrs. Denison, Belden & Co.

Section 5.—Between Port Dalhousie and St. Catharines: Mr. Alexander Manning.

Section 6.—Between Port Dalhousie and St. Catharines Cemetery: Mr. Patrick Shannon.

Section 7.—Between Port Dalhousie and St. Catharines Cemetery: Messrs. Higgins & Sullivan.

Sections 8 and 9.—Between St. Catharines Cemetery and Great Western Railway: Messrs. Cairns, Morse, Hart & Co.

Section 10.—Between St. Catharines Cemetery and Great Western Railway: Messrs. John Ginty & Co.

Section 11.—Between St. Catharines Cemetery and Great Western Railway: Mr. Paul Ross.

Section 13.—From line of Great Western Railway to Northern end of Section 14: Messrs Ginty & Dickey.

Section 14.—From northern side of Great Western Railway to near Brown's cement kilns: Mr. John Brown.

Section 15.—From near Brown's Cement Kilns to a point 200 feet south of crossing, known as Hoover's Road, through the ravine east of Thorold: Mr. John Brown.

Section 16.—Between Brown's cement kilns and Marlatt's Pond, leading through the ravine east of Thorold: Messrs. John Elliot & Co.

Sections 21 and 22.—From Allanburg to Port Robinson:

1. Messrs Mitchell & Co., lightening bank of deep cut, east side.
2. Mr. John Brown, widening and deepening prism and lightening bank west side.

Section 29.—West of Junction: Messrs. R. Mitchell & Co.

Section 30.—West of Junction: Messrs. John Ferguson & Co.

Sections 31 and 32.—West of Junction: Mr. John Brown.

The above works are to be carried out to a scale of navigation 12 feet in depth on lock sills, prism 100 feet at bottom, 13 feet in depth, with slopes generally two to one, having a sectional area of 1,638 square feet throughout in cutting. The locks to be 270 feet in length between gates, and forty-five feet in width. These works are in various degrees of progress. Excavation is proceeding rapidly, and much activity is being shewn in the quarries, and in stone-cutting and otherwise.

 BURLINGTON BAY CANAL.

Length of canal.....	.....	½ mile.
No locks on this canal.		
Average breadth between piers		138 feet.
Narrowest		108 “

This canal is cut through the sand bar which separates Burlington Bay from Lake Ontario, and is navigable for vessels drawing ten feet of water. It gives access to the Port of Hamilton, and to the Town of Dundas *via* the Desjardins Canal.

This canal closed on 11th December, 1873, and opened 1st April, 1874.

There has been no outlay for repairs this season.

Navigation has been uninterrupted. (Appendix 7, page 44.)

 TUG SERVICE.

This service has been subsidized by Government since the year 1849 (1852 excepted), with a view of maintaining a reliable line of tug steamers on the intervening navigable reaches which connect the several canals between Montreal and Kingston, on the River St. Lawrence.

The annual subsidy amounts to \$12,000, and the contractor undertakes to tow vessels, at certain fixed rates; to provide not less than nine vessels for the service; and to make two trips daily between the Lachine and Beauharnois Canals, and one trip daily on the connecting reaches of the line.

The tug service for the present year was performed by Messrs. Calvin & Breck, under a contract for three or five years, at the option of the Minister of Public Works, dating from the 1st May, 1872; subject to the approval of Parliament.

An order in Council dated 26th June, 1874, was approved by Your Excellency to the effect that the Minister be authorized to terminate the contract at the close of the navigation.

This consequently will be the last season when the tug service will be employed on the above conditions.

The following statement shows the number of towages, and the amount received from shipowners, by Messrs. Calvin & Breck, from 1st July, 1873, to the 30th June, 1874.

TUG SERVICE.—Continued.

UPWARDS.	From 1st July to close of Navigation, 1873.		From opening of Navigation to 30th June, 1874.		Total amount received.	
	Crafts.	Amount.	Crafts.	Amounts.	Crafts.	Amounts.
Lachine, to foot of Beauharnois Canal.....	465	\$ cts. 3,735 57	188	\$ cts. 1,587 85	653	\$ cts. 5,323 42
Head of Beauharnois Canal to foot of Cornwall Canal.....	427	6,483 36	204	3,039 11	631	9,522 47
Head of Cornwall Canal to Kingston.....	330	14,118 40	149	5,794 10	479	19,912 00
Total	1,222	24,337 33	541	10,421 06	1,763	34,758 39

DOWNWARDS.	From 1st July to close of Navigation 1873.		From opening of Navigation to 30th June, 1874.		Total amount received.	
	Crafts.	Amount.	Crafts.	Amounts.	Crafts.	Amounts.
Kingston to head of Cornwall Canal.....	274	\$ cts. 6,614 94	160	\$ cts. 3,990 99	434	\$ cts. 10,605 93
Foot of Cornwall Canal to head of Beauharnois Canal.....	336	3,286 78	159	1,509 62	495	4,796 40
Foot of Beauharnois Canal to Lachine	334	2,280 27	171	862 59	505	3,242 86
Total.....	944	12,181 99	490	6,463 20	1,434	18,645 19

MONTREAL, OTTAWA, AND KINGSTON..

This route extends from the harbor 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 reach the City of Ottawa, thence by the Rideau Canal to Kingston on Lake Ontario,—a total navigation of 246½ miles.

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

- The St. Anne's Lock;
- Carillon Canal;
- Chute à Blondeau Canal;
- Grenville Canal;
- Rideau Navigation;

The united length of these five works is $134\frac{3}{8}$ miles; their total lockage $533\frac{1}{2}$ feet, —($356\frac{1}{2}$ rise, 177 fall)—number of locks 59.

The following table exhibits the intermediate and total distances from Montreal harbor to the principal points on this route:—

Sections of Navigation.	Intermediate Distances.	Total Distances from Montreal.
The Lachine Canal.....	$8\frac{1}{2}$	
From Lachine Canal to St. Anne's Lock.....	15	$23\frac{1}{2}$
St. Anne's Lock and Piers.....	$\frac{1}{2}$	$23\frac{3}{8}$
From St. Anne's Lock to Carillon Canal.....	27	$50\frac{3}{8}$
The Carillon Canal.....	$2\frac{1}{8}$	$52\frac{1}{4}$
From the Carillon Canal to Chute à Blondeau.....	4	$56\frac{1}{4}$
Chute à Blondeau Canal.....	$\frac{1}{8}$	$56\frac{5}{8}$
From Chute à Blondeau Canal to Grenville Canal.....	$1\frac{3}{8}$	$58\frac{1}{4}$
The Grenville Canal.....	$5\frac{1}{4}$	64
From the Grenville Canal to entrance, Rideau Navigation.....	56	120
Rideau Navigation, ending at Kingston.....	$126\frac{1}{4}$	$246\frac{1}{4}$

ST. ANNE'S LOCK.

Length of canal	$\frac{1}{8}$ -mile.
Number of locks	1
Dimensions of lock	190 feet by 45 feet.
Total rise of lockage.....	3 feet.
Depth of water on sills.....	{ 6 feet at low water. 7 feet at ordinary high water.

This work, with guide piers above and below, enables vessels to surmount 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, $23\frac{1}{2}$ miles from Montreal Harbor.

This lock closed the 20th November, 1873, and opened the 4th May, 1874.

There was no serious interruption to trade. The lock gates were repaired.

A guide pier with boom has been constructed at upper entrance to lock.

The new work has been placed under contract. Much material and plant has been delivered, and some of the cribwork sunk.

It consists of a canal 1,200 feet in length, 120-feet in width, $10\frac{1}{2}$ feet deep with guide piers.—(Appendix 3, pages 13, 14 and 32.)

RIVER LA GRAISSE.

A channel has been excavated by the dredge, from the main stream to the Village of Rigaud. (Appendix 3, page 10.)

THE CARILLON CANAL.

Length of canal.....	2 $\frac{1}{8}$ miles.
Number of locks.....	3 (two rising—one falling.)
Dimensions of locks:—Lift Lock, No. 1.....	128 feet x 32 $\frac{1}{2}$ feet.
do. No. 2.....	126 $\frac{1}{2}$ “ x 32 $\frac{1}{2}$ “
Guard Lock, No. 3.	126 $\frac{1}{2}$ “ x 32 $\frac{1}{4}$ “
Total lockage.....	34 $\frac{3}{4}$ “ { 21 $\frac{3}{4}$ upwards. 13 downwards.
Depth of water on sills.....	6 $\frac{1}{2}$ “
Breadth of canal at bottom.....	30 “
Breadth of canal at surface.....	50 “

From St. Anne's Lock to the foot of the Carillon Canal, a navigable interval of twenty-seven miles, through the Lake of Two Mountains and the River Ottawa, occurs. This canal enables vessels to avoid the Carillon Rapids.

It was closed from the 18th November, 1873, to the 6th May, 1874.

Owing to the breakage of lower gate lock, No. 3, navigation was interrupted for 48 hours.

The south recess wall, Lock, No. 3, has been rebuilt.

A new watch house was built at lock, No. 2.

The canal has been efficiently maintained during the season.—(Appendix 3, page 14.)

CHUTE A BLONDEAU CANAL.

Length of canal... ..	$\frac{1}{8}$ of a mile.
Number of locks.....	1
Dimensions of lock.....	130 $\frac{5}{8}$ feet x 32 $\frac{5}{8}$ feet at upper end and 30 $\frac{1}{8}$ feet at lower end.
Total rise of lockage.....	3 $\frac{3}{4}$ feet.
Depth of water on sills.....	6 “
Breadth of canal at surface.....	30 “
Breadth of canal at bottom.....	30 “

Between the Carillon and Chute à Blondeau Canals there is a navigable stretch of four miles. This canal is cut through solid rock, and has only one lock: it is only used by vessels going up the river. All down vessels run the rapids, and avoid the canal.

Closed 18th November, 1873; opened 6th May, 1874.

The gates and wing walls have been repaired.

New works designed to supersede the Carillon and Chute à Blondeau Canals have been carried on during the season.

They consist of a side canal $\frac{3}{4}$ -mile long with two locks 200 feet in the chamber, 45 feet wide, and 9 feet depth on the sills. A dam 1,800 feet in length, with a timber slide will be constructed at the foot of the Carillon Rapids.

Much material has been delivered [for the work to be carried on the ensuing season.—(Appendix 3, pages 15 and 34.)

THE GRENVILLE CANAL.

Length of canal.....	5 $\frac{1}{4}$ miles.
Number of locks.....	7
Dimensions of locks—Lift Lock No. 5 } Combined	130 $\frac{2}{3}$ feet x 32 $\frac{2}{3}$ feet.
“ “ No. 6 }	128 $\frac{1}{3}$ “ x 32 $\frac{2}{3}$ “
“ “ No. 7 }	128 $\frac{1}{3}$ “ x 31 $\frac{1}{3}$ “
“ “ No. 8 }	128 “ x 32 $\frac{2}{3}$ “
“ “ No. 9.....	107 $\frac{2}{3}$ “ x 19 “
“ “ No. 10.....	106 $\frac{2}{3}$ “ x 19 $\frac{1}{4}$ “
Guard Lock No. 11.....	200 “ x 45 “
Total rise of lockage.....	45 $\frac{3}{4}$ “
Depth of water on sills.....	6 $\frac{1}{2}$ “
Depth of water on sill of Lock No. 11.....	9 “
Breadth of canal at bottom.....	20 to 30 feet.
Breadth of Canal at surface of water.....	15 to 60 “

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

This canal is situated about sixty miles below the City of Ottawa, and enables vessels to avoid the Long Sault Rapids.

Closed 18th November, 1873; opened 6th May, 1874.

The lock gates have been repaired, the walls pointed, repairs made to the swing-bridge.

The canal was thoroughly cleaned in April; banks, towing paths and fences repaired.

The upper entrance was deepened by a steam dredge.

Of the new works, lock 10 is nearly complete, but not yet brought into use.

Lock 9 is well advanced; the gates are under construction by day work.

The material for swing-bridge over lock 9 is prepared, and bridge ready for framing when lock works shall have been built. (Appendix 3, pages 16 and 36.)

 CULBUTE RAPIDS, UPPER OTTAWA.

The new work to overcome the Culbute and L'Islet Rapids, has been placed under contract. It consists of two combined locks, each 200 feet in length and 45 feet in width, with 6 feet water on the sills, having a lift of 18 to 20 feet, with dams of an aggregate length of 520 feet.

Some work has been performed and a large quantity of material has been delivered. (Appendix 3, pages 17 and 38.)

 RIDEAU NAVIGATION.

Length of canal	126 $\frac{1}{4}$ miles.
Number of locks in going from Ottawa to Kingston.	{ 33 ascending, 14 descending.
Total lockage	446 $\frac{1}{4}$ feet. { 282 $\frac{1}{4}$ rise, and } at high water. 164 fall
Dimensions of locks	134 by 33 feet.
Depth of water on sills, 5 feet; navigable depth through canal	4 $\frac{1}{2}$ feet.
Breadth of canal at bottom.....	{ 60 feet in earth. 54 feet in rock.
“ at surface of water	80 feet in earth.

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

The following table gives the distances of the intermediate stations between the City of Ottawa and Kingston:—

Number of Station.	Name of Station.	Distance from Ottawa.	Locks.		Dams.		Length of Artificial Canal at each station 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 14
2	Hartwell's	4½	2	22 0	.....	100	28
3	Hogsback	5½	2	13 6	1	320	60
4	Black Rapids	9½	1	10 0	1	300	12
5	Long Island	14½	3	27 0	3	850	68
6	Burritt's	40¾	1	10 6	1	240	14
7	Nicholson	43¾	2	15 2	1	500	9
8	Clowes	44½	1	10 6	1	481	16
9	Merrickville	46¾	3	25 0	1	150	6
10	Maitland's	55	1	4 9	1	270	8
11	Edmonds	59½	1	10 10	1	343	8
12	Old Sly	60½	2	15 6	1	250	20
13	Smith's Falls	61½	4	33 9	2	600	24
14	First Rapids, or Poonamalie	64	1	7 9	1	260	5
15	Narrows	83¼	1	4 0	1	600	9
	Total rise at low water.			292 3			
				Fall.			
16	Isthmus	87½	1	4 0	.....	.....	.....
17	Chaffey's	92	1	12 6	.....	.....	.....
18	Davis	94¼	1	9 0	1	300	15
19	Jones's Falls	97¼	4	60 0	1	300	60
20	Brewer's Upper Mills	108¼	2	19 0	1	200	20
21	do Lower Mills	110	1	14 2	1	200	12
22	Kingston Mills	120¼	4	46 8	1	6,042	14
23	Kingston	126¼	.....	.....	.....	.....	.....
	Total fall at low water.			165 4			
	Total		47	.....	24	15,472	.....

The navigation closed at Kingston Mills 21st November, 1873, and opened 29th April, 1874.

At Ottawa, Navigation closed the 19th November, 1873, and opened 5th May, 1874.

The summit level of the Ottawa is at upper Rideau Lake. But several of the descending reaches, are also supplied by the waters which can be made tributary to them. The following description gives the sources of supply.

The route to the east, passes by the Rideau River. Within this extent no reservoirs of supply are found, so that the whole duty of keeping the navigation to its level, is thrown upon the reserves, which are given in detail below.

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

The waters supplying the summit level.

The waters supplying the eastern descending level.

The waters supplying the south-west descending level.

SUPPLYING SUMMIT.

Wolfe Lake System, discharging into Summit Level.

SUPPLYING EASTERN DESCENDING LEVEL.

River Tay system, discharging into Rideau Lake.

SUPPLYING SOUTH-WEST DESCENDING LEVEL.

Devil Lake system, discharging into Mud Lake.

Buck Lake system, discharging into Mosquito Lake, and thence into Mud and Indian Lakes.

Rock Lake system, discharging into Lake Openacon.

Loughboro' Lake system, discharging into Lake Openacon.

Round Tail system, discharging into Cranberry Lake.

THE FOLLOWING ADJACENT WATERS ARE TOTALLY DISTINCT FROM THE RIDEAU NAVIGATION.

The River Mississippi, which discharges into the River Ottawa, in the Township of Fitzroy.

The River Napanee, Mill Haven Creek and Collins' Lake, which discharge into Lake Ontario.

The navigation was interrupted fourteen days by the steamer "Adventurer," carrying away the lower lock gates at Kingston Mills, on the 4th of August.

On navigation being resumed the apron floated up, owing to the main timbers having been broken at the time of the accident. The navigation was not however impeded.

The work has been thoroughly repaired this spring.

At Lower Brewer's the wall has been repaired, likewise the lower gates.

At Upper Brewer's—a new bridge has been built.

At Jones' Falls—lock gates and dam have been repaired.

At Davis' Mills—preparations have been made to reconstruct waste weir; bridge has been rebuilt.

At the Narrows—lock master's house has been rebuilt; and two new lock gates have been put in position.

At Poonamalie—new bulkhead built and embankment repaired.

Old Slys—repairs done to piers and boom.

Esmond's—dam repaired; new swing beam.

Kilmarnock—dam repaired; one new pair lock gates.

Merrickville—cut cleaned; masonry underpinned; dam raised.

Clowe's Quarry—lock master's house repaired.

Burritt's Rapids—One pair new lock gates; dams repaired.

Long Island—two new pair lock gates; boom renewed; bulkhead repaired.

Black Rapids—bulkheads and lock house repaired.

Hogsback—apron repaired; pier raised; minor repairs to lock house.

Hartwell's—sluices repaired, embankment Dow's swamp raised; minor repairs lock house and bridge house.

Ottawa—lock walls repaired; by-wash repaired; minor repairs to lock master's house.

The water supply throughout the season is reported as having been good.—(Appendix 8, page 45.)

TABLE showing the dimensions of the locks on the present canals in the Montreal, Ottawa, and Kingston line of navigation; also the size of the largest vessels which may pass through them.

Name of Canal.	Dimensions of Locks.			Dimensions of Vessel.			
	Length.	Breadth.	Depth of Water.	Length.	Breadth.	Draught of water when loaded.	Tonnage.
Carillon and Grenville....	106½	19	5½	95	18½	5	100
Rideau	134	32	5	110	31½	4½	250

RICHELIEU AND LAKE CHAMPLAIN.

This navigation, commencing at Sorel, at the confluence of the St. Lawrence and Richelieu rivers, forty-six miles below Montreal, and one hundred and fourteen miles above Quebec, continues along the River Richelieu to the Basin of Chambly, where it takes the Chambly Canal to St. John's, and again follows the River Richelieu

to Lake Champlain, of which the Richelieu is an outlet. The distance being eighty-one miles in the territory of the Dominion.

At Whitehall, on the southern end of Lake Chaplain, the Champlain Canal is entered, and a connection obtained with the River Hudson, by which the City of New York is directly reached. The distance being three hundred and thirty miles in the United States' Territory to New York.

The artificial works in the Dominion are, the St. Ours' Lock and Dam and the Chambly Canal.

The following table shows the distance, total and intermediate, into which this navigation from Sorel to New York is divided.

Sections of Navigation.	Intermediate Distances in Miles.	Total Distances.
Sorel to St. Ours' Lock.....		14
St. Ours' Lock to Chambly Canal.....	32	46
Chambly Canal.....	12	58
Chambly Canal to Province Line.....	23	81
Boundary Line to Champlain Canal.....	111	192
Champlain Canal to Junction with Erie Canal.....	66	256
Erie Canal from Junction to Albany.....	7	265
Albany to New York.....	146	411

ST. OURS' LOCK AND DAMS.

Length of canal.....	$\frac{1}{8}$ mile.
Number of locks.....	1
Dimensions of lock.....	200 feet by 45 feet.
Total rise of lockage.....	5 feet.
Depth of water on sills.....	7 feet at low water.
Length of dam in Eastern Channel	300 feet.
" " Western Channel	600 "

At St. Ours', fourteen miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours' Lock, of cut stone and an earthwork dam, are in the eastern channels; in the western channel a large dam has been built of cribwork, filled with stone.

These works give a navigable depth of 7 feet between St. Ours' Lock and Chambly Basin, a distance of thirty-two miles.

St. Ours' Lock and Dam was closed from 16th of November, 1873, to 16th April, 1874.

The piers have been repaired, likewise east side lower gate; the dam has been strengthened.

The gates are now suspended, and the friction rollers removed. (Appendix 3, page 13.)

CHAMBLY CANAL.

Length of canal	12 miles.
Number of locks	9
Dimensions of locks:—	
Guard Lock, No. 1, at St. John.....	122 feet by 23 $\frac{1}{2}$ feet.
Lift " No. 2	124 " 23 $\frac{1}{2}$ "
" " Nos. 3, 4, 5, 6.....	118 " 23 to 23 $\frac{1}{2}$ feet.
" " Nos 7, 8, 9, combined.....	125 " 23 $\frac{1}{2}$ feet.
Total rise of lockage.....	74 "
Depth of water on sills.....	7 "
Breadth of canal at bottom.....	36 "
" " surface.....	60 "

Succeeding the thirty-two miles of free navigation between St. Ours' Lock and Chambly Basin—a natural reservoir formed by the expansion of the River Richelieu—is the Chambly Canal, built to avoid the rapids between St. John's and Chambly, a distance of 12 miles.

This canal was closed 20th November, 1873, and was opened 25th April, 1874.

The masonry in all the locks was generally repaired. East side of chamber wall lock 2 has been re-built, the bottom of locks partially re-planked, two pairs of new gates were substituted and repairs made to others. The swing bridges and road bridges have been repaired and rebuilt.

Some of the by washes were repaired.

St. John's wharf was repaired and the superstructure of lower entrance pier restored.

A new wharf has been built at lock 7.

A new macadamized road has been made on the West bank of the canal from Ste. Thérèse Island to Fryer's bridge.

A railway is in course of construction on the West bank for six miles from St. John's.

Two brick dwellings are under contract and commenced, one at lock 8 for lock-master, one for bridge tender at Ste. Thérèse. (Appendix 3, page 12.)

RIVER RICHELIEU WORKS.

These works consist of piers and booms for improving the channel of Belœil bridge. Likewise the extension of the mooring pier at the entrance of the Chambly Canal.

This work is now under contract, and much material has been delivered.

About six miles of the river between St. John's and Rouse's Point have been improved by the removal of boulders, giving a navigable depth of from seven to nine feet over the shoals at Isle aux Noix.

TABLE showing the size of the smallest locks on the canals of the Richelieu and Lake Champlain line of navigation to New York, also the dimensions of the largest vessel which may pass through them.

Name of Canal.	Dimensions of Lock, in feet.			Dimensions of Vessels, in feet.			
	Length.	Breadth.	Depth of water on sills.	Length.	Breadth.	Draught of water when loaded.	Tonnage.
U. S.—Erie Canal.....	110	18	7	102	17½	6	210
U. S.—Champlain Canal.	97	14	4	89	13½	3½	70
Chambly Canal.....	118	23½	7	114	23	6½	230

RIVER ST. FRANCIS.

A survey has been made of the eight miles of this stream between St. Thomas de Pierreville and Lake St. Peter, to ascertain the best mode of improving the channel. It is considered that it is necessary to dredge a channel 50 feet wide and 6 feet in depth, and arrangements have been made to carry on the work. (Appendix 3, page 13.)

ST. PETER'S CANAL.

Length of canal, about 2,400 feet.

Breadth of canal at bottom, 26 feet.

One tidal lock, 4 pairs of gates.

Dimensions, 26 by 122 feet.

Depth of water on sills, 13 feet at lowest water.

Extreme rise and fall of tide in St. Peter's Bay, about 9 feet.

This work connects St. Peter's Bay, on the southern coast of Cape Breton, with the Bras D'Or Lakes. It crosses an isthmus half a mile long, and gives access to and from the Atlantic Ocean.

Closed 15th December, 1873; opened 15th May, 1874.

The roadway of swing bridge has been planked; some minor repairs were made to the gates. (Appendix 9, page 47.)

BAIE VERTE CANAL.

This work was reported upon at length by the Chief Engineer of the Department, on the 10th December, 1873. The report was accompanied by the necessary appendices. The whole in a separate form was submitted to Parliament at the last session.

The report is reproduced. (Appendix No. 22, page 137.)

WORKS ON NAVIGABLE RIVERS.

DOMINION RIVERS.

The following rivers are under the control of the Dominion Government:—

The St. Lawrence (to the head of Lake Superior.)

“ Ottawa.

“ St. Croix, New Brunswick.

“ Restigouche, do

“ St. John, do

“ Tignish, do

“ Missiguash, boundary line between New Brunswick and Nova Scotia.

“ Fraser, British Columbia.

“ Red, Manitoba.

DEEPENING CHANNEL OF RIVER ST. LAWRENCE BETWEEN QUEBEC AND MONTREAL.

An appropriation of \$1,500,000, having been voted by Parliament for deepening the channel of the St. Lawrence between Quebec and Montreal, to twenty-five feet at low water, measured by the datum of eleven feet of water on the flats of Lake St. Peter, or sixteen feet on the lower mitre sill of Lock 1, Lachine Canal, an order in Council was approved by Your Excellency on 31st May, 1873, authorizing the expenditure of \$500,000 for the past year, and further authorizing the Harbor Commissioners of Montreal to perform the work under the direct supervision of the Department. The Harbor Commissioners were accordingly requested to submit to the Department the extent of work they proposed executing during the year, and the mode in which they designed to carry it on, and further to furnish the probable amount of expenditure.

The Commissioners replied that they had no suitable plant, with the exception of a new dredge. That they considered the work could best be performed under their own management, and they estimated the plant required at \$385,000, which they suggested should be purchased elsewhere than in Canada. The hulls for the machinery to be obtained in the Dominion.

It was not anticipated that more could be effected than to have the plant ready in the Spring of 1874 to commence operations, and it was held that the balance of \$115,000 would be sufficient for the working expenses for the remainder of the fiscal year.

An agent of the Commissioners was despatched to the United States to examine the dredging apparatus in use there, and his report was to the effect that those he had seen were smaller and inferior to the dredges in use in Canada.

On the 4th August authority was given by the Department to purchase the plant asked for, amounting to \$385,000, viz:—

Six Elevator Dredges.

Six Steam Tugs.

Fifteen Scows.

Two coal Barges.

On the receipt of this authority, tenders were called for by public advertisement.

An agent was also applied to in England, to obtain the prices there, for plant of this character.

The tenders were opened on the 10th October, when the following contracts were awarded.

F. Soucy, Quebec.....	2	Hulls, Elevator Dredges	\$15,165	each.
M. Dickie, Quebec.....	2	“ “ “	15,236	“
J. J. Sanson & Co., Quebec.....	2	“ “ “	15,470	“
P. Letouche, Yamaska.....	15	Hopper Scows.....	2,400	“

On the 8th and 13th November tenders were opened for the machinery of the new dredges. At a subsequent meeting it was resolved to offer the machinery of the elevator dredges at \$40,000, each machine as follows:—

Two to Mr. E. E. Gilbert.

Two to Messrs. W. B. Bartley & Co.

One to John McDougall.

One to Messrs. Atkin & Burgess, Chicago.

This arrangement was duly reported to the Department, and the plant is in course of construction, to be delivered in the early spring, when the work will be commenced.

RIVER ST. CROIX.

A survey has been made by the United States Government of the obstruction between St. Stephen and Calais, and the Ledge a distance of four miles. A portion of the expenses has been borne by the Department.

The obstructions consist of slabs, edgings and saw dust.

General Thom, of the United States' Engineers, estimates the establishment of a channel 100 feet wide at \$100,000. (Appendix 15, page 70.)

RIVER ST. JOHN.

The obstructions between Fredericton and Andover, below the confluence of the Tobique, have been partially removed; they consist of bars, with boulders and rocky reefs.

Operations were carried on at other parts of the river.

These improvements give an additional sixteen inches of water.

Steamboats now make their trips to Tobique with ease in high water.

The entrance to the Jemseg from the Grand Lake has been straightened by dredging.

The public landings at Fredericton have been deepened. (Appendix 15, page 70.)

PROTECTION OF NAVIGABLE STREAMS.

The Act passed for the protection of streams, Chap. 65, 36 Victoria, provides that no sawdust, edgings, slabs, bark, or rubbish, shall be thrown into any navigable stream, either above or below the point at which it ceases to be navigable, under certain penalties. At the same time it is provided that the Governor in Council shall have power to suspend the operation of the Act, with regard to casting sawdust into any stream.

The reports received on the subject of the several navigable rivers in all sections of the Dominion, where lumbering operations have been carried on, suggest the rigorous enforcement of this law, without exception being made in any of its provisions.

Most of the harbors of the western lakes have been reduced in depth by deposit of this character brought down from the upper waters of the streams discharging into them. A heavy expense has thus been thrown upon the Department in dredging out the various channels where these impediments are found.

The same difficulties are reported in the streams of the Maritime Provinces.

The inconvenience is increased, by proprietors of lumber leaving sticks in the stream, until they become water-logged and sink, frequently to form what is known by the term "snag."

The navigation of several streams has become from this cause, a matter of positive danger.

As the commerce of the Dominion is increasing year by year, it is the more imperative that the navigation of rivers be kept free and unimpeded.

HARBORS AND PIERS.

WESTERN LAKES.

ONTARIO.

KINGSTON.

A survey was made to determine the position of the shoals in this harbor at the foot of Lake Ontario which are out-crops of rock.

They consist of the Carruther's shoal, the Point Frederic shoal, and the shoal of the Martello tower.

Although well buoyed out, when the water is low vessels have been damaged by being driven on them.

During the ensuing season it is intended to commence operations on the Carruther's shoal to obtain a depth of thirteen feet. (Appendix 14, page 57.)

NAPANEE.

The harbor of Napanee is twenty-six miles from Kingston, and twenty-two miles from Belleville. It is the commercial centre of the counties of Lennox and Addington.

It is approached from the Bay of Quinté by the River Napanee.

Vessels engaged in the trade require seven feet of water.

Dredging was carried on during the past season and in June of this year, to obtain this depth at the lowest water over the eight obstructions found in the river.

The appropriation of \$6,000 has been expended.

Further dredging is required fully to effect this result. (Appendix 14, page 57.)

RIVER SALMON.

The harbor of Shannonville which is thirty-nine miles from Kingston is gained by the River Salmon. At the debouchure of this river with the Bay of Quinté, obstructions exist which impede navigation.

A gravel bar runs across the mouth, but the deposit principally consists of slabs and sawdust.

An appropriation of \$3,000 has been made by Parliament for the work. It will be completed during the present season. (Appendix 14, page 58.)

BELLEVILLE.

Belleville is an important town on the Bay of Quinté, forty-eight miles from Kingston, and 113 miles from Toronto.

Its harbor, naturally shallow, has been much filled by the sawdust and slabs brought down from the Upper Moira.

Dredging was carried on during the season of 1873 and June of the present year, to obtain a depth of nine feet.

The harbor is greatly improved, but still imperfect. (Appendix 14, page 58.)

PICTON.

This town on the Bay of Quinté, is about forty miles from Kingston. It is the commercial centre of the rich farming district of Prince Edward.

An appropriation of \$6,000 has been made to obtain a depth of nine feet in the harbor.

Dredging operations will be carried on in the ensuing season. (Appendix 14, page 58.)

PRESQU'ILE.

This harbor is situated on the north shore of Lake Ontario, about seventy-eight miles above Kingston. The channel at its entrance has been dredged out.

A channel has been completed through the middle ground, having a width varying from 220 to 160 feet, and a depth of twelve feet at the stage of water in September, 1874.

This work was commenced in 1872.

The examination made this year of the work, suggests that the channel is not in danger of being silted up.

The Engineer-in-Chief recommends that no additional expenditure be made until the action of the Lake be determined.

COBOURG.

Is situated on Lake Ontario, seventy-two miles east of Toronto. A plan has been agreed upon for the extension of the harbor, two-thirds of the cost to be borne by the Department, and one-third by the Harbor Commissioners.

The contract for the work was awarded in September, 1873, but owing to the unsatisfactory mode in which the contractors took up the work, no arrangement of any kind being made to carry it on, they were relieved of their obligations, and the work awarded to the contractors next lowest in the list of tenders.

The work has consequently been delayed one year. (Appendix 15, page 59.)

PORT HOPE

Is situated seven miles to the west of Cobourg, on Lake Ontario.

The sum of \$20,000 was appropriated at the last Session of Parliament for some additional works as protection against the south and south-west winds.

They will be placed under contract during the ensuing season. (Appendix 15, page 59.)

LAKE ERIE.

PORT STANLEY.

Port Stanley is about eighty-five miles from the entrance to the Welland Canal, one hundred and twelve miles from Buffalo, one hundred miles from Erie, and eighty-five miles from Cleveland.

Additional protection is required against the south-west winds.

An appropriation of \$7,000 has been made towards this improvement, but it will only prolong the cribwork to the length of eighty feet.

No steps have yet been taken with regard to this work. (Appendix 15, page 59.)

RONDEAU.

Is situated on the north shore of Lake Erie, one hundred and forty miles above Port Colborne, at the Welland Canal; forty-two miles from Point Pelée and ninety-two miles from the light-house at Long Point.

The works under contract since 1871 are now completed. They consist of two parallel piers, 783 feet in length, 250 feet apart, placed north and south.

The western pier extends 300 feet further inwards.

There is a full depth of fifteen feet of water in this channel. The same depth is found in the inner basin, having an area of ten acres, which has been dredged out. The original design of the breakwater, carried from the west pier in a north-westerly direction, has been modified, it having been considered preferable to increase the length of the west pier northerly as above stated. Only 225 feet of the breakwater as originally designed was constructed.

This arrangement of the work has had the effect of preventing any deposit taking place in the basin, and accordingly the full depth has so far been maintained.

KINGSVILLE.

Is about fourteen miles west of Point Pelée and twenty-two miles from Amherstburgh.

These waters were carefully surveyed with a view of constructing a harbor of refuge at this point. (Appendix 15, page 60.)

LAKE ST. CLAIR.

CHENAL ÉCARTÉ.

This channel which receives the River Sydenham and falls into Lake St. Clair from the River Detroit, has been examined in its southern passage, to determine the cost of improving the navigation so as to admit a vessel passing to the south without making the tour of Walpole Island. (Appendix 15, page 60.)

LAKE HURON.

SARNIA.

Is at the foot of Lake Huron where it debouches into the River St Clair.

The harbor was examined owing to the complaint of the Board of Trade, that wharves on water lots obstructed the navigation.

The question has been referred to the Minister of Justice. (Appendix 15, page 60.)

BAYFIELD.

Is situated on Lake Huron twelve miles south of Goderich, in the Township of Stanley.

The sum of \$36,000 was voted at the last session of Parliament, and \$10,000 voted by the Township of Stanley, making a total of \$46,000, to obtain a depth of nine feet in the harbor, and to afford protection against the north-west winds of the lakes.

The work will be put under contract during the ensuing season. (Appendix 15, page 60.)

GODERICH.

Situate at the mouth of the River Maitland, on the east coast of Lake Huron, sixty-eight miles from Sarnia. It is also the terminus of the Buffalo Branch of the Grand Trunk Railway.

The work under contract to Messrs. Harvey and Karman, a cribwork, which has been in progress since 1871, was completed in the fall of last year. The northern pier is 1,365 feet, and the southern pier 1,520 feet long, the width between the piers been 200 feet.

At the breaking up of the ice in 1872, the southern pier was injured, it was not considered advisable immediately to restore the damaged portion, but the work is now

under contract and will be done this fall. The inner basin has an area which has been dredged out of nearly twelve acres, with fifteen feet depth of water, the depth between the piers.

During the heavy gales, the harbor has rendered much service to vessels seeking shelter, and is generally easy of access.

The docking, in which the town is interested, has been completed south of the harbor. It is designed to change the course of the river, turning it entirely to the north of its present discharge. No current will therefore pass between the piers, and the harbor proper will thus be relieved from the influence of the descending stream.

Two lines of crib work, sixty feet apart, each line being twenty feet wide, will be extended obliquely across the harbor, and the spit of sand at the mouth will be cut through to admit of the passage of the water from the Maitland to Lake Huron; the northern line being continued as a revetment wall to the lake.

The intermediate space of sixty feet between the cribs will be filled by the material obtained by dredging.

This new work is now being carried on.

PORT ALBERT.

Is about eleven miles north of Goderich, at the foot of the Nine Mile Creek, in the township of Ashfield.

The sum of \$6,000 was appropriated in the session of 1873, and works are now in progress to obtain harbor accommodation for vessels drawing eight feet of water. (Appendix 15, page 61.)

KINCARDINE.

This harbor is situated at the mouth of the River Penetangore, Lake Huron, twenty-seven miles S. S. W. of the River Saugeen, and thirty-one miles north of Goderich.

The works under contract were completed during the season. The north pier has been extended thirty feet; the south pier, 150 feet.

The superstructure of the north pier has been partially renewed, and the south pier raised.

The open spaces on the south pier have been filled.

The channel to the harbor on the north side has been dredged to fifteen feet, and the inner basin deepened.

INVERHURON.

Inverhuron is situated nine miles from Kincardine to the north.

In the session of 1873, the sum of \$6,000 was voted for the improvement of the harbor, the superstructure being generally decayed.

From the character of the work it is considered preferable to effect this improvement by time work.

The work is now in progress and it is estimated it will be completed in September. (Appendix 15. page 62.)

CHANTRY ISLAND.

Chantry Island is situated at the mouth of the River Saugeen, on the east of Lake Huron, about 133 miles above the foot of the lake at Sarnia.

The work completed consists of the continuation of the breakwater from the island, constructed in 1856, and the erection of a beacon.

The breakwater is carried from the northern point of the island, 1,600 feet easterly on a slightly curved line with a stone talus on each side.

The beacon is an octangular structure of timber 50 feet across, carried up 40 feet above water-line. It is placed in 16 feet of water on the extreme point of the shoal running south-west from the island, "the south shoal" with a distinguishing drum.

In the inner harbor, about 1,500 cubic yards of boulder stone have been removed from the shoal adjoining anchorage ground.

GEORGIAN BAY.

OWEN SOUND.

Owen Sound is situated at the discharge of the River Garafraxa.

At the last Session of Parliament, the sum of \$10,500 was voted for the improvement of the channel.

The work will be carried on this season. (Appendix 15, page 62.)

MEAFORD.

Meaford is situated on the Georgian Bay, nineteen miles from Owen Sound and twenty-two from Collingwood.

The sum of \$15,000 has been voted by Parliament, which the municipality has supplemented with the sum of \$10,000, making a total of \$25,000.

Various works are in progress for the improvement of the harbor. (Appendix 15, page 65.)

COLLINGWOOD.

Collingwood is situated on the Georgian Bay, and is important from being the terminus of the Northern Railway from Toronto, from which it is distant ninety-four miles.

A breakwater 700 feet long is in course of construction, to replace the structure carried away by ice in the spring of 1872, with a light-house at the eastern end.

Half of the expense is borne by the Department of Public Works, one-quarter by the Northern Railway Company, and one-quarter by the Municipality of St. Vincent. (Appendix 15, pages 63, 64.)

QUEBEC.

COTEAU LANDING.

Some material only has been delivered for this work. (Appendix 3, page 12.)

LES EBOULEMENTS.

No repairs this season.

MALBAIE.

Repairs were made in August last.

BERTHIER (EN BAS.)

No repairs this season.

L'ISLET.

Nothing done last season. Some repair is reported necessary.

RIVER OUELLE.

The necessary repairs were made August, 1873.

RIVER DU LOUP (EN BAS.)

The pier was repaired.

RIMOUSKI.

The necessary repairs were finished in December.

MARITIME PROVINCES.

NEW BRUNSWICK.

RICHIBUCTO.

On the Straits of Northumberland, forty miles north of Shediac.

The work under progress, a breakwater 320 feet long, was so much damaged by the gale of August, 1873, that work was suspended until the Spring of this year, when they were resumed.

The north channel has been deepened by dredging. (Appendix 15, page 66.)

STONY CREEK:

On the River Petitecodiac, eight miles below Moncton.

The breakwater to deflect the current of the River Petitecodiac, has been completed with satisfactory results. (Appendix 15, page 66.)

HERRING COVE.

On Chignecto Bay, eighty miles east of St. John: a breakwater affording shelter to vessels at high water has been completed. (Appendix 15, page 66.)

DIPPER HARBOR.

Eighteen miles west of St. John: a breakwater 450 feet in length has been constructed on west side. (Appendix 15, page 66.)

HILLSBORO'.

On the River Petitecodiac, thirteen miles below Moncton: a breakwater 130 feet in length has been constructed to carry a harbor light. (Appendix 15, page 67.)

CAMPO-BELLO.

An island in Passamaquoddy Bay, at the mouth of the River St. Croix.

The work commenced is incomplete, no appropriation having been made by the local authorities. (Appendix 15, page 67.)

NOVA SCOTIA.

BROOKLYN.

110 miles south of Halifax, on the Atlantic Ocean.

The breakwater on the east side of Liverpool Bay, 434 feet long, has been completed.

A contract has been entered into for an additional length of 300 feet. (Appendix 15, page 66.)

YARMOUTH.

South-west coast of Nova Scotia, 100 miles from St. John, N.B.

The works for the protection of the beach have been completed. (Appendix 15, page 67.)

MABOU.

Cape Breton, forty miles from north entrance of Gut of Canso.

These works are not in a satisfactory condition having been abandoned by the contractor. (Appendix 15, page 67.)

McNAIR'S COVE.

On the west side of St. George's Bay, about five miles south of Lake George.

The works were completed in November last. (Appendix 15, page 67.)

INGONISH.

On the Gulf of St. Lawrence about twenty miles south from North Cape, Cape Breton.

The work in progress is widening the channel to 200 feet with a depth of fifteen feet, and the construction of a breakwater 700 feet in length. (Appendix 15, page 67.)

BIG POND.

On the south of East Bay, Bras d'Or Lake, Cape Breton.

A passage has been opened from the bay to the pond secured by timber work. (Appendix 15, page 67.)

BIG TRACADIE.

The head of St. George's Bay, forty miles east of Pictou harbor.

Arrangements have been made for repairs to breakwater. (Appendix 13, page 68.)

CHEDABUCTO BAY.

South-east extremity of Nova Scotia.

The breakwater is in course of construction. (Appendix 15, page 68.)

COW BAY.

About thirty miles south-east of Sydney, Cape Breton.

The breakwater has been repaired, but was damaged by the gale of the 24th August last. After the gale the work was resumed, the grant being supplemented by Messrs. Archibald & Co., the present owners. (Appendix 15, page 68.)

CANADA CREEK.

On the southern shore of the Bay of Fundy, sixty miles east of Digby Gut.

The breakwaters have been repaired. (Appendix 15, page 68.)

DIGBY PIER.

In the Annapolis Basin, forty-five miles south of St. John.

The pier has been repaired. (Appendix 15, page 68.)

GABAROUS BAY.

Westward of Louisburgh, Cape Breton. The channel has been deepened. (Appendix 15, page 68.)

GREEN COVE.

Twelve miles north of Yarmouth.

The breakwater has been repaired and raised. (Appendix 15, page 68.)

JOGGINS.

On the eastern side of Chignecto Channel.

The breakwater has been extended 100 feet, the whole structure has been covered with flooring, a breakwater to the east 170 feet long has been constructed, and the basin cleared out.

Half of the total expense was borne by the Joggins Coal Mining Association. (Appendix 15, page 68.)

MAITLAND.

West of the mouth of the River Shubenacadie.

A pier is in course of construction. (Appendix 15, page 69.)

MORDEN.

On south shore of the Bay of Fundy, about fifty miles east of Digby Gut.

The breakwater is in course of being repaired and extended. (Appendix 15, page 69.)

OAK POINT.

On Minas Basin, three miles to the east of Canning.

The breakwater has been repaired. (Appendix 15, page 69.)

PORT GREVILLE.

On the northern side of Minas Channel, about twelve miles to the westward of Parrsboro'.

2,200 feet of cribwork has been constructed as a protection against the southerly gale. (Appendix 15, page 69.)

PORT HOOD.

Inverness County, Cape Breton.

The joists and flooring to pier have been repaired. (Appendix 15, page 69.)

PORT GEORGE.

South side of the Bay of Fundy, about twenty-five miles east of Digby Gut.

The breakwater has been repaired. (Appendix 15, page 69.)

PORT WILLIAMS.

South side of the Bay of Fundy, about six miles eastward of Port George.

The lengthening of the breakwater has been completed. (Appendix 15, page 69.)

PLYMPTON.

South side of St. Mary's Bay.

The breakwater has been lengthened and protected. (Appendix 15, page 70.)

RIVER SALMON.

On the Bay of Fundy.

The breakwater has been strengthened and repaired. (Appendix 15, page 70.)

LIVERPOOL.

On the Atlantic coast, 110 miles west of Halifax.

The channel was dredged early in the season, but as fast as material was removed it was filled by sawdust and silt brought down from the mills.

The engineer in charge states that, unless a stop be put to this deposit of waste from the mills, it will be impossible to effect any improvement in this harbor. (Appendix 15, page 71.)

LOCKPORT.

About fifty miles west of Liverpool on the Atlantic.

The harbor has been improved here by dredging. Vessels drawing sixteen feet of water can now enter the harbor. (Appendix 15, page 71.)

MAGDALEN ISLANDS.

House Harbor has been partially improved. (Appendix 15, page 70.)

SLIDES AND BOOMS.

The Government slides have been constructed to effect the passage of lumber, where impediments to the navigation exist, and where no canal connects the reaches of natural navigation. The booms form artificially closed bays at the entrance and discharge of the slide, to receive the timber in its descent.

The principal lumbering districts of these Provinces are situated on the Saguenay, St. Maurice, Ottawa, Trent, Georgian Bay, and on the tributaries of those waters.

RIVER SAGUENAY.

The works on this river consist of one slide 5,840 feet in length, with a boom of 1,314 feet, with dams, piers and bulkhead. They avoid the rapids which occur where Lake St. John passes into River Saguenay.

These works cover a distance of about six miles, and are built on *La Petite Décharge*, the less of the two affluents of Lake St. John. Commenced in 1856, they were completed in 1860,

The dams of Lake St. John and the boom have been repaired.

The slide has been repaired, and canal at head deepened. (Appendix 13, page 56.)

RIVER ST. MAURICE.

The slides and booms on this river and the Vermillion, one of its tributaries, occur in the order here given, and at the following distances from the town of Three Rivers:—

STATIONS.	FROM THREE RIVERS.
<i>River St. Maurice</i> :—	
Booms at mouth.....	0 miles.
Grés Falls.....	16 “
Shawenigan.....	20 “
Grand' Mère.....	29 “
Little Piles.....	31½ “
La Tuque.....	100 “
Plamondon's Eddy.....	106 “
 <i>River Vermillion</i> :—	
Mouth of river.....	116 “
Iroquois Falls.....	121 “

The principal tributaries of the River St. Maurice are the Shawenigan, Mekinak, Matawan, Petit Bostonais, Grand Bostonais, Croche, Vermillion, Tranche, Grand Pierriche and Manouan.

BOOMS AT MOUTH.

Four mooring piers have been renewed, five repaired, twenty-four mooring posts renewed, 3,500 feet of boom renewed, four new piers constructed and sheds repaired.

GRÉS FALLS.

Booms have been repaired.

SHAWENIGAN FALLS.

Piers have been raised and renewed, booms and buildings repaired, bulkhead renewed.

GRAND' MÈRE.

Boom renewed, scow constructed.

LITTLE PILES.

Dam repaired.

LA TUQUE FALLS.

Material deposited for repairs.

IROQUOIS FALLS.

Repairs to slide and boom. (Appendix 12, page 54.)

THE OTTAWA DISTRICT.

The Government works connected with the descent of timber in this district are on the following rivers:—

On the Ottawa, main river.....	11 stations.
“ Gatineau	1 “
“ Madawaska	15 “
“ Coulonge	2 “
“ Black.....	1 “
“ Petewawa.....	31 “
“ River du Moine.....	12 “

The following is a table of distances from St. Anne's Lock at the outlet of the River Ottawa to the mouth of its principal tributaries; also to the stations where slides or other works have been constructed.

PLACES.	DISTANCE FROM ST. ANNE.
Carillon.....	27 miles.
Grenville.....	40 "
River Nation.....	63 "
River du Lievre.....	79 "
River Gatineau.....	96 "
Chaudière Falls.....	98 "
Little Chaudière.....	100 "
Remous	102 "
Lac Deschênes.....	105 "
River Quio.....	129 "
Chats Station.....	131 "
Head of Chats.....	134 "
River Mississippi.....	134 "
River Madawaska.....	136 "
River Bonnechère.....	148 "
Les Cheneaux.....	152 "
Portage du Fort.....	156 "
Mountain Station.....	161 "
Calumet.....	163 "
River Coulonge.....	184 "
River Black.....	193 "
River Snake.....	204 "
River Petewawa.....	218 "
Les Joachims.....	236 "
River du Moine.....	244 "
Rocher Capitaine.....	253 "
Deux Rivières.....	266 "
River Mattawan.....	286 "
River Antoine.....	293 "
River Beauchêne.....	315 "
River Porc-épic	326 "
River Grand Opemiconne.....	333 "
River Keepawa.....	349 "
River Montreal.....	355 "
Fort Temiscamingue.....	367 "
River Ottertail	384 "
River Blanche.....	386 "
River des Quinze.....	389 "

RIVER OTTAWA.

LIST OF SLIDE AND BOOM STATIONS ON THE RIVER OTTAWA.

The distances given are measured on the latest maps, following the channel through which lumber is floated down the river.

Names of Stations.	Distance from mouth of Ottawa at St. Anne.
1. Carillon	27 miles.
2. Chaudière { north side, Hull, { south side, Ottawa. }	98 "
3. Chaudière (Little)	100 "
4. Remous.....	102 "
5. Deschênes Rapids	104 $\frac{3}{4}$ "
6. Chats Station	131 "
7. Head of Chats.....	134 "
8. Chenaux	152 "
9. Portage du Fort.....	156 "
10. Mountain	161 "
11. Calumet	163 "
12. Joachim Rapids.....	249 "

The works of these twelve stations consist of:—

2,000	lineal feet of canal,
3,835	" slides,
29,855	" booms,
8,656	" dams,
346	" bulkheads,
1,981	" bridges,
52	piers,
3	slide-keeper's houses, and
3	storehouses.

The Superintendent reports, towards the close of the season, owing to the low level of the water, difficulty was experienced in moving all descriptions of timber. Quantities of saw-logs were stranded on the banks of the main stream from Les Joachims to the Chaudière Falls and downwards to Grenville.

A new slide has been completed at the Rocher Capitaine Rapids.

The works generally have been maintained.

RIVER DES PRAIRIES.

This river leaves the Ottawa near the Lake of Two Mountains, and discharges into the St. Lawrence below the Island of Montreal, being, in fact, a continuation of the Ottawa River.

RIVER GATINEAU.

The River Gatineau flows from the north, and discharges into the Ottawa at a point about ninety-six miles above its mouth, and two miles below the City of Ottawa. The length of the Gatineau is 400 miles, and it drains an area of about 9,000 square miles.

The Government works are all at one station, about a mile from its confluence with the Ottawa.

They consist of:—

- 3,071 lineal feet of canal,
- 4,138 “ “ booms,
- 52 “ “ bridge,
- 10 piers, and
- 1 slide keeper's house.

Owing to the logs filling up the channel of the River Gatineau, the passage of steamers and barges was much impeded.

This jam was occasioned by lumbermen turning logs adrift on the upper reaches of the river without being able to control the drives. Hence 120,000 pieces in excess of the regulation numbers were found covering the river to the depth of many tiers.

The main Gatineau boom has been rebuilt and the low water channel dredged.

The order in council of 21st May last, setting forth the mode in which the “gaps” are to be worked has been enforced. It may be expected that no serious stoppage will now occur to the navigation, and that the booms will be speedily cleared.

RIVER MADAWASKA.

The length of the River Madawaska is 240 miles ; it drains an area of about 4,100 square miles on the south shore, and discharges into the River Ottawa 136 miles above St. Anne.

Slide and boom stations on the Madawaska, numbered from the mouth of the river upwards, are as follows :—

- | | |
|---------------------|----------------------|
| 1. Mouth of River. | 9. High Falls |
| 2. Arnprior. | 10. Ragged Chute. |
| 3. Flat Rapids. | 11. Boniface Rapids. |
| 4. Balmer's Island. | 12. Duck's Island. |
| 5. Burnstown. | 13. Bailey's Chute. |
| 6. Long Rapids. | 14. Chain Rapids. |
| 7. Springtown. | 15. Opeongo Creek. |
| 8. Calabogie Lake. | |

The works at these stations consist of:—

1,750	lineal feet of slides,
18,179	“ booms,
4,080	“ dams,
182	“ bridges,
43	piers
	1 slide-keeper's house, and
	1 work shop.

During the season, the works have been kept in repair.

RIVER COULONGE.

This river drains an area of about 1,800 square miles, and its length is 160 miles; it discharges into the River Ottawa, 184 miles above St. Anne, on the north shore.

The following is a list of the Government works on this river:

Boom at mouth.....	300 feet long, and 1 support pier.
Booms at Romain's Rafting-ground.....	400 “ 3 “ piers.
Booms at head of High Falls Slide.....	1,848 “ 6 “ “

The booms and piers were kept in repair.

BLACK RIVER.

This river empties into the Ottawa at a point 193 miles above St. Anne. Its length is 128 miles, and the area drained by it about 1,120 square miles on the north shore.

The works consist of:—

1,139	lineal feet of single-stick booms,
873	“ slide,
346	lineal feet of glance pier,
135	“ flat dam.

The works have been kept in repair.

RIVER PETEWAWA.

The length of the Petewawa is about 138 miles, and the area of the territory drained by it covers some 2,200 square miles.

It flows from the south, and discharges into the Ottawa 218 miles above St. Anne. Seven miles from its mouth, the Petewawa separates into two branches. On these seven miles there are five stations; on the north branch there are eighteen stations and on the south branch eight stations.

LIST of the slides and booms on this river, in the order in which they occur, from the mouth upwards :—

- | | |
|------------------------|-----------------|
| 1. Mouth of the River. | 4. Third Chute. |
| 2. First Chute. | 5. Bois dur. |
| 3. Second Chute. | |

NORTH BRANCH.

- | | |
|---|---|
| 1. Half-mile Rapid. | 11. Devil's Chute. |
| 2. Crooked Chute. | 12. Elbow of Rapids. |
| 3. Between High Falls and Lake Traverse
(a slide and a series of dams and booms) | 13. Foot of Long Sault. |
| 4. Thompson's Rapids. | 14. Middle of Long Sault. |
| 5. Sawyer's Rapids. | 15. Head of Long Sault. |
| | 16. Between Long Sault and Cedar
Lake (south shore.) |
| 6. Meno Rapids. | |
| 7. Below Trout Lake. | 17. Between Long Sault and Cedar Lake
(north shore.) |
| 8. Strong Eddy. | 18. Cedar Lake. |
| 9. Cedar Islands. | |
| 10. Foot of Devil's Chute. | |

SOUTH BRANCH.

- | | |
|------------------|-------------------|
| 1. First slide. | 5. Fifth slide. |
| 2. Second slide. | 6. Sixth slide. |
| 3. Third slide. | 7. Seventh slide. |
| 4. Fourth slide. | 8. Eighth slide. |

The works at these 31 stations are as follows :—

ON THE MAIN RIVER.

2,963 lineal feet of slides.
8,469 „ booms,
2,077 „ dams,
7 piers.

ON THE NORTH BRANCH.

480 lineal feet of slides
2,671 „ booms.
1,131 „ dams.
23 piers.

ON THE SOUTH BRANCH.

2,134 lineal feet of slides,
388 „ dams.

The above works have been kept in serviceable condition. A single stick slide has been constructed near Lake Traverse.

RIVER DU MOINE.

The length of this river is 120 miles, and it drains an area of about 1,600 square miles on the north shore. It flows into the river Ottawa at a point about 256 miles above St. Anne.

The present works on this river consist of a pier and retaining boom at its mouth, a single-stick slide, and a series of flat dams from the mouth upward. They may be detailed as follows, viz:—

300	lineal feet of slide,
800	„ „ booms,
1,324	„ „ dams.
6	piers.

The above works have been kept in repair.

The gross revenue from tolls from all works during the year is \$117,989.39.

Extensive repairs are reported to be required at the Joachims and Portage du Fort Stations.

Additional works are recommended at the Chaudière Slides. [Appendix 11, pages 52-53.]

RIVER TRENT AND NEWCASTLE DISTRICT.

The River Trent discharges into the Bay of Quinté, Lake Ontario, at Trenton, sixty-seven miles above Kingston. Proceeding inland to Lake Scugog, a chain of rivers and lakes connecting with each other is met in the following order:—River Trent, Rice Lake, River Otonabee, Clear Lake, Buckhorn Lake, Pigeon Lake, Sturgeon Lake, River Scugog, Lake Scugog.

The distance from the mouth of the Trent to Port Perry, at the head of Lake Scugog, is 190 miles.

The difference of level between Lake Ontario, at the mouth of the Trent and the head of Lake Scugog, is 570 $\frac{1}{4}$ feet; and of the whole distance between the two points, only 152 $\frac{1}{4}$ miles is navigable, while 37 $\frac{1}{4}$ miles is not even practicable for boats.

Within this distance, various works have been constructed.

The following is a table of distances from the Bay of Quinte:—

STATIONS.	Distance in miles from Mouth of Trent.
On the River Trent, at Nine Mile Rapids (Widow Harris').....	9
“ Chisholm's Rapids.....	15½
“ Ranney's Falls.....	33½
“ Campbelford.....	34¾
“ Fiddler's Island.....	36
“ Middle Falls.....	37½
“ Crow Bay.....	38
“ Heeley's Falls.....	42¾
“ Hastings (Crook's Rapids).....	54½
On the River Otonabee—Whitlas' Rapids.....	93
“ Little Lake.....	94
At the foot of Buckhorn Lake—Buckhorn Rapids.....	125
At the foot of Sturgeon Lake—Bobcaygeon Rapids.....	140¾
On the River Scugog—Lindsay.....	161¼

RIVER FENELON.

A boom and piers have been constructed to divide the River into 2 channels, one for the passage of timber, and one for steamboats.

BOBCAYGEON.

The dam and swing bridge have been repaired.

LITTLE LAKE.

The boom has been repaired.

WHITLA'S RAPIDS.

The wing dam swept away in the spring of 1873 is in course of being reconstructed under contract.

CROOK'S RAPIDS.

The canal has been dredged and the retaining wall of cribwork constructed the entire length of the canal. [Appendix 10, pages 49, 50.]

ROADS AND BRIDGES.

The roads under the control of the Dominion Government are:—

THE MÉTAPÉDIAC—with the exception of 14 miles at each end,

THE TEMISCOUATA.

THE HUNTINGDON AND PORT LOUIS.

MÉTAPÉDIAC ROAD.

This road begins at St. Flavie, 201 miles below the city of Quebec, on the south shore of the Lower St. Lawrence, and extends to a point on the Restigouche River, about 10 miles from the Bay of Chaleurs, where it connects with the Quebec and New Brunswick coast roads.

This road has been kept in good order.

TEMISCOUATA ROAD.

This road connects the Provinces of Quebec and New Brunswick. Its length, from River du Loup to the boundary line between the two Provinces, is 67 miles.

The repairs necessary, indicated in the last report, have been completed.

HUNTINGDON AND PORT LOUIS ROAD.

This road extends from Port Louis, on Lake St. Francis, to Huntingdon, in the Province of Quebec. It is eight miles long, and being necessary for defensive purposes was assumed by the Dominion Government in 1869.

The control of this road is about being transferred to the Municipalities through which it passes.

UNION SUSPENSION BRIDGE, OTTAWA.

The usual repairs have been performed.

The Superintendent recommends that owing to the amount of traffic passing over the bridge, the approaches be extended by lateral additions and that a new and wider bridge be erected. [Appendix 11, page 53.]

PUBLIC BUILDINGS.

PROVINCE OF ONTARIO.

OTTAWA.

HOUSES OF PARLIAMENT.

New boilers to warming apparatus are being placed in position.

Alterations and additions have been made to Speaker's residence and the room connected with Reporters Gallery.

The ordinary repairs have been executed.

LIBRARY.

The masonry is completed, the roof nearly covered.

Plaster work will be finished by fall, when decoration of ceiling will be commenced.

The windows are now glazed with clear glass, eventually the glass will be stained.

DEPARTMENTAL BUILDINGS.

East Block.—The mansard story has been laid out as offices.

Two new boilers have been placed in position.

The galvanized iron roof is completed.

The upper story has been divided by walls of brick.

An additional iron staircase is arranged for.

West Block.—The mansard story has been divided into six sections with brick walls.

The hot air pipes cased in brick.

WORK SHOPS.

New work shops on the line of Bank street are now being constructed.

GROUNDS.

The boundary wall with iron railing is finished on line of Wellington street from Dufferin Bridge to Bank street.

A sketch plan by Mr. Calvert Vaux of New York, for laying out the grounds, has been approved, and the Chief Architect perfected the design. It is now being executed.

The avenue in the grounds from east to west, parallel with Wellington street, which previously had a rise from east to west of nearly seven feet, has been brought to a level. The result is that the basement rooms of the west block will, consequent on the lowering of the road, have uninterrupted light and be made good offices.

The square is being graded.

Provision has been made for new gas main, new water main and drainage.

Owing to the accomodation in the Departmental buildings being insufficient, it has been decided that additions to the west block shall be made. Plans are in course of preparation for a building 245 feet in length, 60 feet in width, 3 stories in height with basement.

POST OFFICE, CUSTOM HOUSE AND INLAND REVENUE OFFICE.

This work has been taken out of the hands of the original contractors, which has caused some delay in its completion.

The work has been re-let.

RIDEAU HALL.

The reception room and green-house and the other portions of the interior have been completed.

The roof of the original portion of the building has been re-covered. (Appendix 19, pages 119-122.)

LONDON.

CUSTOM HOUSE.

This building is now occupied.

The fixtures in use have been specially designed.

POST OFFICE.

An addition to the building is in course of construction.

It is designed to paint portions of the old building.

IMMIGRANT DEPOT.

This building is now in course of completion.

It is suggested that arrangements should be made with the railways running into London, for sidings to be laid communicating with the building. (Appendix 19, page 122.)

HAMILTON.

POST OFFICE.

Additions and alterations to the building have been made. (Appendix 19, page 123.)

TORONTO.

NEW POST OFFICE.

The building is completed and occupied.

NEW CUSTOM HOUSE.

It is expected that the building will be roofed in this fall.

EXAMINING WAREHOUSE.

Plans are in preparation for the work.

It will be constructed on a portion of the property purchased from the Ewart estate for the custom house.

REVENUE OFFICES.

This building is partially occupied.

The work to be performed is being rapidly pushed on. (Appendix 19, pages 123-124.)

KINGSTON.

CUSTOM HOUSE AND POST OFFICE.

These buildings have been repaired. (Appendix 19, page 124.)

PROVINCE OF QUEBEC.

MONTREAL.

NEW POST OFFICE.

This building is generally proceeding satisfactorily, although from various causes the contractors will not be enabled to finish the work in the time mentioned in their contract.

CUSTOM HOUSE.

The building has been repaired.

EXAMINING WAREHOUSE.

This building will be constructed to the north-east of McGill street on Common street.

Plans are in preparation for the structure. (Appendix 19, page 124.)

QUEBEC.

POST OFFICE.

Some alterations and additions have been made to the building.

CUSTOM HOUSE.

Some repairs have been made to the interior.

OBSERVATORY.

This building has been completed and occupied.

MARINE HOSPITAL.

Extensive repairs have been executed to this building.

CITADEL.

Fortifications :—The walls have been pointed in many parts.

The casemates have been repaired and the roofs to some extent made good, and work is still in progress. (Appendix 19, page 125.)

POINT LÉVIS.

IMMIGRANT DEPOT.

A gallery has been added to the building and the floors caulked. Other slight alterations have been made.

QUARANTINE STATION, GROSSE ISLE.

The work under contract here has not been satisfactorily performed.

It is not improbable that it may be necessary to take it out of the contractor's hands. (Appendix 19, page 126.)

THREE RIVERS.

CUSTOM HOUSE AND INLAND REVENUE OFFICES.

This building fronting on Notre Dame street is designed to furnish accommodation for the departments above named.

It is anticipated it will be ready for occupation at the end of the year. (Appendix 19, page 126.)

PROVINCE OF NEW BRUNSWICK.

ST. JOHN.

POST OFFICE.

The building will be closed in by the fall.

It is anticipated it will be finished by the autumn of 1875.

CUSTOM HOUSE.

The interior has been repaired.

A signal station, &c., in communication with Partridge Island has been established on roof.

SAVINGS BANK.

The building is now occupied by the Assistant Receiver General.

It has been fitted up with steam warming apparatus.

The attic has been fitted up for accommodation of keeper.

QUARANTINE STATION, PARTRIDGE ISLAND.

The buildings have been slightly repaired and the wharf ballasted.

CHATHAM.

CUSTOM-HOUSE, POST OFFICE AND INLAND REVENUE OFFICE:

The building has been repaired and is now ready for occupation.

NEWCASTLE.

CUSTOM-HOUSE.

The necessary alterations have been made and the building is now occupied.

ST. ANDREWS.

MARINE HOSPITAL.

The building to replace structure destroyed by fire is complete. (Appendix 19, page 127.)

PROVINCE OF NOVA SCOTIA.

HALIFAX.

DOMINION BUILDING.

This building has been repaired and alterations made in the ground-floor.

QUARANTINE BUILDINGS, LAWLOR'S ISLAND.

These buildings have been fitted up for winter use.

PICTOU.

CUSTOM-HOUSE.

Plans have been prepared and approved. (Appendix 19, page 127.)

PROVINCE OF MANITOBA.

WINNIPEG.

CUSTOM-HOUSE, INLAND REVENUE AND POST OFFICE.

These buildings are in course of erection.

They are to be of brick, with stone foundations and Mansard roof.

It was originally designed to place the Post Office adjacent to the Custom-House, but a site has been given by Mr. Ballantyne. When the deeds have been executed the building will be commenced.

It will be similar in design to that of the Custom-House.

PENITENTIARY.

This building has been placed under contract.

The site chosen is Stoney Mountain, about fourteen miles from Winnipeg. (Appendix 19, page 128.)

PROVINCE OF BRITISH COLUMBIA.

VICTORIA.

POST OFFICE, SAVINGS BANK AND CUSTOM-HOUSE.

It has been determined to erect a building for the Custom-House, independently of the connection proposed with the Post Office and Savings Bank.

A site has been obtained and the contract for the structure has been awarded.

PENITENTIARY.

Plans for this building have been prepared and approved, and tenders have been called for. (Appendix 19, page 129.)

LANDS AND LEASES.

A statement with full detail is given (Appendix No. 19, page 135), of the water power and other public property on the canals, leased by the Department during the fiscal year; likewise of all property purchased and sold, setting forth the names of the parties interested, the prices paid, and the circumstances under which each transaction took place.

ARBITRATIONS.

During the past season, twenty-two disputed claims were referred to arbitration; of these four have not yet been reported upon; three were awarded nothing; one claim abandoned by claimant; the remaining claims, amounting to \$69,785.06, were awarded \$30,446.14. (Appendix 21, page 136.)

RAILWAYS.

INTERCOLONIAL RAILWAY.

EASTERN SECTION.

The section of the road, between River du Loup and Trois Pistoles, a distance of 23 miles, when completed, was temporarily placed under the management of the Grand Trunk Railway: an arrangement established by Order in Council, on the 25th November, 1873, subject to termination on three months notice by either party.

This arrangement will cease on the 1st November, 1874.

The line between Trois Pistoles and St. Flavie, sixty-one miles, has been partially worked for traffic by the contractor for ballasting the line.

It is intended to reduce the gauge to 4 feet 8½ inches at the time when the Grand Trunk Railway east of Montreal makes a change of gauge.

When this alteration of gauge has been effected, the line to St. Flavie will be complete.

Arrangements have been made for the purchase of rolling stock for the new gauge, and for the alteration at the proper period, of that now in use.

The earth works from St. Flavie to the River Restigouche, ninety-two miles, will be completed during the summer of 1874.

It has been necessary to take Section 13, the heaviest on the line, from the hands of the contractors. Its completion undertaken by time work, will be rapidly carried out.

No impediment to the progress of track-laying, as far as the Metapedia Bridge, may be looked for. All the iron bridges, including that over the River Restigouche, are in a forward state.

A contract has been let for the track-laying and ballasting for 75 miles, from St. Flavie to Mill Stream Bridge.

Arrangements have been made to lay track, where unladen, from Mill Stream Bridge to Miramichi Bridge, on the 4 feet 8½-inch gauge.

From the River Miramichi, westward, the track-laying and ballasting have been commenced.

Of the two bridges across the River Miramichi, that over the south-west branch will be completed during the season.

Difficulties have intervened with regard to the north-west branch.

The bridging on the entire line, with the exception of the north-west branch of the River Miramichi above named, will be completed by the close of next winter.

For the present the track from Moncton to the River Miramichi will be laid on the 5 feet 6-inch gauge.

The total distance from River du Loup to Moncton is 374 miles.

It may thus be subdivided :

From River du Loup to St. Flavie, in operation for traffic	83	miles.
From St. Flavie to the River Restigouche, track to be laid during the summer of 1875.....	92	“
From River Restigouche to Bathurst, arrangements made for track-laying.....	75	“
From Bathurst to River Miramichi, the track-laying to be completed during season of 1875.....	43	“
The above on the 4 feet 8½-inch gauge.		
From Miramichi to Moncton, arrangements are made to lay track on 5 feet 6-inch gauge.....	81	“
	Total.....	374

Accordingly it is estimated that the track-laying will be completed by the end of August, 1875.

The ballasting, however, will not be perfected by this period.

Provision has been made for a proper supply of water.

The additional rolling stock necessary for working the entire line between Moncton and River du Loup has been taken into careful consideration.

The points where snow fencing is required have been equally considered. (Appendix 18, pages 106-118.)

The line of railway in the Province of Nova Scotia, extends from Halifax to Truro, and from Truro to Pictou, a distance of 113 miles. At the Windsor Branch Junction—13½ miles from Halifax—a branch line 32 miles long, connects at the Town of Windsor with the eastern terminus of the Windsor and Annapolis Railway.

The Railways in the Province of New Brunswick, extend from St. John to Point du Chêne, 108 miles and between Painsec and Amherst, a distance of 41 miles.

By Order of Council these railways were, on the 9th November, 1872,

reconstructed under the name of the Intercolonial Railway, the whole being placed under the care of one general superintendent. For the purpose of being efficiently worked, they have been divided into three divisions:

1st. The eastern division, comprising that portion known as the Nova Scotia Railway, as follows;

From Halifax to Truro.....	61 miles.
The Pictou Branch, from Truro to Pictou.....	52 "
The Branch from Windsor Junction, 13 miles from Halifax to Windsor, being the eastern terminus of the Windsor and Annapolis Railway.....	32 "
	145 "

2nd. The Central Division, extending from Truro to Painesec, on the Intercolonial Railway, and the line between Moncton and Point du Chêne..... 118 miles.

3rd. The Western Division, comprising the line between St. John, New Brunswick, and Point du Chêne on the waters of the Gulf of St. Lawrence..... 108 "

Total.....	371 "
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These railways are on the 5 feet 6-inch gauge.

During the year twenty-seven new sidings have been constructed, the total length being 4.89 miles.

Seven old sidings have been extended, total length 0.64 of a mile.

Four new coal drop sidings have been laid, total length 0.24 of a mile.

New track has been laid and the line ballasted on five branch lines, amounting to 9.01 miles. Of these, Dorchester, Sackville, Springhill, and Newport, were laid with old rails, the Londonderry branch only being laid with new iron.

The Springhill Coal Co., and Londonderry Iron Co., prepared the road bed, and furnished sleepers for the Springhill and Londonderry branches.

A deep water wharf has been constructed at Halifax.

A storehouse at Point du Chêne.

A breastwork of timber is in progress at St. John.

Six passenger and freight houses have been constructed, also

Two Tank houses.

Three Engine houses.

Three Brick oil houses.

New offices and twelve new houses have been built at Moncton.

Three old dwellings moved and fitted up at Moncton.

The water supply has been improved at five stations.

New track scales placed at two stations.

New machinery has been placed in work shops at Moncton.

The new rolling stock, provided during the year, consists of thirteen locomotives and four hundred and forty-four Hopper coal cars of five ton capacity.

Semaphore signals have been placed where considered indispensable.

Snow sheds and fences have been constructed on Folly Mountain, about two and three-quarter miles in length.

An embankment and culvert has been substituted for the old Blackburn wooden bridge. (Appendix 17, pages 101-105.)

37.13 miles of track were renewed with steel rail, fifty-six pounds to the yard.

121,013 sleepers were placed in main line.

10,510 sleepers laid in Windsor branch.

11,626 rods of new post and board and pole fence were built. (Appendix 16, page 93.)

The casualties of the year were:

Eleven killed.

One seriously injured. (Appendix 16 page 99)

The verdicts of the Coroner's jury exonerated the management of the Railway in each case from blame.

NORTH-WESTERN COMMUNICATION.

The line of communication between Fort Garry and Prince Arthur Landing is now generally recognized as the summer route to the Province of Manitoba. Although its capabilities have been developed to a limited degree, it has, nevertheless, extended considerable facilities for the transmission of freight, and to immigrants proceeding to the Red River country.

Until these navigable waters were improved and made accessible, there was no connection between British America and the Valley of the Assiniboine through British Territory, except at an expense which made its use practically impossible; and the whole travel to Red River—from the South to Fort Garry—passed, as a necessity, through the State of Minnesota.

There are two routes in the United States open to the choice of the traveller. The one from Detroit entirely by railway, *via* St. Paul to Duluth; the second by steamboat from Detroit, ascending Lake Huron and entering by the St. Mary Canal, follows the longest distance on Lake Superior to Duluth above named, situate on the westernmost bay of that lake.

The distance on the two United States routes may thus be detailed:—

	Miles.
By Railway from Toronto to Detroit.....	225
“ “ Detroit to Chicago.....	284
“ “ Chicago to St. Paul.....	408
“ “ St. Paul to Duluth.....	150
“ “ Duluth to Morehead.....	252
By Railway.....	1319
By Stage from Morehead to Fort Garry.....	250
Total.....	1569

The distance by the water route is:—

	Miles.
By Railway from Toronto to Detroit.....	225
By Steamer from Detroit through Lakes Huron and Superior to Duluth.....	773
By Railway from Duluth to Morehead.....	250
By Stage from Morehead to Fort Garry.....	252
Total.....	1500
Being by Railway.....	477
“ Steamer.....	773
“ Stage.....	250
Total.....	1500

The Dominion route is as follows:—

	Miles.
By railway from Toronto to Collingwood.....	94
By Steamer from Collingwood to Prince Arthur Landing through Lake Superior.....	532
Miles.	
From Prince Arthur Landing to Lake Shebandowan	45.00
From Lake Shebandowan to North West Angle, Navi- gable water and Portages.....	312.05
Fort Garry Road from North-West Angle to Fort Garry.....	95.00
	452.05
Total.....	1078.05

The following table gives the intermediate distances on the Dominion Route between Prince Arthur Landing, Lake Superior, and Fort Garry, on Red River, showing the extent of navigable water the number and length of portages, with the length of the terminal roads:—

Description of Route.	Passage by Land.		Passage by Navigable Water.
	Road.	Portage.	
	Miles.	Miles.	Miles.
From Prince Arthur Landing to Lake Shebandowan	45		
Lake Shebandowan.....			18'00
Portage No. 1.—To Lake Kashabowie.....		0'75	
Lake Kashabowie.....			9'00
do 2.—Height of Land Portage to Lac des Milles Lacs, water running to north-west, and south and east		1'00	
Lac des Mille Lacs.....			18'50
do 3.—Baril Portage.....		0'25	
Lake Baril.....			8'00
do 4.—Brulé Portage.....		0'25	
Lake Windegoostegan.....			12'00
do 5.—French Portage.....		1'75	
Lake Kaogassikok.....			15'00
do 6.—Pine Portage.....		0'38	
Lake Deux Rivières.....			1'22
do 7.—Deux Rivières Portage.....		0'40	
Lake Sturgeon.....			16'00
do 8.—Maligne Portage (lift. No horse kept here)			
River Maligne.....			10'00
do 9.—Island Portage.....		0'06	
Lake Nequaquon.....			17'00
do 10.—Nequaquon Portage.....		3'25	
Lake Nameukan.....			15'00
do 11.—Kettle Falls Portage.....		0'12	
Rainy Lake.....			44'00
do 12.—Fort Frances Portage.....		0'12	
Rainy River and Lake of the Woods.....			120'00
From North-west Angle Lake of the Woods to Fort Garry.....	95		
	140	8'33	303'72

RECAPITULATION.

Terminal Roads.....	Miles. 140'00
Portages	8'33
Navigable Water.....	303'72
Total Distance.....	452'05

Facilities for transportation have been increased during the last season.

2 steamers built at Fort Frances with 3 steam tugs taken from Collingwood and 4 deck barges built on the line were placed on the route by the middle of August.

From that time till the advent of stormy weather and shorter days, the middle of October, passengers were sent from Prince Arthur to the north-west angle in six days.

Previous to the opening of navigation, a contract was awarded to Messrs. W. H. Carpenter & Co., to work the line and to carry passengers and freight.

The contractors to have the use of the plant and buildings belonging to the Department, and to employ experienced crews and engineers.

Not to run steamers on other routes.

To run the line of route three times a week each way, and to make provision against accidents.

To have houses and tents in good order, and to furnish meals at thirty cents a meal.

All intoxicating liquors prohibited.

Contractors and their servants not to deal in furs.

Contractors to make special arrangement with Indian Agent for transportation of Indians.

Contractors' servants behaving badly to be dismissed.

The condition of passengers on the Sunday to be made acceptable.

Department not bound to complete works, and contractors to have no claim for damages for want of such completion.

Contractors to expend \$1,000 in repair of roads.

To have covered stages and waggons with blankets.

Rates as follows :—

The fare for immigrants from Prince Arthur to Fort Garry or *vice versa* to be \$10 per passenger, with 200 lbs. personal baggage.

Each passenger under fourteen years of age, \$5; children under three years of age free.

Freight not including household furniture or machinery, \$2.00 per 100 lbs.; household furniture at owners' risk, \$3.00 per 100 lbs.; machinery, cattle, sheep, horses, etc., at special rates approved by Department;

Way passengers at given rates.

Contract to be cancelled on good cause.

On the part of the Department a bonus of \$75,000 to be paid in six equal monthly instalments.

In the fall of 1873 a force consisting of the Mounted Police and a detachment of troops for the garrison at Fort Garry was forwarded by this route late in the season. Owing to the winter setting in earlier than was anticipated, additional unforeseen expenditure was incurred. The force got safely through to its destination, but many of the staff and working force of the route were frozen in, and were unable to return to their homes.

The men thus detained were of much use in aiding to obtain supplies for the Pacific Railway Survey.

At Island Portage, two of the three channels have been completely dammed and a vertical dam placed to the third channel with flood gate, the object being to flood the Maligne Rapids; nine feet of water is now obtained, which depth can be increased with some additional work.

PRINCE ARTHUR ROAD.

This road has been kept in good order, and to a considerable extent gravelled and generally improved.

NAVIGABLE SECTIONS.

Steam is the propelling power on all these sections.

On ten of the twelve portages, horses and oxen are used; the two remaining, the Maligne and Island Portages, are lifts where articles are passed by hand.

Eastward of Rainy Lake the route is served by small tugs with boats and barges.

A side-wheel steamer runs regularly on Rainy Lake.

Between Fort Frances and the Long Sault a tug with boats performs the duty.

From Long Sault to the North-west Angle, a side-wheel steamer is in operation.

Two decked barges are now being built at French Port for the Windegoos Lakes and Lake Kaogassikok.

Other similar barges are required.

RAINY RIVER.

During the winter of 1874, boulders were removed from the Long Sault.

LAKE OF THE WOODS ROAD.

During the summer of 1873 the road was kept in fair order.

The floods of last spring damaged the east end of the Cariboo Muskog.

Owing to the prairie near Oak Point being flooded at this period, it was necessary to make a considerable *detour*.

SURVEYS.

Surveys were made on the lakes and rivers contiguous to the route, and they have been mapped out.

The engineer in charge reports most favorably on the character of the land on Rainy River and other sections of the route, as being well adapted for settlement, both from fertility of soil and advantage of situation. (Appendix 23, page 181.)

PACIFIC RAILWAY SURVEY.

A special report of progress was made, dated 26th January, 1874, which gave all the information which could be put in form at that date. It was produced immediately after the destruction by fire of the plans and records, so that the known results could be preserved while they were fresh in the memory.

The survey may be said to extend from the city of Ottawa to the Pacific Ocean. It has been divided into three sections.

I.—THE EASTERN OR WOODLAND SECTION.

This division extends from Ottawa to the Province of Manitoba.

Three routes have been reported practicable.

1 *a.* Passing to the north of Lake Nepigon with branch to Prince Arthur, 1,197 miles.

b. Passing to the north of Lake Nepigon, with branch to Red Rock on Nepigon Bay, a point accessible to steamboats, 1,152 miles.

2. Passing to the south of Lake Nepigon, with branch to Red Rock, 1,048 miles.

3. Passing to the south of Lake Nepigon, and touching Lake Superior at Prince Arthur, 1,102 miles.

These routes have generally the same characteristics.

Lake Nipissing is 730 feet, while the mean height of Lake Superior is 958 feet above the sea.

To the west Lake Winnipeg is 710 feet above the sea.

Two summits are crossed between Lakes Nipissing and Superior 1,400 feet above the sea.

A third summit is crossed west of Lake Superior 1,580 feet above the sea.

The lines run behind the rugged country seen from Lake Superior, but as they approach navigation, the rugged country is crossed.

II.—THE CENTRAL OR PRAIRIE REGION.

This region extends from Manitoba to the eastern slopes of the Rocky Mountains.

Only a general reconnaissance has been made of the country, by which it is established that a line can be obtained to the Yellowhead Pass.

A difficulty which presents itself is the crossing of rivers which generally run in deep valleys.

In each case a careful examination will be required of the ground.

The prairie region will admit the location of the line through any of the passes of the Rocky Mountains.

The Chief Engineer has directed the attention of the Department to the possibility of using steamers of light draught on the water channels running through this region.

III.—THE WESTERN OR MOUNTAIN REGION.

It is here that difficulties must be looked for. The country is traversed by two lofty chains of mountains. The first, the Rocky Mountains proper, which are met in passing from the east, and the Cascade range which intervenes between the Rocky Mountains and the Pacific.

The latter can be penetrated by passes ranging from 2,000 to 7,000 feet. An elevated plateau succeeds, averaging from 2,000 to 4,000 feet above the sea. It is succeeded by the Cascade range, and it is here that the difficulty is experienced.

Surveys have been carried on in 1871 to 1873, and are still in progress. A line has been traced from the North River Saskatchewan to the Yellow Head Pass, and thence by a branch to the River Fraser, to the Tête Jaune Cache, and by the valley of the North Thompson to Kamloops, passing by the Coquihalla to Fort Hope, and by the Lower Fraser to Burrard Inlet. Gradients of 172 feet to the mile will be called for on the western end of this line, and a great length of tunnelling, and a considerable amount of heavy work are necessary.

A deviation has been made following the Rivers Thompson and Fraser to tide water. The ground has not been found favorable.

A line was run from Howe Sound across the Cascade Mountains, over the plateau of Central Columbia to the north River Thompson to connect with the original line. It passes over four summits from 1,610 to 3,847 feet above the sea, the intermediate ground falling to 700 and 847 feet.

A line has been surveyed from Waddington, at the head of Bute Inlet, by the valley of the Homathco, through the Cascade Mountains, by the Chilcotin Plains to the Fraser, whence it will pass into the Thompson Valley, near the mouth of the River Clearwater, from thence to Tête Jaune Cache. Three summits are passed on this line 3,117 feet, 3,700 feet, and 3,104 feet above the sea.

In ascending to the head of the Great Canyon of the Homathco, 2,285 feet must be ascended in thirty-four miles, and 1,650 feet has to be faced in fifteen miles.

The descent to the Thompson Valley is also difficult.

All the lines surveyed are marked by a common difficulty experienced in crossing the Cascade chain of mountains. Once the valley of the North Thompson is reached, a favorable line, without heavy works of construction, is found for the entire length across the mountains to the eastward.

Engineering parties have been organized to continue the surveys between the Rocky Mountains and the Pacific, and likewise in the prairie and woodland region, (Appendix 24, page 190.)

SAW MILL RIVER ROCK,
RIVER FRASER, NEAR YALE.

This rock has been removed.

CAPE BEALE LIGHT-HOUSE.

Situated on the Pacific Ocean at the entrance to Barclay Sound.

This light has been visible since 1st July, 1873.

The total cost of construction, &c., has been \$8,753.53.

Some defects reported in the construction have been remedied by the contractor.

VICTORIA HARBOR.

This harbor has been improved by dredging. The operations have been confined to the northerly point of Spit at entrance. (Appendix 25, page 195.)

Respectfully submitted,

A. MACKENZIE,
Minister of Public Works.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 4th January, 1875.

APPENDICES OF THE REPORT
OF THE
MINISTER OF PUBLIC WORKS.

FOR THE FISCAL YEAR ENDING 30th JUNE, 1874.

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APPENDIX No. I

STATEMENT showing the amount expended by the Department of Public Works,
Dominion of Canada, during the Fiscal Year ending 30th June, 1874.

NAME OF WORK.	Construction.	Repairs.	Staff and Maintenance.
	\$ cts.	\$ cts.	\$ cts.
<i>Canals.</i>			
Lachine.....	158,618 35	28,081 49	25,811 07
Beauharnois.....	26 00	10,990 56	15,392 51
Cornwall.....		7,610 70	13,405 20
Williamsburg.....		7,395 92	6,857 19
St. Lawrence.....	26,541 30		
Welland.....	746,420 61	108,706 99	50,966 48
St. Anne's Lock.....	12,753 27	7,208 63	2,614 90
Carillon and Grenville.....	190,323 10	10,605 82	10,771 88
Carillon Canal and Dam.....	54,935 28		
Culbute Rapids.....	38,388 99		
Rideau.....	5,793 16	23,467 40	26,815 44
St. Ours Lock.....		2,363 42	2,219 13
Chambly.....		19,237 19	11,675 67
St. Peter's.....		1,581 50	633 00
Baie Verte.....	4,018 90		
Tug Service, Upper St. Lawrence.....			12,000 00
Generally.....			959 25
<i>Slides and Booms.</i>			
Saguenay.....		3,455 44	684 03
St. Maurice.....	31,500 00	9,031 99	18,367 31
Ottawa.....	53,128 30	35,668 25	19,232 09
Newcastle.....	4,090 00	5,969 47	1,898 93
<i>Harbors, Piers, &c.</i>			
Big Pond, Nova Scotia.....		2,000 00	
do.....		338 88	
Chedabucto.....	5,000 00		
Cow Bay.....	10,004 96		
Digby.....		2,500 00	
Green Cove.....		2,500 00	
Gabarous.....		2,000 00	
Ingonish (South).....	5,717 00		
Joggins.....	10,000 00		
Liverpool.....	22,016 25		
Mabou.....	22,078 15		
Maitland.....		1,000 00	
Morden Pier and Canada Creek, do.....		5,000 00	
McNair's Cove.....	9,000 00		
Oak Point.....		1,000 00	
Port Hood.....		500 00	
Port Williams.....		1,500 00	
Port George.....		2,000 00	
Port Greville.....	6,020 50		
River Salmon and Plympton, do.....		5,000 00	
Big Tracadie.....		6,000 00	
Yarmouth.....		6,332 00	
Campo Bello, New Brunswick.....		1,000 00	
Dipper Harbor.....	10,000 00		
Herring Cove.....	13,100 00		
Petitcodiac.....	7,242 00		
Richibucto.....	5,815 75		
Hillsboro'.....		1,500 00	
River St. John.....	4,500 00		

APPENDIX No. 1.—Continued.

NAME OF WORK.	Construction.	Repairs.	Staff and Maintenance.
	\$ cts.	\$ cts.	\$ cts.
<i>Harbors, Piers, &c.—Continued.</i>			
St. John Harbor Survey	7,480 35		
Tug Service, Richibucto and Miramichi			4,500 00
Amherst Harbor, Quebec	4,721 03		
Berthier do		15 00	
Coteau do	274 00		
Baie St. Paul do	122 19		
L'Islet Pier do		159 00	
River Ouelle Pier do		2,899 00	
Malbaie do do		465 00	
Rimouski do do		1,035 00	
River du Loup Pier do		214 00	
do do <i>en haut</i> do	1,000 00		
River des Prairies		497 56	
Saguenay Pier	6,000 00		
Landing Piers below Quebec		427 30	
River Richelien improvements	3,332 27		
River St. Lawrence	293,783 57		
Belleville, Ontario	10,000 00		
Cobourg do	203 66		
Collingwood do	44,437 66		
Rondeau do	26,633 00		
Goderich do	28,519 44		
Chantry Island do	28,353 00		
Kincardine do	5,065 00		
Lake Huron and Lake Erie, General Account	4,746 78		
Inverhuron		1,000 00	
Meaford	4,396 31		
Napanee	4,999 73		
Port Dover		104 82	
Presqu'Isle	9,282 00		
River Thames	1,558 22		
Red River, Manitoba	3,684 90		
Steam Dredge Vessels	53,723 86		
Dredging, Maritime Provinces	23,023 47		
do British Columbia	8,036 23		
do Ontario and Quebec	21,560 16		
<i>Lighthouses.</i>			
Cape Beale, B. C.	2,362 54		
<i>Surveys.</i>			
Pacific Railway	200,759 76		
Generally	40,098 84		
Arbitrations			5,428 98
<i>Roads and Bridges.</i>			
Témiscouata		6,015 00	
Métapédic		1,350 00	
Port Louis and Huntingdon		294 36	
Portage du Fort	3,547 73		
Fort Garry Bridge	2,967 10		
<i>Red River Route.</i>			
Transport Service	140,545 05		229,885 30
Fort Garry Road	45,000 00		
<i>Buildings.</i>			
Ottawa Parliament and Departmental	135,963 72	92,873 41	
do do do Heating			39,390 05
do Rideau Hall		58,824 69	
do New Post Office	46,169 18		

APPENDIX No. 1.—*Concluded.*

NAME OF WORK.	Construction.	Repairs.	Staff and Maintenance.
	\$ cts.	\$ cts.	\$ cts.
<i>Buildings.—Continued.</i>			
Toronto, New Custom House	55,141 94		
do New Post Office	34,445 60		
do Revenue Offices		4,997 53	
Hamilton, Custom House		102 90	
do Post Office		9,295 72	
London, Custom House	10,349 26		
do Post Office		582 05	
do Immigrant Buildings	3,420 00		
Kingston, Custom House		3,367 38	
do Post Office		2,821 42	
Montreal, Inland Revenue Office		347 00	
do Immigrant Station	2,715 00		
do Custom House		13,905 60	
do New Post Office	59,985 98		
do Land Purchase	3,547 95		
Quebec, Marine Hospital		1,973 35	
do Citadel Building		14,845 25	
do Observatory	6,982 98		
do Custom House		7,544 87	
do New Post Office	17,030 01		
do Cullers' Office		2,144 62	
do Public Buildings		120 00	
Public Buildings Generally		6,775 56	
Point Levis Immigrant Station	3,401 61		
Sherbrooke do	334 40		
Three Rivers New Custom House	2,552 95		
Grosse Ile Quarantine Station	6,297 71		
Chatham, N.B., Custom House		1,538 70	
Fredericton, N.B., do		612 41	
Middle Island, N.B., Quarantine Station	3,044 80		
Newcastle, N.B., Custom House		830 00	
St. Andrew's, N.B., Quarantine Station	330 00		
do Marine Hospital	4,565 58		
St. John, N.B., Custom House		4,855 37	
do Post Office	46,832 50		
do Savings Bank		14,457 79	
do Quarantine Station	362 45		
Westceck, N.B., Marine Hospital	3,200 00		
Halifax, N.S., Dominion Building		730 46	
do Drill Shed		164 90	
do Quarantine Station	2,650 00		
Pictou, N.S., Custom House	274 75		
do Quarantine Station	4,090 00		
Manitoba, Public Buildings	6,824 66		
do Immigrant Buildings		41 27	
do Lieutenant-Governor's Residence	4,602 00		1,500 00
do Penitentiary	51 22		
British Columbia, Marine Hospital	15,474 57		
do Government Buildings	22,844 88		
do Telegraph Lines			29,021 19
do Penitentiary	51 22		
<i>Railways.</i>			
Intercolonial	742,862 10		1,301,550 08
Total	\$6,141,901 81	3,733,549 29	576,772 84
			1,831,579 63

J. BAINE,
Accountant.

DEPARTMENT OF PUBLIC WORKS.

APPENDIX No. 2.

ST. LAWRENCE NAVIGATION.—TABLE OF DISTANCES.—A.
FROM STRAITS OF BELLE-ILE TO DULUTH, AT HEAD OF LAKE SUPERIOR, BY WATER.

From.	To.	Sections of Navigation.	Statute Miles.	
			Inter-mediate.	Total to Straits of Belle-Ile.
Straits of Belle-Ile	Cape Whittle	Gulf of St. Lawrence	240	240
Cape Whittle	West Light, Anticosti	do do	201	441
West Light, Anticosti	Father Point	River St. Lawrence	202	643
Father Point	Rimouski	do do	6	649
Rimouski	Bic	do do	12	661
Bic	Isle Verte	do do	39	700
Isle Verte (opp. Saguenay)	Quebec	do do	126	826
Quebec	Three Rivers	do do to Tidewater	74	900
Three Rivers	Montreal	do 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	$\frac{1}{2}$	1,071
Upper end Croyle's Island	Williamsburg or Morrisburgh	River St. Lawrence	10 $\frac{1}{2}$	1,081 $\frac{1}{2}$
Williamsburg	Rapid Plat	Rapid Plat Canal	4	1,085 $\frac{1}{2}$
Rapid 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, Edwardsb'gh	Junction Canal	2 $\frac{1}{2}$	1,095
Point Cardinal	Head of Galops Rapids	Galops Canal	2	1,097 $\frac{1}{2}$
Galops Rapids	Prescott	River St. Lawrence	7 $\frac{1}{2}$	1,105 $\frac{1}{2}$
Prescott	Kingston	do do	59	1,164
Kingston	Port Dalhousie	Lake Ontario	170	1,332
Port Dalhousie	Port Colborne	Welland Canal	28	1,364
Port Colborne	Amherstburgh	Lake Erie	232	1,592
Amherstburgh	Windsor	River Detroit	18	1,617
Windsor	Foot of St. Mary's Island	Lake St. Clair	25	1,630
Foot of St. Mary's Island	Sarnia	River St. Clair	33	1,670
Sarnia	Foot of St. Joseph's Island	Lake Huron	270	1,944
Foot of St. Joseph's Island	Foot of Sault St. Mary	River St. Mary	47	1,987
Sault St. Mary	Head of Sault St. Mary	Sault St. Mary's Canal	1	1,995
Head of Sault St. Mary	Pointe aux Pins	River St. Mary	7	1,988
Point aux Pins	Duluth	Lake Superior	390	2,385

Of the 2,385 miles from the Straits of Belle-Ile to the Head of Lake Superior, 70 miles are artificial navigation, and 2,312 $\frac{1}{2}$ open navigation.
Straits of Belle-Ile to Liverpool, 1,942 geographical, or 2,234 statute miles.
The total fall from Lake Superior to Tide-water is about 600 feet.

TABLE OF DISTANCES.—B.

FROM PRINCE ARTHUR LANDING (LAKE SUPERIOR), TO FORT GARRY (RED RIVER), BY THE CANADIAN ROUTE.

	Statute Miles.	
	Inter-mediate.	Total.
Prince Arthur Landing to Shebandowan Lake	45	45
Shebandowan Lake to North West Angle	312	357
North-West Angle to Fort Garry	95	452

The Steamboat voyage from Collingwood to Prince Arthur Landing is 532 miles.

APPENDIX No. 3.

LACHINE, BEAUHARNOIS, ST. OUR'S, CHAMBLY, ST. ANNE, CARILLON,
CHUTE A BLONDEAU AND GRENVILLE CANALS.

CANAL OFFICE,

MONTREAL, July, 1874.

SIR,—I have the honor to submit the following Report on the canals under my charge for the fiscal year ending the 30th day of June, 1874.

These works are mainly included under the following heads :—

- 1st. The Lachine and Beauharnois Canals, on the River St. Lawrence route.
- 2nd. The St. Ours and Chambly Canals, on the Richelieu River route.
- 3rd. The St. Anne, Carillon, Chute à Blondeau, and Grenville Canals on the Lower Ottawa River.
- 4th. The dam and locks under construction in the Culbute Rapids on the Upper Ottawa River.

These rivers form the natural drainage for a large portion of the North American Continent which consists of agricultural, mineral and timber lands, and which is dotted with large cities, manufacturing towns and lumbering establishments, all of which are now seeking for, and must be supplied with cheap transportation for exporting their products and importing their necessary supplies. These rivers flow through the central portion of this vast productive region and form natural highways for such transport. The River St. Lawrence, and the lakes with which it is connected, furnish a direct central inland navigation of about 2,400 miles. The Richelieu River extends a navigable connection between the St. Lawrence and Lake Champlain; and the Ottawa River with its numerous tributaries forms a navigable outlet for the important mineral, timber and farming interests, now being developed in the Ottawa Valley.

These routes being more or less obstructed by rapids, which have been overcome by the above mentioned canals, it is now proposed so to improve and enlarge them as to afford cheap and efficient transport for the present and future wants of the trade.

LACHINE CANAL.

This canal was closed by ice on the 29th day of November, 1873, and re-opened on the 29th day of April, 1874, giving a navigable season of 214 days, interrupted about five hours on the 13th of June when the water was drawn down in the upper level to repair a leak in the old culvert above Côte St. Paul Bridge. This culvert, which was left partially open when this canal was enlarged, should now be permanently filled up.

The canal and mechanical structures in connection with it have been maintained in good working order.

The permanent portions of Côte St. Paul's and Brewster's Bridges were rebuilt, and extensive repairs made to Bridge No. 1. New bumping posts were also placed on Locks 3, 4 and 5.

While the water was out of the canal in April, new binders were placed on the upper gates of Locks 2 and 4, also on the lower gates of Lock No. 5, and on all the gates of Lock No. 3. New valves were placed in the upper gates of Lock No. 2, and in the lower gates of Lock No. 5.

The gates of regulating weir at Basin No. 2 received new lifting chambers, new slides and other repairs. The gates of regulating weir at Lock No. 3 were taken out, repaired and replaced. The four wicket gates of regulating weir at Lock No. 4 were moved, repaired and replaced and the walls thoroughly pointed. The walls of the two small waste weirs above and below this lock were also pointed and the gates repaired. A large

quantity of silt and refuse was removed from the bottom of Lock No. 3, and from the canal bottom on the reaches above Locks 3 and 4. The south retaining walls below Lock 3, and a portion of the north wall above Lock No. 4, were taken down and rebuilt in cement. The slope walls were also repaired on the whole line of the canal.

Since the opening of navigation, the plank covering on wharves and flooring of flour sheds have been repaired. The sheet iron covering of flour shed No. 1 has been thoroughly repaired, and partly covered with a coating of asbestos cement. A pair of new upper gates were placed in Lock No. 4, and the old gates hauled out and repaired. Suspension gearing has been placed on the lower gates of Locks Nos. 1 and 2, and on the upper gates of Lock No. 4. This suspension gearing has now been in successful operation for more than a year, and gives general satisfaction. Three hundred snubbing posts were placed along the line of canal. The offtake drains were cleaned out and the banks, tow-paths and roads repaired, all of which are in good working order.

Steam Dredge.

In the beginning of July, 1873, the steam dredge stationed in the Lachine Canal was despatched to Rigaud, where the dredge excavated a channel in the Rivière à la Grasse from its junction with the Ottawa River to the village of Rigaud. On returning to the Lachine Canal early in August, this dredge excavated a seat for the coffer dam at entrance of St. Gabriel Basin No. 2, and removed the dam from the entrance of No. 1, and was afterwards employed clearing the canal bottom below Brewster's Bridge, where it continued to work till close of navigation.

During May and June of this year the dredge has been employed in removing remains of coffer dam, and deepening the approach to St. Gabriel Basin No. 3.

New Works.

It having been decided to improve the lower entrance of the Lachine Canal, and to extend the dock accommodation in that vicinity, plans were prepared for that purpose, and forwarded to the Department at Ottawa in January, 1873. These plans divided the work into two sections, one of which embraced the construction of the proposed new entrance, consisting of two locks and an intervening basin with a regulating weir and bridge abutments above the second lock; the other included the enlargement and deepening of the present Basin No. 2, and the construction of Wellington Basin.

The dimensions of locks to be 270 feet between gate quoins by 45 feet in width at bottom, with 18 feet depth of water on the mitre sills.

The basin between the locks to be 540 feet long, 260 feet wide, and have a depth of 19 feet, or one foot below top of mitre sills in Lock No. 2.

Wellington Basin to be 1,250 feet in length, 225 feet in breadth, with 19 feet depth of water, the whole surrounded by a dock wall of ashlar masonry, and connected with the new entrance by a channel of 19 feet in depth through centre of Basin No. 2.

Tenders for this work were received in July, and the new entrance awarded to Messrs. A. P. McDonald & Co., who signed the contract in September.

The excavation of pit for Lock No. 1, and of basin above it, was commenced immediately after, and continued until suspended in consequence of high water, and had not been resumed at the close of the fiscal year. The excavation for pit of Lock No. 2 was commenced last autumn, discontinued during the winter months, and resumed in March. A temporary bridge is being erected over the pit of Lock No. 2, on the line of Mill Street.

The contractors have opened a quarry at Terrebonne, where they have got out and dressed a considerable quantity of stone for this work, and have also provided a steam tug and scows for its transportation.

Messrs. Lemay & Bowie obtained the contract to construct the Wellington Basin, and to enlarge and deepen Basin No. 2.

They commenced the excavation for Wellington Basin in October, and continued the work, at intervals, during the winter.

A large quantity of stone has been delivered for the dock walls, with some pine plank for the foundations. Stone is also being procured at Terrebonne for this work.

Plans and estimates for enlarging the canal from Wellington Bridge to Lachine were prepared and submitted in January.

Work on the St. Gabriel Basins, which had been assumed by the Department at the close of the last fiscal year, was vigorously prosecuted, and No. 1 was completed and ready for use in November. At the close of the season, Basin No. 2 was finished, except the wharves, and a small portion of the timber docking and removal of coffer dam.

The coffer dam was removed in May, and the completion of the work placed under contract. A contract for building two flour sheds between these basins was entered into with Messrs. Boanville & O'Brien in October, and completed on the 15th of June.

The report of Mr. E. K. Joslin, the Resident Assistant Engineer, is appended.

RIVER ST. PIERRE.

The excavation of the new channel for River St. Pierre was finished in the beginning of January. The bridge at the Côte St. Paul road was completed in September, and during the winter four farm bridges were built.

In May and June the contractors were engaged in trimming slopes, digging ditches, and levelling spoil banks, a small portion of which work still remains to be done.

St. Patrick Street.

A contract was signed by Mr. Michael Hennessey on the 22nd October, for the extension of St. Patrick Street from the waterworks road to Côte St. Paul Lock.

The grading was commenced immediately after, and continued until stopped by the frost. Stone for the bridge abutments, culverts and macadam, was delivered during the winter.

While the water was out of the canal in April, the abutments for bridge over entrance to Parkin's Basin, at Côte St. Paul, were built. Since then, the bridge over St. Pierre has been completed, and the work of grading and building culverts proceeded with.

BEAUFORT CANAL.

The traffic on this canal was maintained without interruption throughout the navigable season, which consisted of 206 days.

It was closed from the 24th day of November, 1873, to the 23rd day of May, 1874.

During the first half of the fiscal year the off-take drains on south side of the canal and on the island were cleaned throughout, and five farm bridges built over them.

The dyke at Hungry Bay, and a large extent of the banks of the canal above the guard lock, and in the vicinity of Lock No. 12 and of the big basin, were raised and partially faced with stone.

Gates were repaired at Locks 12 and 13, and a new gate put in at Lock 13, the old one being hauled out and repaired. Watch houses were built at Locks 6, 8 and 13.

The timber in swing bridge at Lock 7 was renewed and painted, and the bridges over Lock 8 and the regulating weir replanked, and Lock Master's house repaired.

A part of the plank covering over the race leading to the supply weir at Lock 14 was renewed in April while the water was drawn off, the lower gates of Locks 7, 8 and 10 were repaired, new rollers were placed under the lower gates of Lock 6, the upper gates of Lock 9, three of the gates of Lock 11, and under the five gates of Lock 12.

New pivots were placed under the lower gates of Lock 9, and under all the gates of Lock 12; the chain sheaves on all the locks were taken out and replaced with new ones; five new bumping posts were put up, one each at Locks 6, 7 and 10, and two at Lock 9.

The swing bridges at Locks 8, 9, 14 and St. Timothy were repaired. The ferry scows were also repaired, and the wharves at ferry No. 1 rebuilt.

About 75 feet in length of the south retaining wall at Lock No. 11, which had given way, was repaired.

The piers at the upper and lower entrances are in good order, and have not required any repairs other than the removal of ice and refitting mooring hooks and posts.

The ditches, culverts and roads have been maintained in good condition, and special attention given to the banks, which have been raised in many places on both sides of the canal, and a large number of snubbing posts set. The Superintendent's house was put in a good state of repair in May and June. The local management of this canal has been much more satisfactory since the appointment of Mr. Béique in April last.

PIER EXTENSION AT COTEAU LANDING.

Nothing has been done at this work since last report, except the delivery of fifty cords of stone for filling of superstructure ; the contractor, however, says he will have it completed before the close of the season.

CHAMBLY CANAL.

The trade of this canal was carried on without interruption during the navigable season. It was opened for 210 days, having been closed on the 20th day of November, 1873, and opened on the 25th day of April, 1874.

The chamber wall on the east side of Lock No. 2 leaked badly, and was in a falling condition at the close of navigation. This wall was taken down and re-built in March and April, new facestone required for the work having been procured and dressed during the winter.

The masonry in all the locks was repaired, and the walls of Locks 1, 3 and 5 repaired. The bottom of Locks 2, 3, 4 and 5 were partially replanked.

Two pairs of new gates were built, one pair of which were hung in Lock No. 4, and the other placed under cover in reserve. Repairs were made to the upper and lower gates of Lock No. 3 to the upper gates of Lock No. 4, and to the lower gates of Lock No. 6.

Swing bridges 6 and 7 were repaired, and six road bridges were re-built, and one repaired.

By-washes at Wood's Creek, and near Lock No. 6, were repaired, and Fryer's By-wash replanked.

The wharf at St. John's was repaired, and 144 feet of the superstructure on the mooring pier at lower entrance re-built.

A new wharf, 144 feet long, by 44 feet wide, was built in extension of that above Lock No 7.

The ditches were cleaned out and banks repaired, and 50 snubbing posts set up.

New Works.

A macadamised road was made on the west bank of the canal from St. Therése Island, at Fryer's Bridge, to the south line of Edson's Farm, a distance of about 5,000 feet. The contract for its construction was awarded to Mr. Leandre Robert in November 1873, and the work completed in July, 1874.

A contract for the erection of a railing, or *garde-fou*, on the west bank for six miles downwards from St. John's was signed by Mr. James Wright on 30th September, 1873. During the fall the posts were set up on the greater part of the distance, and about one mile of the top rail placed in position when work was discontinued for the winter, and on the 30th June this year the contractor had not resumed operations.

Mr. James Sheridan contracted on the 23rd of October for the erection of two brick dwelling houses, one for Lockmaster of Lock No. 8, and the other for the Bridge Tender at St. Therése.

The stone foundations of both buildings were finished, and the brick work commenced on the 30th June.

RICHELIEU RIVER WORKS.

These works consist of piers and booms for improving the channel at Belœil Bridge, and an extension of the mooring pier at the lower entrance of the Chambly Canal.

The contracts were awarded to Messrs. Bonneville & O'Brien in January. Timber for the work was prepared during the winter, a portion of which is now delivered, and preparations made for commencing work.

About six miles of the channel of the river between St. John's and Rouse's Point were improved by the removal of boulders.

This work was done by two squads of men and a foreman, who worked under directions from this office.

Two stone-lifting scows, built for the purpose, were employed in this service from July till the close of navigation. The removal of these boulders gives a navigable channel from seven to nine feet in depth at low water over the shoals in the vicinity of Isle aux Noix.

ST. OURS LOCK AND DAM.

The navigation was closed on the 16th day of November, 1873, and opened on the 16th day of April, 1874.

The piers above and below the lock were repaired by splicing a number of the posts and renewing the chambers and fenders.

The east side of lower gate was repaired with suspension gearing attached. Timber has also been prepared for repairing the upper gates after the close of navigation.

All the gates at this lock are now suspended at the heel from a pin at the top of the wall, and the friction rollers removed. These rollers have for years been a source of complaint and delay; their removal, therefore, has given great satisfaction. The dam was strengthened by placing 27 toises of stone below it, and 3 toises around the abutments on the Island as a protection against ice. These works are now in good order.

RIVER ST. FRANCIS.

A survey of the lower portion of this river was made in August and September for the purpose of ascertaining the best mode of improving the navigation from its mouth, in Lake St. Peter, to the foot of the Rapids, about one mile above the village of St. Thomas de Pierreville, the entire distance being about eight miles.

The banks are generally about ten feet above the line of low water, and consist of clay and sand, easily washed down by the strong current at the season of high water; accordingly, shifting shoals of sand and silt are formed in the channel, which changes more or less every year.

The river below the village of St. Thomas de Pierreville forms a lagoon, with several outlets in low water. During high water the entire flats are flooded, but at low water there is only from two to three feet over the shoals, and they extend about two-thirds of the entire distance.

These changes are such that it is difficult to determine what would be the best course to pursue to make a navigable channel for vessels of six feet draught at low water. It is, however, considered that by dredging a channel 50 feet in width, on as direct a course as possible, the current may keep the channel open. It is, however, to be anticipated that some periodical dredging will be required; nevertheless, it may be said that this is the only course which can be recommended with any reasonable hope of success. Plans and estimates for the work were forwarded to the Department in October, and arrangements are now being made for dredging a channel fifty feet in width and six feet in depth, from Lake St. Peter to the Pierreville Mills.

ST. ANNE'S LOCK AND DAM.

The navigation closed at St. Anne's on the 20th day of November, 1873, and opened on the 4th day of May, 1874, giving an open season of 201 days, during which time

there was no serious interruption to the trade. The upper lock gates were repaired, and the lower gates taken out and rebuilt, and hung by suspension gearing.

This method of suspending the gates, which dispenses with the friction rollers, has given general satisfaction wherever introduced. The upper gates are badly sagged, and must be overhauled during the incoming winter, when the friction rollers should be removed and the gates suspended.

A guide pier and boom were built on the north side of the channel forming the upper entrance to the lock, and the north pier below the lock repaired. This pier is in a dilapidated condition, and must be further repaired during the season of low water.

New Works.

This work consists in forming a canal about 1,200 feet in length by 120 in width across the upper end of the long shoal below the lock, with guide piers on each side of the channel, which is to be excavated to a depth of $10\frac{1}{2}$ feet below surface water, when it stands at six feet on the lower sill of the lock. Tenders for this work were received in July, and the contract awarded to Mr. Albert Becker, of St. Anne, who signed it on the 22nd day of August, 1873.

Work was immediately commenced by procuring service ground and materials. The line for crib work on west side of channel was given on the 7th day of October, and the first crib sunk on the 24th. About the middle of November work had to be suspended, on account of drifting ice, when three cribs had been placed in position, giving a total length of 115 feet. Work was resumed on the 15th of January, and was favorably carried on until the breaking up of the ice in April, when 600 feet of crib work on each side of the channel at the south end had been completed, and the superstructure commenced.

Since the opening of navigation the most of the material required for the completion of the piers has been delivered, and the necessary plant procured for the vigorous prosecution of the work, as soon as the water falls sufficiently low.

After the ice had formed, a set of close soundings were taken by the Resident Assistant Engineer over and in the vicinity of the site selected for this work and the channels at each entrance, the result of which verified the correctness of the location.

Plans and estimates, according to the re-survey, have been made for the proposed new lock and canal on the enlarged scale adopted for this work.

The works at this station form the key to the Ottawa route, and as the important improvements now in progress on the Carillon and Grenville Canals cannot be brought into full operation until these are completed, no time should be lost in placing them under contract. The report of Mr. Henshaw, the Resident Assistant Engineer, giving a full description of the year's operations, is appended.

CARILLON AND GRENVILLE CANALS.

These canals have been maintained in an efficient state during the year. They were closed by ice on the 18th day of November, 1873, and opened for navigation on the 6th day of May, 1874.

CARILLON CANAL.

A detention of 48 hours was caused to the trade by the accidental breaking of the lower gate on south side of Lock No. 3.

After the close of navigation, the lower recess wall on south side of Lock No. 3 was taken down to river level. During the winter, materials were provided for re-building the same, and the work was completed on the 28th of April.

A watchhouse was built at Lock No. 2, the rooms in the lockhouse, formerly occupied by the laborers, having been given over for offices to the Resident Assistant Engineer of the enlargement.

The road along the north side of the canal was kept in good order, and the usual amount of labor expended on the maintenance of the North River dams and feeder.

CHUTE À BLONDEAU CANAL.

At Lock No. 4, or Chute à Blondeau, the gates and a portion of the wing walls were repaired.

New Works.

These works consist of a flat dam, about 1,800 feet in length, across the Ottawa River, above the village of Carillon; a slide, 120 feet in width and 600 feet in length, for the passage of timber; and a canal three-quarters of a mile in length, with two locks. They are all being constructed by Messrs. R. P. Cooke & Co. When completed they will supersede the present Carillon and Chute à Blondeau Canals. The water was very high in this river during the summer of 1873, and remained so till late in the season, a condition which seriously impeded the operations of the contractors. A temporary dam was built across the upper end of the site chosen for Lock No. 2, and from this point downwards, the permanent embankment, with its toe of cribwork, was partially constructed for a length of 387 feet. This work was connected with the shore at its lower end, and formed a coffer dam for unwatering the lock pit, and a small amount of excavation was performed here before the close of the season.

Although extensive preparations had been made for an early commencement of the work on the main dam in the bed of the river, in consequence of the high water and other unforeseen difficulties, operations did not commence till the 12th day of September, when the work of laying sills for the skeleton bulk head on the south side was begun.

The laying of these sills was continued until the 1st of October, when the water had risen so high that the work had to be suspended.

During the winter a considerable quantity of stone for the locks was got out at Ross quarry, most of which was dressed and hauled to the works.

They also succeeded in building a strong temporary dam above the site of Lock No. 2, for protecting the embankments and other works from damage by the spring floods.

In their workshops and yards, the contractors have prepared a large amount of material and plant for the ensuing season's operations.

Since the opening of navigation large quantities of timber required for the works have been delivered, but high water prevented active operations on the dam until the close of the fiscal year.

Fuller details and description of the year's operations are given in the enclosed report of Mr. Bell, the Resident Assistant Engineer.

GRENVILLE CANAL.

The gates at Locks 5, 6, 7 and 8 were repaired and three balance beams renewed. Before the opening of navigation, four new hollow quoin coping stones and new collars and anchor plates were put on Locks 6, 7 and 8. The walls of these locks were pointed, and the sill of Lock No. 7 grouted.

The masonry in the piers below the upper gates at Lock No. 5 must be rebuilt next spring, and the lower gates in No. 7 overhauled.

Necessary repairs were made to the swing bridge gates and masonry at Lock No. 9.

At Lock No. 11 no repairs were required. Suspension gear was put on the gates in May, and the swing bridges readjusted. All are working well. The prism of this canal was thoroughly cleaned in April, and the banks, towing paths and fences repaired. Mooring posts were also placed where required.

The walls of Locks Nos. 5, 6, 7 and 8 are in a dilapidated condition. The new enlarged locks to replace them should therefore be commenced next season, to avoid, if possible, a large expenditure in repairs.

Steam Dredge.

The steam dredge was employed in deepening the upper entrance until October, when it met with an accident to the boiler, which disabled it for the remainder of the

season. During May and June of this year, the dredge has continued the work of deepening the entrance at Grenville.

New Works.

This work, carried on under three distinct contracts with Mr. Goodwin, is still in progress, and consists of three sections, three locks, wa-te weirs, &c.

On Section No. 1 nothing has been done except the removal of a projecting point of rock at one of the bends, widening and deepening the canal at lower end of section, and the construction of a waste weir.

Lock No. 10, which forms a portion of Section No. 2, was commenced and nearly completed during the year. The excavation of the approaches to this lock have also been finished to the required depth of ten feet, and their slopes protected by a substantial wall of dry rubble masonry.

The gates were hung in May, but as the masonry had not been fully completed the lock was not brought into use.

The pit for Lock No. 9, on Section No. 3, was excavated, and the mitre sill platforms laid early in the spring, and the bottom prepared for masonry, which was commenced on 1st June, and three courses of masonry have since been laid. The excavation of the approaches is well advanced, and a considerable portion of the dry rubble wall for their protection built.

Mr. Goodwin's operations during the year have been confined almost entirely to the construction of Locks 9 and 10 and their approaches. The section work, included in his contract, so much required for the successful working of this canal, should be completed with as little delay as possible.

There are still four locks at the lower entrance of this canal that must be enlarged, the old locks, from their narrower dimensions, now presenting an impediment to the enlarged navigation of this route. They are also in a dilapidated condition, and will soon require extensive repairs. The enlarged locks should therefore be placed under contract without loss of time. The work of enlarging the sections to the width and depth contemplated for this route should now be proceeded with.

The gates for Lock No. 9, built by day-work, were completed in June, but there is no prospect of the lock being completed in time to be brought into use this season.

The material for the swing bridge over Lock No. 9 is prepared and delivered ready for erection, as soon as the lock walls are completed. A detailed statement of the progress made on these works during the year is contained in the enclosed report of Mr. Parent, the Resident Assistant Engineer.

CULBUTE CANAL, UPPER OTTAWA.

This work is situated in the Culbute Rapids, and consist of two combined locks, with a flat dam, and the necessary pier dams and mooring piers to form a navigable channel past the rapids.

A contract was entered into for their construction by Messrs. William Davis & Sons, of Ottawa, on the 14th August, 1873, who commenced work immediately after by clearing off the timber, and erecting the necessary buildings.

A temporary dam was thrown across the gorge at the head of the Culbute Rapids, which checks the flow of water, and diverts it round the head of the Allumette Island into the Pembroke Channel.

Dams have also been placed above and below the lock pits, and across the middle channel above site of dam, which completed the necessary structures for unwatering the works.

A mooring pier at lower end of Lock No. 1 was commenced in December, and raised to a height of seven feet above low water, for a length of 126 feet, in February.

The foundation of pier dam on L'Islet was also commenced, and the excavation of lock pits was proceeded with during the winter months. The mitre sills were framed, and other material prepared during March and April.

A large quantity of materials has since been delivered, and the contractors are now ready for resuming work as soon as the water subsides to its summer level.

Fuller details may be found in the enclosed report from Mr. Perry, the Resident Assistant Engineer.

SOUTH, OR PEMBROKE CHANNEL.

A survey and examination of this channel was ordered on the 15th of January, with a view of forming a navigable channel past the rapids. Mr. J. G. Johnson, C.E., having been detailed for this service, proceeded to Pembroke with a staff of assistants, when active operations were commenced. After overcoming many difficulties the field work was completed about the 15th of April. There are two rapids to overcome on this route, situated about $10\frac{1}{2}$ miles apart; the lower, or Paquette Rapid, is divided into two distinct channels, and has a fall of 8 feet 1 inch at low water. The north or Mulligan's Channel, is $2\frac{1}{2}$ miles in length, and the south channel four miles in length; both channels are narrow, crooked and shallow, with rock bottom.

The north channel is the most direct, and the fall can be overcome by constructing a lock and dam at the foot of the rapids, damming several small cross channels which connect the two main channels, raising the water to the level of the little Allumette Lake above the rapids, and deepening the upper entrance by excavating about 10,300 cubic yards of solid rock from the bed of the river, which will add largely to the cost of the work, which is estimated to cost \$211,000: the lock to be constructed on the same plan as adopted for the Culbute Canal.

The upper, or Allumette Rapid, is also divided into three channels at low, and four channels at high water. The centre, or 1st channel, is considered the most feasible, and the fall can be overcome in the same manner as described for the Paquette's Rapids, with the exception of damming the cross channels, which do not exist here.

The rapid is about 3,500 feet in length, is very shallow, and has a fall of 12 feet 1 inch at low water.

The upper entrance is also shallow, and will require deepening by the removal of about 15,000 cubic yards of solid rock from the bed of the river, which will also add largely to the expense of the work. The improvement of this rapid is estimated to cost \$200,000, making the total cost \$411,000.

The north, or Culbute Channel, was also examined by Mr. Johnson, who found the depth of water to correspond with the depth given by the survey of Mr. Walter Shanly, and that of Mr. Clarke.

Statements of the amounts collected for fines and damages on these canals, with a statement of the extreme depths of water in each month during the year, are appended.

I have the honor to be, Sir,

Your obedient servant,

JOHN G. SIPPELL,

Engineer in Charge

F. BRAUN, Esq., Secretary,
Public Works, Ottawa.

LACHINE CANAL.

STATEMENT of Fines and Damages collected during the year ending 30th June, 1874.

Date.	Name of Vessel.	Master or Owner.	Fines.	Damages.	Amount.
1873.			\$ cts.	\$ cts.	\$ cts.
July, 23	Barge Pontiac	Daoust	5 00		
30	do Cartier	Park	10 00	10 00	
Aug. 13	do Intrepid	Montreal Trans. Co.	5 00		
27	do Cruiser	do	2 00		
30	do Oneida	McTheré	5 00		
30	Steamer City of Ottawa ..	Park	10 00		
30	Propeller Lake Michigan ..	do	30 00		
Sept. 8	Steamer Picton	Way & R. N. Co		500 00	
12	Barge Sultan	Rivières	5 00		
17	do McCarthy	Montreal Trans. Co.	5 00		
17	do Kate	St. Denis	2 50		
29	do Minnie	Miller & Jones	20 00		
Oct. 13	do Victor	Montreal Trans. Co.	10 00	40 00	
13	do Tweed	McVhuc	4 00		
.....	do Teviot	do	4 00		
Oct. 16	do St. Pierre	Dusseault		20 00	
20	do Game	M. & O. Trans. Co.	4 00		
25	do Queen Victoria	Paquin	5 00		
Nov. 1	do E. W. Eaton	do	5 00		
1874.					
June, 17	Steamer Spartan	Canadian Navigation Co. ...		4 00	
18	Barge Caroline	Vian		10 00	
24	Raft Staves	Leslie	20 00		
25	Barge Rideau	McLean	5 00		
26	do Waterloo	Martin	5 00		
			161 50	584 00	745 50

(Signed,) M. CONWAY,
Superintendent.Lachine Canal Office,
Montreal, 1st July, 1874.

BEAUHARNOIS CANAL.

STATEMENT of Fines and Damages collected during the year ending 30th June, 1874.

Date.	Name of Vessel.	Master or Owner.	Amount.	Remarks.
1873.			\$ cts.	
July 10	Yacht.....	Campbell.....	3 50	Damage Lock 13.
Aug. 7	Williamstown.....	Baré.....	10 00	Fine.
Sept. 1	Steamer Africa.....	Proctor & Co.....	5 00	do
1874.				
May 17	B. Shamrock.....	Chaffey & Brothers.....	8 00	
June 1	B. Rover.....	Miller & Jones.....	4 00	
do 10	B. Lorne.....	M. T. Co.....	4 00	Damage Lock 11.
do 14	Steamer Scotia.....	Capt. Scott.....	40 00	Fine.
do 23	Raft.....	Collins Bay Co.....	5 00	
do 24	Steamer Bruno.....	Robert & Co.....	3 00	Damage Lock 9.
do 24	do Africa.....	Patterson & Co.....	4 00	do 6.
do 24	do Manitoba.....	Gillespie & Robert.....	20 00	Fine.
do 24	do Bohemian.....	C. N. Co.....	11 30	Damage Lock 11.
		Total.....	117 80	

(Signed,) J. F. BÉIGUE,
Superintendent.

Canal Office,
Melocheville, 1st July, 1874.

CHAMBLY CANAL.

STATEMENT of Fines and Damages collected during the year ending 30th June, 1874.

Date.	Name of Vessel.	Master or Owner.	Amount.	Remarks.
1873.			\$ cts.	
July 6	Steamer H. G. Tisdale.....	Capt. Murray.....	1 50	
Aug. 1	Boat M. P. Cantwell.....	Capt. Ferry.....	1 00	
			8 00	
	Wharfage.....		18 70	
	Fine.....		7 00	
	Ground Rent.....		12 00	
		Total.....	38 20	

(Signed,) C. PRÉFONTAINE,
Superintendent.

Chambly Canal Office,
Chambly, 23rd July, 1874.

ST. OURS LOCK AND DAM.

STATEMENT of Fines and Damages collected during the year ending 30th June, 1874.

Date.	Name of Vessel.	Master or Owner.	Amounts.	Remarks.
1873.			\$ cts.	
July 4	B. A. A. Buell.....	Capt. L. Roch	2 00	Damage to Gates.
do 26	B. J. E. Walker.....	Capt. T. Belleville.....	1 00	do Pier.
Sept. 11	B. G. G. McNeil.....	Capt. J. Lively	1 00	do Gates.
Oct. 18	B. Guide	Capt. J. B. Aubin.....	10 00	do Sluice.
		Total.....	14 00	

(Signed), LEVI LARUE,
Superintendent.St. Ours Lock Office,
St. Ours, 1st July, 1874.

CARILLON AND GRENVILLE CANALS.

STATEMENT of Amounts collected for Ground Rent on Cord Wood on Canal banks, for year ending 30th June, 1874.

Section.	Owner.	Quantity.	Rate.	Amount.
			cts.	\$ cts.
Lock No. 4.....	John Douglass.....	170	2	3 40
Locks Nos. 5, 6, 7 and 8.	T. & W. Owens.....	650	2	13 00
do do	Joseph Derrick	150	2	3 00
Lock No. 9.....	Allan Cameron	150	2	3 00
	Total.....			22 40

(Signed), WM. B. FORBES
Superintendent.Carillon and Grenville Canal Office,
Carillon, 14th August, 1874.

CARILLON AND GRENVILLE] CANALS.

STATEMENT of Amounts collected for Wintering Vessels in the Carillon Canal during Season 1873 and 1874.

Date.	Name of Owner.	Description of Vessel.	Rate.	Amount.
			\$	\$ cts.
1874.				
May 7.....	R. Allan	One steamer.....	8	8 00
	R. Allan	Five barges.....	4	20 00
May 8.....	F. & W. Owens.....	One steamer.....	8	8 00
	F. & W. Owens.....	Six barges.....	4	24 00
	Captain Gillot.....	One American boat.....	4	4 00
	Ottawa & Rideau Navigation Co.	One barge.....	4	4 00
		Total		68 00

(Signed,) DANIEL MURPHY,
Collector.

Carillon, 13th July, 1874.

CARILLON AND GRENVILLE CANALS.

STATEMENT of Fines and Damages collected during the year ending 30th June, 1874.

Date.	Name of Vessel.	Master or Owner.	Amount.	Remarks.
			\$ cts.	
1873.				
July 18.....	B. Wand.....	G. Bothurd.....	10 00	Damages to Gate 11.
July 24.....	King of the North.....	G. Sanders.....	2 00	Insult and trouble.
		Total	12 00	

(Signed,) G. SCHNEIDER,
Collector of Canal Tolls.

Collector's Office,
Grenville, 1st July, 1874.

LACHINE CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sill of Lock No. 1 at lower entrance, and Lock No. 5 at upper entrance, during the fiscal year ending the 30th June, 1874. (From Lock Master's Returns.)

Months.	Lock No. 1, Lower Sill.		Lock No. 5, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	20 6	18 10	12 1	11 1
August.....	18 10	17 5	11 2	10 3
September.....	17 6	17 0	10 6	9 11
October.....	19 1	17 3	11 1	10 0
November.....	19 2	17 10	11 2	9 11
December.....	34 7	20 8	11 5	9 6
1874.				
January.....	34 7	32 2	12 10	10 8
February.....	32 2	29 8	11 11	10 5
March.....	31 7	28 9	12 6	10 6
April.....	30 5	22 10	12 5	11 1
May.....	24 6	20 1	14 10	11 9
June.....	24 0	22 2	14 6	13 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 ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lock No. 6, Lower Sill.		Lock No. 14, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	12 2	11 2	12 6	12 1
August.....	11 2	10 6	12 5	11 11
September.....	10 6	10 0	12 4	11 8
October.....	10 10	10 0	12 0	11 7
November.....	10 9	10 2	12 0	11 4
December.....	12 0	10 2	12 10	11 2
1874.				
January.....	19 0	12 0	13 0	11 9
February.....	17 0	15 6	14 0	12 5
March.....	17 6	13 0	14 0	12 6
April.....	13 0	11 7	13 0	12 2
May.....	14 2	11 6	13 4	12 9
June.....	14 0	13 3	13 0	12 6

ST. OURS LOCK AND DAM.

STATEMENT showing the Depth of River Water on the Mitre Sills of St. Ours Lock during the fiscal year ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lower Sill.		Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	11 3	9 7	10 0	8 7
August.....	9 9	8 3	8 9	8 0
September.....	8 6	7 7	8 1	7 7
October.....	11 5	8 2	9 8	7 5
November.....	11 7	9 3	9 5	8 4
December.....	14 11	11 5	10 10	8 6
1874.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
January.....	16 10	10 10	13 1	9 3
February.....	15 8	13 7	11 4	10 2
March.....	18 4	14 9	13 9	10 7
April.....	17 4	14 1	13 1	10 5
May.....	17 8	13 1	13 8	12 1
June.....	17 1	14 7	13 3	11 5 ^c

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 ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lock No. 9, Lower Sill.		Lock No. 1, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	11 3	9 9	10 6	9 4
August.....	10 1	8 9	9 4	8 6
September.....	9 2	7 1	9 4	8 4
October.....	10 10	7 9	10 6	8 1
November.....	10 9	9 6	10 1	8 10
December.....	15 1	9 5	10 4	9 5
1874.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
January.....	20 0	13 0	11 6	9 9
February.....	20 6	18 8	11 4	10 0
March.....	18 4	15 7	11 4	10 0
April.....	15 6	12 3	11 3	10 0
May.....	16 10	13 5	11 9	10 0
June.....	16 2	14 1	11 6	10 9

ST. ANNE'S LOCK AND DAM.

STATEMENT showing the Depth of River Water on the Lower and Upper Sills of St. Anne's Lock, during the fiscal year ending the 30th day of June, 1874. (From Superintendent Lock Master's Returns.)

Months.	Lower Sill.		Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	9 7.	8 9	10 8	8 2
August.....	8 7	7 8	8 2	6 9
September.....	7 8	7 5	6 10	6 5
October.....	8 9	7 5	8 9	6 11
November.....	8 6	7 8	8 9	7 8
December.....	9 0	7 8	7 10	7 5
1874.				
January.....	10 0	9 0	8 0	7 4
February.....	9 10	8 6	8 0	7 1
March.....	10 0	9 0	8 6	7 3
April.....	9 9	8 9	8 10	7 5
May.....	12 6	9 1	13 5	8 3
June.....	12 6	11 3	13 5	12 2

CARILLON CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 1, at lower entrance, and Lock No. 3, at upper entrance during the fiscal year ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lock No. 1, Lower Sill.		Lock No. 3, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	10 7	8 7	11 0	8 2
August.....	8 7	7 2	8 2	6 3
September.....	7 2	6 6	5 9	6 7
October.....	9 6	7 2	9 5	6 7
November.....	9 5	8 4	9 8	8 1
December.....	9 3	8 6	9 0	8 0
1874.				
January.....	10 1	8 4	9 6	7 4
February.....	10 3	9 2	9 4	7 2
March.....	10 9	9 0	9 8	6 6
April.....	9 9	8 0	9 1	6 9
May.....	14 11	8 8	16 6	9 0
June.....	14 10	12 11	16 6	14 2

CHUTE A. BLONDEAU CANAL.

STATEMENT showing the Depth of River Water on the Lower and Upper Mitre Sills of Lock No. 4, at Chute à Blondeau, during the fiscal year ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lower Sill.		Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	12 6	9 5	12 0	9 3
August.....	9 4	7 0	9 3	7 6
September.....	7 5	6 7	7 6	6 8
October.....	8 10	7 5	8 11	7 6
November.....	9 4	8 9	9 7	8 11
December.....	10 6	9 6	11 6	9 6
1874.				
January.....	10 6	9 6	13 6	10 0
February.....	10 6	9 4	16 9	13 0
March.....	10 2	8 2	13 6	11 6
April.....	8 10	9 10	10 9	9 10
May.....	17 6	9 5	17 5	9 6
June.....	17 8	15 4	17 6	15 2

GRENVILLE CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 5, at lower entrance, and Lock No. 11, at upper entrance, during the fiscal year ending the 30th day of June, 1874. (From Lock Master's Returns.)

Months.	Lock No. 5, Lower Sill.		Lock No. 11, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1873.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
July.....	12 6	9 3	16 7	13 10
August.....	9 3	7 6	14 0	11 10
September.....	7 10	6 11	12 7	12 0
October.....	10 5	7 11	15 3	12 7
November.....	10 6	9 4	15 3	12 3
December.....	11 6	9 8	13 3	11 7
1874.				
January.....	16 0	9 0	13 5	12 2
February.....	18 0	15 0	13 0	11 10
March.....	15 0	10 0	14 2	11 10
April.....	10 9	9 0	14 6	12 3
May.....	17 6	10 2	22 0	14 0
June.....	17 6	15 2	22 2	20 1

LACHINE
STATEMENT of Water Power and of Building

Date of Lease.	Term of Lease.	Original Lessees.	Present Occupants.	Numbers of Lots.
Mar. 13, 1851.	21 years re- newable	Geo. & Wm. Tate.....	George Tate	Jarp. 15 per. (fr.)
			Ferrier & Co.....	
July 28, 1856.	do	Frothingham & Workman.....	W. M. Mooney & Co.....	No. 1.....
Sept. 23, 1854.	do	W. P. Bartley.....	J. & H. McLennan.....	N.E. ½ of No. 2
			W. P. Bartley & Co.....	3 & 4, & ½ of 2.
			James McDougall & Co.....	5 & ½ of 6.....
Sep. 7, 1849.	do	James Harvey.....	Peck, Benny & Co.....	½ of 6 & 7.....
Mar. 15, 1851.	do	T. Peck & Co. formerly J. Harvey	John M. Young.....	No. 8.....
Mar. 15, 1851.	do	T. Peck & Co.....	Peck, Benny & Co.....	E. ½ of No. 9..
Mar. 10, 1848.	do	do.....	do.....	W. ½ of No. 9..
Oct. 16, 1848.	do	Jas. McDougall.....	do.....	No. 10.....
May 28, 1847.	do	Ira Gould, formerly Thorne & Heward.....	James McDougall & Co.....	No. 11.....
May 27, 1847.	do	Ira Gould.....	Ira Gould & Sons.....	No. 12 & 13....
Feb. 25, 1851.	do	Estate of T. D. Bigelow & Co.	do.....	No. 14.....
Feb. 15, 1851.	do	Holland & Dunn, now T. F. Miller.....	Pillow, Hersey & Co.....	No. 15.....
Mar. 1, 1851.	do	W. Lyman & Co.....	do.....	No. 16.....
Mar. 11, 1851.	do	Grant, Hall & Co.....	Lymans, Clare & Co.....	No. 17.....
Mar. 5, 1851.	do	Augustin L'Abbé.....	Montreal Warehousing Co.....	No. 18 & 19...
Feb. 14, 1851.	do	Young & Gould, Principal Lessees.....	Montreal & Ottawa Forwarding Co.....	Island No. 5 ..
				See Remarks..
SUB-LESSEES.				
My 30, 1853.		Augustin Cantin.....	Augustin Cantin.....	No. 1.....
		John McDougall.....	John McDougall.....	No. 2.....
		Ogilvie & McLennan.....	Thompson { Mutton Brothers, Wood & Dunlop.....	½ of 3.....
		Robert Forsyth.....	Robert Forsyth.....	do.....
		Mulholland & Crathern.....	George Stacy.....	No. 4.....
		Fisher & Sons.....	Fisher & Sons.....	No. 5.....
		Ogilvie & McLennan.....	John Fee.....	No. 6.....
		A. W. Ogilvie & Co.....	P. J. Kearney & Co.....	No. 7.....
		John McDougall.....	A. W. Ogilvie & Co.....	No. 8.....
		J. & D. Smith.....	John McDougall.....	No. 9.....
			J. & D. Smith.....	No. 8.....
			Ulric Charest.....	No. 9.....
			Tees Brothers.....	No. 10.....
			George Outram.....	No. 10 & 11...
		Morland, Watson & Co.....	Morland, Watson & Co.....	No. 10 & 11...
		McGauvran & Tucker.....	McGauvran & Tucker.....	No. 12.....
			John Ostell.....	No. 12.....

CANAL.

and other Lots leased to various parties.

Situation of Lcts.	For what purpose used.	Amount of Water Power Leased.	Date from which Lease is reckoned.	Annual Rental.	Remarks.
..S. W. corner of Basin No. 2	Saw mill and dry dock	4 runs	Jan. 1, 1851..	\$ 1,000 00	
	(Grinding slate and paint for roofing				
..S. side Basin 2	Horse nail factory				
.. do	Warehouse and coal yard	None	June 1, 1855..	392 00	
.. do	Steam elevator	do	do	264 00	
.. do	Foundry and machine shop	12 runs	Jan. 1, 1854..	1,290 00	
.. do	Elevator and flour mills	4 each on lots 5, 6 & 7, & none on 2, 3 and 4		1,128 00	
.. do	Nail and spike works				
.. do	Flour mills and elevator	4 runs	Nov. 23, 1846..	430 00	
.. do	Spike and nail factory		Jan. 1, 1851..	110 00	
.. do	do do	None	April 1, 1851..	110 00	
.. do	Rolling mill	4 runs	Nov. 23, 1846..	430 00	
.. do	Flour mill and elevator	do	do	430 00	
.. do	do do	8 runs	May 1, 1847..	432 00	
.. do	do do	4 runs	do	432 00	
.. do	Spike and nail factory	do	Jan. 1, 1851..	430 00	
.. do	Rolling mill	do	do	430 00	
.. do	Oil, color, drug and plaster mills	do	July 1, 1851..	430 00	
.. do	Flour mill, elevators and warehouses	8 runs	Jan. 1, 1851..	860 00	
{ Between old & new Canals above St. Gabriel's Lock }	Ship yard	None	do	100 00	
..St. Gabriel's or Lock No. 3, both sides ..		All surplus water disposable, not less than 20 runs. }	Mar. 1, 1851	1,680 00	{ All the lands between city limits, Montreal, and prolongation of Guy street, except the island formed by the canal, and portions already occupied.
..N. W. side of Canal	Canada Marine Works	2 runs			
.. do	Foundry and machine shop				
.. do	Woollen factory				
.. do	{ Furniture factory and Cotton factory				
.. do	Marble works				
.. do	Nail factory				
.. do	Woollen factory				
.. do	Machine shop				
.. do	Rubber works				
.. do	Flour mills and elevator				
.. do	Foundry and machine shop				
.. do	Threshing machine shop				
.. do	Furniture factory				
.. do	do				
.. do	File cutting shop				
.. do	Saw factory				
.. do	Saw and planing mills				
.. do	Lumber yard				

LACHINE
STATEMENT of Water Power and of Building

Date of Lease.	Term of Lease.	Original Lessees.	Present Occupants.	Numbers of Lots.
Mar. 30, 1853.		J. A. Converse	J. A. Converse	No. 13
		James Shearer	James Shearer	No. 14
		Ogilvie & McLennan	Morland, Watson & Co	No. 15
		Tees Brothers.	Tees Brothers	No. 16
		John Ostell.	John Ostell	No. 17
			N. R. Mudge	
August 4, 1860	21 years	William Parkyn, Principal Lessee		3 acres and 9 ⁸ / ₁₀ perches, English
		SUB-LESSEES.		
		R. & J. Brodie	R. & J. Brodie	No. 1
		J. J. Higgins	J. J. Higgins	No. 2
		Frothingham & Workman	Frothingham & Workman	No. 3
		do do	do do	No. 4
		Patrick Dunn	Patrick Dunn	No. 5
		Joseph Dunn	Joseph Dunn	No. 6
		James Parkyn	James Parkyn	No. 7
		G. Gilmour	G. Gilmour	No. 8
		O. L. & R. S. Clarke	O. L. & R. S. Clarke	No. 9
		W. L. Kinmond & Co.	W. L. Kinmond & Co.	No. 10
		R. A. Coulon	R. A. Coulon	No. 11
		Hamilton & Gildersleeve	Canadian Navigation Co	
		American Line of Steamers	do	
		St. Lawrence Navigation Co.	do	
		Henry Shackell	Henry Shackell & Co.	
		Henry Shackell & Co.	do	
		M. K. Dickinson	Montreal & Ottawa Forwarding Company	
May 1, 1859. Sept. 7, 1864. July 2, 1866. July 6, 1869. July 20, 1870. May 1, 1859.	Pleasure of Government.	R. A. Coulon	R. A. Coulon	No. 11
		Hamilton & Gildersleeve	Canadian Navigation Co	No. 2
		American Line of Steamers	do	No. 3
		St. Lawrence Navigation Co.	do	No. 4
		Henry Shackell	Henry Shackell & Co.	No. 5
		Henry Shackell & Co.	do	No. 6
		M. K. Dickinson	Montreal & Ottawa Forwarding Company	No. 7
		Moseley & Lewis.	Moseley & Lewis	Water at G. T. Crossing near Cantins' - 3-inch pipes.
		J. M. Currier & Co		Lot near St. Gabriel Basin North side of Canal.
		Patrick Evers	Patrick Evers	Lot at Côte St. Paul, N. side of Canal.

CANAL.—Continued.

and other Lots leased to various parties.

Situation of Lots.	For what purpose used.	Amount of Water Power Leased.	Date from which Lease is reckoned.	Annual Rental.	Remarks.
South-east side of Canal	Cordage factory and plaster mill			\$ cts.	
.. do	Lumber yard				
.. do	Sash and door factory				
.. do	Axe and edge tool factory				
.. do	Furniture factory				
.. do	Sash and door factory				
.. do	Grinding slate, &c., for roofing.				
At Lock No. 4, Côte St. Paul, S. side of Canal		All surplus water not less than 20 runs ..	Feb. 1, 1853 ..	1,601 00	
do	Flour mill				
do	Axe factory				
do	Shovel factory				
do	Scythe factory				
do	Horse nail factory				
do	Cut nail factory				
do	Flour mills and elevator				
do	Auger factory				
do	Sleigh bell factory				
do	Files, springs and leather belt- ing factory				
do	Saw mill				
At Basin No 1 ..	Freight shed		May 1, 1859 ..	75 00	
do ..	do		May 1, 1864 ..	20 00	
do ..	do		May 1, 1866 ..	20 00	
do ..	do		May 1, 1869 ..	20 00	
do ..	do		May 1, 1870 ..	30 00	
do ..	do		May 1, 1859 ..	60 00	
.....	Tannery		Oct. 1, 1859 ..	10 00	
.....	Lumber yard		Dec. 9, 1869 ..	200 00	
.....	Farming purposes		Jan. 1, 1859 ..	40 00	

LACHINE CANAL ENLARGEMENT.

ENGINEER'S OFFICE, LACHINE CANAL,
MONTREAL, July, 1874.

SIR,—I have the honor to report on the progress of the work on the Lachine Canal enlargement, for the year ending 30th June, 1874.

At the opening of the fiscal year, the work on the St. Gabriel Basins, commenced by Mr. S. Bonneville in the Fall of 1872, was placed under the management of Mr. Conway, the Superintendent of the canal. It was carried on by day-work, and was nearly completed last autumn. The unfinished portion, which included the macadamized roads in rear of the wharves, was let in May to Messrs. Campbell and Reniger, who have made slow progress on the work.

In October, S. Bonneville and D. O'Brien contracted to build two flour sheds at the St. Gabriel Basins, and they were satisfactorily completed on the 15th of June. These sheds, one situated on the south side of Basin No. 1, the other on the north of Basin No. 2, are each 756 feet in length, and 40 feet in width, and they are built in a substantial manner. They have not been brought into use, owing to the adjoining wharves and roads being in an unfinished state.

In September a contract was made with Messrs. A. P. McDonald and Co., to construct a new entrance at Montreal, to the south-east side of the present entrance. It consists of two locks with an intermediate basin. When completed it will admit vessels drawing eighteen feet of water, and will double the present space.

In the early part of October, a contract was also made with Messrs. Lemay and Bowie to construct Wellington Basin, and to enlarge and deepen Basin No. 2.

Wellington Basin is situated to the west of Basin No. 2, on the south side of the canal, and parallel with Wellington Street. It will be 1,250 feet in length, and 225 in breadth, with a depth of 19 feet, and will connect with a deep water channel through Basin No. 2.

The excavation of the pit for Lock No. 1 was commenced last fall, but was suspended during the season of high water until the 11th of June. In consequence of a second rise of water the work was again discontinued on the 18th inst., and was not resumed at the close of the year.

The stone for the masonry of this lock is being quarried and dressed near Terrebonne; 730 cubic yards of face stone, and 680 yards of backing are now prepared. The excavation for the basin between Locks Nos. 1 and 2 was also commenced last fall, and discontinued during the season of high water; 160 cubic yards of face stone have been prepared at the Terrebonne quarry for this work.

The excavation of the pit for Lock No. 2, commenced last autumn, was discontinued during the winter months, and resumed in the spring. 9,275 cubic yards of earth, and 595 yards of old masonry have been removed. 730 cubic yards of dressed face stone, and 685 yards of backing have been prepared at the quarry.

A temporary bridge on the line of Mill Street is now in course of construction, to accommodate the traffic over the canal while this lock is being built. The work at Wellington Basin was commenced on the contract being signed. 35,700 cubic yards of earth have been excavated, 712 yards of face stone, 3,360 yards of backing, and 62,000 feet board measure pine plank have been delivered. The stone is being quarried and prepared at Terrebonne, to be brought down in scows and steam-tugs. Plans and estimates for the enlargement of the present canal, and for an independent cut from Lachine downwards, were completed and submitted in January.

The proposed independent cut intersects the present canal at the iron railway bridge,

below Côte St. Paul, and runs along the north side of the canal for a distance of about four and a half miles; it then diverges to the west and running back of Lachine connects with the river at the railway wharf in that village.

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

H. R. JOSLIN,
Resident Assistant Engineer.

JOHN G. SIFFELL, Esq.,
Engineer in Charge.

CANAL OFFICE,
MONTREAL, 17th August, 1874.

SIR,—I have the honor to report progress on the following works during the year ending the 30th June, 1874:—

RIVER ST. PIERRE.

The excavation in the main channel was finished in the early part of January. The bridge at the Côte St. Paul Road was completed in September. During the months of February and March the contractors erected four farm bridges; and in May and June men were employed in trimming slopes, digging ditches and offtake drains, and levelling spoil banks.

Hard pan was found in the bottom of the cutting 600 feet above Côte St. Paul Road, at which point it disappears; thence upwards the contractors have had great difficulty to get the depth required, on account of the character of the material which was forced up by the weight of the banks. Although twice brought to the full depth the level is still somewhat above grade.

ST. PATRICK STREET.

The contract was awarded to Mr. Michael Hennessy for extending and macadamizing the continuation of St. Patrick Street, from the pipe back of Water Works to Côte St. Paul Lock. Work at the grading was commenced in October, and continued until stopped by frost. During the winter a quantity of broken stone was deposited, also stone for abutments of bridge over the Tail Race from saw mill at Côte St. Paul. The abutments were built in April when the water was out of the canal. The bridge over River St. Pierre at the Grand Trunk Railway has been completed. The grading is now in progress and the culverts are under construction.

CHAMBLY CANAL.

Macadamized Road at Freyer's Bridge.

This work comprises the raising, grading and macadamizing of about 5,000 lineal feet of road on the west bank of the Chambly Canal from Freyer's Bridge southward. The contract was signed by Mr. Leandre Robert on 3rd November, 1873; by 1st December the raising was completed. During the winter the stone was prepared, and as soon as the road was sufficiently dry in May the grading and forming of the road bed was commenced. By the 30th June most of the metal was laid down and some ditching remained to be done. On 21st July the road was completed.

Railing.

The contract was signed by Mr. James Wright on 30th September. This railing extends from Yule's Mill to St. John's on the west bank of the canal. At the close of operations last fall the posts were set on the greater part of the distance, and a little over a mile of the rail placed in position. At this date, work has not been resumed.

Dwelling Houses.

The contract was signed by Mr. James Sheridan on 23rd October, 1873, for the erection of two brick cottages, one for the Lockmaster of Lock No. 8, and the other for the Bridge-keeper at Yule's Mill. The foundation masonry of both buildings is finished, and the brick work of the Bridge-keeper's house has been commenced.

RIVER RICHELIEU WORKS.

The works consist of piers and booms at Belleisle, and an extension of the mooring pier at the lower entrance of the Chambly Canal.

The tender of Mr. Vosburgh was accepted for this work, but he having declined to sign the contract, the work was re-advertised, and finally awarded to Messrs. Bonneville and O'Brien in the latter part of January. During the winter the contractors were engaged in procuring timber, some of which has been delivered at both points. The channel of the River Richelieu between St. John's and Rouse's Point has been improved by the removal of boulders, at which work a party of men was employed by the Department with two stone-lifting scows from July till the close of navigation.

MOORING PIER AT COTEAU LANDING.

The contractor for this work has done nothing since last report, except delivering the remainder of the stone required to complete the filling.

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

T. W. HARRINGTON,
Resident Assistant Engineer.

JOHN G. SIPPPELL, Esq.,
Engineer in Charge.

ST. ANNE'S LOCK.

ST. ANNE,
BOUT DE L'ISLE, 1st July 1874.

SIR,—On my appointment in November last, I found that one crib on the west pier had been sunk, and another was being placed in position, and I proceeded to examine what quantity of excavation was necessary to be done, and also to determine the extent of channel to be protected by pier works. The river closed on the 17th November, when work was suspended, only 3 cribs having been sunk on a length of 115 feet of pier built to about 2 feet above ordinary low water.

By your directions, soundings were subsequently taken on the ice to the south eastern end of the shoal (as shewn upon the map.)

The examination established that the line already adopted was not only the most favorable, but that no difficulties existed requiring any modification of the contract.

On the 15th of January the contractor resumed work, the ice up to this time having been irregular on the shoal, varying from two feet to a few inches, with some dangerous holes. The cribwork was carried on steadily until interrupted by the high water in April, May and the greater part of June. During the month of June, scows have been built, and a dock constructed for building the bottoms of cribs, which has proved satisfactory, during the few days it has been in use. At the present time 600 feet of channel has been cribbed on both sides—being one half of the entire length—and the superstructure is now in progress. The timber for the remaining portion is on hand, and the sheet piling will be begun in a few days, and the contractor has provided a small steamer to draw the stone and clay for filling cribs and making dams, and three large

scows, capable of carrying 20 to 30 cubic yards. He has also purchased an engine and pumps, which will be placed in position as soon as the work is sufficiently advanced.

During the winter and spring a complete re-survey, with plans, profile cross sections and estimates, has been made of site of the proposed new lock and entrance near the present lock, the location adjoining the present lock and parallel to it. The upper approach will reach deep water at a point on the course now taken by vessels on leaving or approaching the present lock, and will be about 500 feet long.

The lower approach now used for a short time in spring at high water, will avoid the dangerous rock shoal on the present course, which obliges steamers with barges in tow, to make a *détour* to escape it. The current from the rapids sets directly upon this shoal so that in making this *détour* it is difficult for barges to follow the steamer in its course across it. The pilot must steer up stream until his tow has swung beyond the obstruction and then, after drifting past it, turn round and resume his course, making a complete circle. The consequence is that disaster frequently ensues.

The sections show a considerable amount of cutting, which is generally rock, and some difficulties may be anticipated from water on account of its faulty character.

An examination of the old lock, and the record of water on its sills, kept for a number of years, show that a deficiency of depth at the upper end is often experienced during low water, there being, at times, less than six feet of water on the breastwall.

The length of the lock is only 190 feet between the quoins, and water leaks through both chamber walls so much as frequently to embarrass the passage of boats. The delays also which occur, especially at the opening of navigation, caused by a large number of barges waiting towage or favorable winds, call for increased accommodation. For the above reasons, and also in view of the nature of the new work to be done, I respectfully suggest that it will be well to have the new work put under contract at an early date, if importance be attached to having it finished simultaneously with the works now in progress on the Ottawa at Carillon and elsewhere.

Very respectfully,
Your obedient servant,

GEO. H. HENSHAW,
Resident Assistant Engineer.

JOHN G. SIPPELL, Esq.,
Engineer in Charge.

CARILLON CANAL DAM AND SLIDE.

ENGINEER'S OFFICE,

CARILLON, July, 1874.

SIR,—I have the honor to report on the above works for the year ending 30th June, 1874, for which Messrs. R. P. Cooke & Co. have the contract.

The contract with Messrs. R. P. Cooke & Co. requires that the cross and longitudinal sills for the bulkhead, as well as those for the dam, must be provided and delivered on or before the 1st day of July, 1873, and that at least two-thirds of them be laid before the close of the low water season of that year. The contract also contemplates that the works in connection with the upper or second lock be proceeded with in such a manner that it can be completed in the Fall of 1874.

At the beginning of the year, July, 1873, the required amount of timber was delivered.

Shortly afterwards more timber was furnished by the contractors, including oak and pine timber of a superior quality, for the mitre sills, mitre sill platforms, and bottom of the second lock. These timbers were all framed, as it was the expressed intention of the contractors to get that lock so far advanced by the fall, that the walls would be above the level of the water the following spring.

As soon as the water was sufficiently low, a temporary coffer dam, including a puddled chamber, was constructed around the upper end of the site of the lock. From this point downwards, for a distance of 387 feet, the permanent crib work along the toe of the embankment has been constructed, and inside an earth embankment was formed, which connecting the shore at the lower end with the coffer dam, formed a complete dam, by means of which the lock pit could be unwatered. But by the time these works were ready, the season was far advanced, the water rose rapidly, and prevented further operations, consequently only a small amount of excavation was done.

Early in the season the contractors erected a steam saw mill, between the old canal and the river, above the northern end of the proposed dam. Large workshops have been constructed and a steam engine and large pumps provided. Anchor bolts have been placed in the rock above dam. A large quantity of timber for the various works has been framed, and the necessary appliances supplied. The water in the Ottawa River was very high in 1873, and remained so until late in the summer. This circumstance prevented the early commencement of work in the bed of the river. When, however, the water fell about the middle of August, the contractors were not prepared, having experienced much difficulty in obtaining proper foremen and the requisite laborers.

It was not until the 12th September that this part of the work was commenced when the first sills of the skeleton bulkhead were laid on the south side of the river. Here an unexpected difficulty presented itself. A quantity of loose stones, bound together by sand and silt, covered a portion of the bed of the stream. This mass has been much increased in the spring by the breaking away of part of the old slide, consequently the operations were somewhat delayed. This work was continued until the 1st October, by which time thirteen cross sills and twelve toe sills were laid from the south shore outwards, and four cross sills and three toe sills from the north shore outwards. By this time the water had begun to rise rapidly, and the contractors abandoned further operations for the season. No sills of the main dam were laid, nor any of the work of it, further than supplying the material.

I may state that generally speaking the season was exceptionally unfavorable for the work. In September a quarry was opened at St. Geneviève to obtain stone for the locks,

but was abandoned by the contractors after having quarried some twenty cubic yards of stone, which was cut for the work. Afterwards the contractors leased the quarry, known as Ross' quarry, in East Hawkesbury, about eight miles from the works, and adjacent to where Mr. Goodwin obtained stone for the lock at Grenville. Work was begun there early in November, and continued until the 18th of May following. The greater part of the stone quarried and cut was hauled during the winter. It is very good and suitable for the purpose required.

Before the closing of navigation in the fall of 1873, upwards of 110 tons of bar iron was delivered. A portion during the winter was manufactured into bolts at the contractor's workshop.

During the winter a substantial temporary dam was built from the north shore above the site of upper lock, to protect the embankments and the other works against the spring flood; the protection it extended was in every way effective. A number of scows were also built. In May and June a quantity of timber for the works was further delivered; it is stored in a bay on the north side, some two miles above the head of the Carillon Rapids. The shore of this bay, with all incidental private rights, was leased by the contractors, and the lease transferred to the Government.

The following are approximately the quantities of permanent works in place up to the end of the year:—

Skeleton Bulkhead, &c:—

Earth excavation.....	220 cubic yards.
Rock	5 "
Sills laid	1,801 lineal feet.
Timber in stop logs.....	510 "
Drilling holes in rock.....	232 "
Rag bolts.....	3,154 lbs.

Canal and Locks:—

Earth excavation.....	1,827 cubic yards.
Rock	100 "
" " in lock pit.....	150 "
Timber in toe cribs	5,001 lineal feet.
Wrought iron in rag bolts, &c.....	3,104 lbs.
Stone filling of cribs	470 cubic yards.

Approximate quantities of materials delivered for the works to end of year:—

Wrought iron, not manufactured.....	127,874 lbs.
" " manufactured into bolts.....	104,582 "
Oak timber, framed.....	900 cubic feet.
Pine timber, framed.....	7,031 "
Pine and other timber, not framed.....	251,954 "
Pine plank.....	5,000 ft., E.M.
Cast iron.....	3,113 lbs.
Cut stone, for locks.....	345 cubic yards.
Stone, not cut for locks.....	464 "
Sand.....	600 "

Besides a large quantity of stone quarried, cut and uncut in Ross' quarry, the lease of which has been transferred to the Government.

No work has been done in the river, in 1874, up to date.

It will be readily understood that the facility with which this work can be prosecuted depends greatly on the height of the water in the river. During the past season, as well as the one before, it was higher than usual.

I have the honor to append the following table, showing the depths on the lower mitre sill of Lock No. 1, of the present canal at Carillon, on the 1st and 15th of each of

Section No. 2.

From Lock No. 10 to Lock No. 9.

Extent of reach, 2.88 miles. The work upon this section has been concentrated about Lock No. 10 and its approaches. The excavation of lock pit and portion of the approaches have been executed, and the new lock was built with the exception of a portion of the coping masonry. Although this lock has been used on two occasions, it is not intended to be opened to navigation before it is fully completed, as the old lock meets all the present requirements of the navigation.

The banks of the approaches on the river side average eighty feet wide, and were made out of the excavated rock and earth. The portion facing the canal has been made water-tight, with a puddle embankment averaging ten feet in width. To protect this puddle against the action of water, a dry rubble wall three feet wide was built the full length of the approaches. This wall extends 830 feet above, and 600 feet below the lock, on the south river side. An additional length of 480 feet of dry walling was built on north side, along the two entrance piers, above and below the new lock.

A new and substantial waste weir of rock-faced masonry was built in upper approach, to replace the old one. Its sill is set six inches below bottom, corresponding to new guard lock. Very little deepening was to be executed on this section, according to contract, the actual six feet draught of water being adopted for the present; but the approaches to the lock were excavated to one foot below the new mitre sills, thus giving the ten feet draught to be adopted to correspond with the new locks.

When the water was let in the canal last spring, a leakage took place through the new embankment in the upper approach. The stream increased rapidly, and became seriously threatening to the navigation. The greatest energy was displayed by the contractor to check the rush of water, and finally, after four days' continuous effort, it was mastered. The accident did not cause serious impediment to navigation, the channel below Green's Point not being free of ice.

Summary of work done on Section No. 2 since the 30th June, 1873 :—

Rock excavation	25,065 cubic yards.
Earth „	11,038 „
Embankment.....	2,228 „
Puddle bank	4,398 „
Masonry.....	3,981 „
Dry rubble wall.....	1,320 „
Concrete	919 „
Timber laid in lock bottom and mitre sills	10,407 cubic feet.
3 × 2 plank in flooring of lock bottom	66,510 feet, B.M.
Wrought iron bolts, straps, spikes, &c.	19,175 lbs.
Cast iron segments laid	12,000 lbs.

Section No. 3.

From lock No. 9 to lock No. 8, extent of reach 0.83 mile.

The work at new Lock No. 9 and its approaches are all that was executed on this section during last year. The excavation was commenced in June, 1873, but the progress was slow since the main force of laborers was concentrated on Lock No. 10.

The mitre sill platforms were laid early this spring, and the masonry of lock walls was started on the 1st June. Three courses of masonry and a breast wall are all that is so far built. This is about one-fourth of the masonry to be done. About three-quarters of the excavation to be executed in the approaches is now done. The remainder, which forms an embankment to dam the canal waters, can be only removed after close of navigation.

A considerable portion of the dry rubble walls (750 feet long), to protect the puddle banks in the approaches, is now built.

Summary of work done on Section No. 3 since 30th June, 1873 :—

Earth excavation	14,781 cubic yards.
Rock „	12,503 „
Puddled embankment	2,477 „
Masonry	760 „
Dry rubble wall	989 „
Concrete	93 „
Timber in platform and mitre sills	5,469 cubic feet.
Three and two-inch plank in platform flooring.....	20,354 feet, B.M.
Wrought iron bolts and straps, &c.....	11,198 lbs.
Cast iron segments	12,000 „

Materials delivered still on hand :—

Two-inch plank.....	4,168 feet B.M.
Stone, cut.....	543 cubic yards.
„ uncut	359 „
For backing.....	700 „
Sand.....	500 „
Water lime.....	920 barrels.

To build the new Lock No. 9, a piece of land had to be purchased on the south side of old lock, the area of which is six acres. The necessary boundary stones have been placed by me, and the usual *procès verbal* made.

I have the honor to be, Sir,

Your most obedient servant,

(Signed,)

E. H. PARENT,

Resident Assistant Engineer.

J. G. SIPPPELL, Esq.,
Engineer in Charge.

WORKS AT L'ISLET RAPIDS.

ENGINEER'S OFFICE,

CHICHESTER, 30th June, 1874.

SIR,—The following Report details the progress of the works at the L'Islet Rapids to date.

These works, designed to open a navigation of 96½ miles, from Bryson, the *chef lieu* of the County of Pontiac, to Les Joachims, are situated on the north or Culbute channel of the Ottawa River. It is distant 100 miles west of the City of Ottawa, and seven miles in a direct line to the north west of Pembroke. The proposed works consist of two locks combined, each 200 feet in length, 45 feet in width, with six feet water on the sills, with dams of an aggregate length of 520 feet. The whole of the structures are of wood, filled with stone. The impediments to navigation to be overcome are the L'Islet and Culbute Rapids, the total fall being nearly eighteen feet.

The contractors are Messrs. Wm. Davis & Son of Ottawa. I entered upon charge on 19th September, and ground was broken on the 24th. The contractors commenced on the same day the construction of a flat dam across the north L'Islet Channel, which was completed early in October, and which partially dried the lock sites. A large dam for the same purpose was thrown across the head of the Culbute Rapids. It was commenced on 14th October, and completed in February last. It consists of two crib piers, each 45 feet square, and a centre piece of same dimensions in 27 feet water, the whole surmounted by a flat dam.

Navigation closed on 21st November, but the excavation in the lock pits was carried on with great vigor.

The first crib of a mooring pier, in continuation of the south-east wing wall of Lock

No. 1, was placed in position on 18th December. 126 feet of this pier were raised to a height of seven feet above low water. In February a dam was also thrown across the middle channel at L'Islet, in order to enable an examination of the site of flat dam to be made, and the foundation of the dam across the L'Islet Rapid to be commenced.

A coffer dam was constructed across the lower end of Lock No. 1 ; it was commenced on 20th June, 1874, and finished in March. With the three other structures named, it completes the works necessary for unwatering purposes, and was rendered possible by the building of the mooring pier. All excavations which could be taken out had been completed by the end of February, but the contractors employed men in framing mitre sills, delivering timber and other materials during the months of March and April.

The ice broke up in the beginning of May, and the water began to rise in the second week of that month. It attained its maximum height of 18.94 at the locks on the 20th June. This level was nearly ten feet lower than that of the previous season. The water has since been falling. Active preparations have been made for resuming work ; a large quantity of material of all kinds has been delivered, and everything is in readiness to be commenced as soon as the water resumes its summer level.

The year's operations have been as follows : 5,728 cubic yards earth, and 964 cubic yards rock excavation on both lock sites and dam ; 12,002 feet of timber placed in mooring pier ; 1,118 cubic yards of stone filling ; 2,934 lbs. of iron spikes in same ; while there is delivered on the works, 28,948 lbs. of iron of all kinds, 1,700 cubic yards of stone for filling crib, 1,000 cubic yards clay for puddling, 800 cubic yards same, 2,863 cubic feet of oak and elm, and 80,203 feet of pine of all descriptions.

An engine-house has also been constructed, with 16 horse power steam engine and rotary pump. On 2nd June the principal shanties and cookhouse on the works were destroyed by fire ; others, with a detached cookhouse, have since been erected on the Islet.

Detailed surveys of the channels, and all lands likely to be required, have been made, with the necessary drawings for works.

The contractors have been energetic and careful throughout. The oak for mitre sills has been hauled from Sand Point, 68 miles distant, through the heavy snow drifts, during the storms of March last, and their preparations for the work of this season are in every way satisfactory.

I am, Sir,

Your obedient servant,

G. H. PERRY,

Resident Assistant Engineer.

J. G. SIPPPELL, Esq., C.E.,
Engineer in Charge.

APPENDIX No. 4.

CORNWALL CANAL.

CORNWALL, 3rd July, 1874.

SIR,—I have the honor to submit my Report for the fiscal year ending 30th June, 1874, on the Cornwall Canal.

The canal was kept in good working order from 1st July, 1873, to 4th December following, when it was closed for the winter months. It was opened again on 29th April, 1874, and has continued in good working order to the 30th June.

The works in progress during the past year may be classed under the head of ordinary repairs, which are as follows :—

Rebuilding lower gates of Lock No. 15 and upper gates of Lock No. 20 ; general repairs to lock gates in use, to waste weirs and bridges ; shingling Lockmaster's and laborers' houses ; painting and repairing flooring ; raising embankment ; protecting canal bank by raising slope walls ; making six new foot-bridges for lock gates, and five new knees and eight new sheaves ; cleaning side drains and culverts.

The aggregate amount of pay-lists for the fiscal year ending 30th June, 1874, is \$7,610.70.

I now beg leave to request that you will authorize me to expend \$6,000 on the repairs to be executed during the first half of the present fiscal year, viz. :—

For ordinary repairs, say	\$3,000
For re-building upper gates of guard lock	800
For making new lower gates for Lock No. 17, to replace present gates of 19 years in use.....	2,200
Total.....	\$6,000

Canal closed on 4th December ; opened for navigation 29th April, 1874.

I have the honor to be, Sir,

Your obedient servant,

(Signed,) D. A. McDONELL,
Superintendent.

F. BRAUN, Esq., Secretary,
Department of Public Works.

APPENDIX No. 5.

WILLIAMSBURGH CANALS.

MORRISBURGH, Dec. 16, 1874.

SIR,—I have the honor to report on the Williamsburgh Canals for the fiscal year ending 30th June, 1874.

In the month of June of this year I was appointed to the temporary superintendence of the above Canals, as Mr. Rose, the late respected Superintendent, was incapable of attending to his duties owing to illness. Mr. Rose died in September last.

I regret that, from the short period during which I have been in charge, I am unable to give a full report of the works.

The navigation was closed on the 2nd December, 1873, and opened on the 1st May, 1874.

The Canals were kept in good repair during the season. The navigation was only interrupted for a period of eight hours during the month of August owing to the derangement of Lock Gate No. 23, at the foot of Rapide Plat Canal.

The repairs were chiefly confined to the lock gates. The ditches, sluices, snubbing and bumping posts, wharves and piers did not call for any important restoration.

The force employed for the protection of the canal banks was similar to that of last year.

The cost of repairs was.....\$6,729 52

The cost of working the staff..... 6,695 20

Stone used in the repairs.....214½ cords

No permanent works have been in progress during the year.

The buoy service and land marks were put into position during the months of May and June, to the entire satisfaction of the parties interested.

I have the honor to be, Sir,

Your obedient Servant,

(Signed,) DUNCAN McDONELL

F. BRAUN, Esq.,
Secretary of Public Works, Ottawa.

APPENDIX No. 6.

WELLAND CANAL.

WELLAND CANAL OFFICE,
ST. CATHARINES, 24th July, 1874.

F. BRAUN, Esq., Secretary,
Department of Public Works, Ottawa.

SIR,—I have the honor to lay before you the report of the working of the Welland Canal for the year ending 30th June, 1874.

The Canal was closed on the 15th December, 1873, and re-opened on the 9th April, 1874.

During the year there has been one serious break, which occurred on the 18th May last, when the schooner *Erie Belle*, of Port Burwell, carried away all the gates of Lock No. 22, causing a suspension of navigation from Monday, eleven o'clock, a.m., until the following Thursday, at eleven, a.m.

During the year the apron to the dam at Dunnville has been completed in a most satisfactory manner. The bridge across the Feeder at that place has also been completed.

Extensive repairs have been made to the tow path and banks of the Canal, especially between Allanburgh and Port Colborne, where serious damage had been caused by the fast sailing of Propellers and Tugs. The work of repairing is still in progress, and will be, it is anticipated, substantially completed in the course of the summer. The floats near Port Colborne have also been repaired and put in an efficient state. The Lock-tenders' shanties at Locks Nos. 2, 16, 17, 18, Port Colborne, and at Burgars and the Junction Bridges have been thoroughly repaired or re-built, and considerable improvements have been made to the Lock-tenders' houses.

Ten new gates have been built and deposited in convenient places, where they can be made available without delay, in case of break. Six more are under way, and will be soon completed. Eleven new gates have been put in, viz., four at Lock 22, four at Lock 21, one at Lock 4, and two at Lock 8.

Since I assumed office, I have endeavoured to enforce a proper observance of Canal regulations, and I have been under the necessity of fining several parties who contravened them. A list of those vessels, from the owners of which I have collected fines and damages, is appended. The amount (\$2,218) I have handed to the Collector at this Port.

The Piers at Port Colborne and Port Maitland are much out of repair, and unless extensive improvements are made during the present season, I fear heavy damages will result.

The traffic in the Canal appears to be increasing this season; the amount of tolls collected, since the opening of navigation up to the 30th June, exceeding that of last year, up to the same date, by about \$16,000.

The water has been well kept up, so that we were able to allow the mills at Dunnville and on the upper level to run a month longer than usual.

I have to report the proper discharge of their duties by the officers of the Canal, and the general satisfaction expressed by parties using the Canal.

I have the honor to be, Sir,

Your obedient servant,

E. V. BODWELL,

Superintendent.

WELLAND CANAL.

ASSESSED against the Owners of Vessels on Welland Canal, up to the 30th day of June, 1874.

DATE.	NAME OF VESSEL. •	AMOUNT.	REMARKS.
		\$ cts.	
May 12	Schooner Minnie Rice	4 00	
„ 18	do Queen of the North	20 00	
„ 21	do Erie Bell	2,000 00	
„ 23	Propeller Prussia	30 00	
„ 29	Schooner John Jewell	25 00	
June 1	do Penokee	14 00	
„ 6	Propeller Sovereign	50 00	
„ 6	do Scotia	50 00	
„ 19	Schooner Maze	25 00	
		2,218 00	

Handed to JAMES CLARK, Esq., Collector,
St. Catharines.

WELLAND CANAL OFFICE,
ST. CATHARINES, July 24th, 1874.

APPENDIX No. 7.

BURLINGTON BAY CANAL.

WELLAND CANAL OFFICE,
ST. CATHARINES, December 15th, 1874.

SIR,—I have the honor to submit my report of the works connected with the Burlington Bay Canal, for the fiscal year ending the 30th of June, A.D. 1874.

No expenditure has taken place upon these works during the year.

The Canal was closed 11th December, 1873, and opened 1st April, 1874.

Navigation has been uninterrupted during the season of navigation.

The works are becoming somewhat decayed, and will require repairs during the next year; on this point it is my intention specially to report in due time.

I have the honor to be, Sir,

Your obedient Servant,

E. V. BODWELL,

Superintendent Welland Canal.

F. BRAUN, Esq., Secretary,
Department of Public Works,
Ottawa.

APPENDIX No. 8.

RIDEAU CANAL.

OTTAWA, 8th July, 1874.

SIR,—I have the honor, in accordance with the regulations, to transmit my Report for the fiscal year, ending June 30th, 1874.

The repairs executed during the past year are as follows :—

Kingston Mills.

On the 4th August the steamer *Adventurer*, owned by John Devana, of Kingston, carried away the lower lock gates, completely wrecking them ; no timber being on hand, a delay of fourteen days occurred. A few days after navigation was resumed, the apron floated up, the main timbers having been broken where the steamer grounded on them. An examination by a diver showed that, by care in letting the water through the sluices, there would be no occasion again to stop navigation. This spring a coffer dam was put in and a new one substituted. The lower sill of the upper lock, which had lifted, was also re-bolted down.

Lower Brewer's.

A leak having sprung out at the back of the lock-wall, it became necessary to excavate and open out the back of the wall, and it was found that the backing had separated from the face wall. The wall was rebuilt and repuddled, and now stands well. The lower gates were also hoisted and new flanges put in, and foot boards of lock gates renewed.

Upper Brewer's.

One set of new stop logs furnished, and new bridge built over mill creek.

Jones' Falls.

Strengthened lower gates so as to stand this season's navigation. Repairs done to the Whitefish Dam.

Davis' Mills.

Coffer dam put in at the waste-weir to rebuild it, and new bridge built over same.

Narrows.

Two new pair of lock gates built, and Lockmaster's house repaired.

Poonamalie.

New bulkhead at head of cut built and stop logs furnished. Five hundred yards of stone placed in embankment to strengthen it.

Old Slys.

Repairs done to piers and booms. New swing beams and chain blocks provided.

Edmond's.

Minor repairs to dam executed. New swing beam and complete chain blocks supplied.

Kilmarnock.

One pair of lock gates rebuilt and a new dam with stop logs built to replace the old post and brace dam. Repairs done to the back dam.

Merrickville.

Coffer dam put in at head of cut ; the cut cleaned out of stones and loose rock. Masonry in basin underpinned ; dam repaired and raised.

Clowe's Quarry.

Lockmaster's house repaired ; new shingled and plastered.

Burritt's Rapids.

One pair of lock gates rebuilt, and stone placed on dam to strengthen it. Dam at the Island rebuilt.

Long Island.

Two pair of lock gates complete ; boom at the head of Long Island renewed, and repairs done to the bulkhead, Manotick.

Black Rapids.

New pier at bulkhead, and both bulkheads repaired ; also repairs done to lockhouse. New sashes and doors provided.

Hogsback.

Apron below bulkhead repaired and pier raised ; 500 yards of stone put in dam ; new sashes in lockhouse put in.

Hartwell's.

Lower gates hoisted to repair sluices, and new sashes put in lockhouse. Ten toises of stone placed on the embankment at Dow's swamp, and some repairs done to the bridge-house, Mutchmore's Cut.

Ottawa.

Sundry repairs to flanges ; new chains and blocks provided ; also three new coping stones to lock walls. New windows in Lockmaster's house put in, and repairs to by-wash effected.

The water supply throughout the season was good, and no delay to navigation occurred, with the exception of that caused by the break referred to at Kingston Mills.

A supply of oak, sufficient for four lock gates, was obtained and delivered along the line of canal, to be on hand in case of a break like the one at Kingston Mills. This oak will be framed into gates this summer.

A diving suit was procured from England ; it is now on hand, and will be of great service in examining and repairing the flanges in the water locks, and in rendering it henceforth unnecessary to upset the gates when anything gets out of order.

The works are generally in good condition.

Navigation at the Kingston end was, last season, pretty brisk, as many as 2,500 lockages having been made at Brewer's Mills.

I have the honor to be, Sir,

Your obedient servant,

FREDERICK A. WISE,

Engineer

Superintendent.

F. BRAUN, Esq., Secretary,
Department of Public Works.

APPENDIX No. 9.

ST. PETER'S CANAL.

St. JOHN, N.B., 14th September, 1874.

SIR,—I have the honor to submit the following Report on St. Peter's Canal, for the fiscal year ending 30th June, 1874 :—

On the opening of navigation this year the lock gates could not be opened, owing to an accumulation of deposit during the winter. It was only after the services of a diver were procured that the obstructions were removed, and a displaced wheel being put in place, the gates were rendered operative. The chains for moving the gates are much rusted and worn, and will need to be changed next season. The gates themselves are in fair working order; the mitre sill of the outer gate is out of place, so much so that there is quite a rush of water under it. The wing wall on the east side of the lock has settled, and the face work has parted to such an extent, that it is feared another spring will see about fifteen feet at the extreme end, fallen. The whole face (limestone), between high and low water, is crumbled, and is in such a state that the water gets into the walls, and can be seen pouring out as the tide falls. It will be necessary to take steps during the coming year, 1875, to repair the lock so as to prevent it from becoming useless.

The roadway of the swing bridge has been planked, as recommended in the report of last year.

The Canal closed on the 15th December, 1873, and opened on 5th May, 1874, making a total of 224 days, being 22 less than the previous year.

The following is a statement of the number and tonnage of vessels which passed through the canal during the year, with amount of tolls collected, prepared from Returns furnished by the Lock Master :—

Month.	No. of Vessels bound North.	Tonnage.	Amount collected for Tolls.	No. of Vessels bound South.	Tonnage.	Amount collected for Tolls.
1873.			\$ cts.			\$ cts.
July.....	40	1,895	42 15	45	1,295	39 46
August.....	35	1,377	52 13	50	1,813	29 48
September.....	45	1,684	43 18	40	1,506	38 43
October.....	47	1,715	51 13	36	1,475	30 48
November.....	51	1,603	47 16	34	1,587	34 45
December.....	57	1,614	49 42	28	1,576	42 19
1874.						
May.....	52	1,810	51 14	32	1,380	20 47
June.....	47	1,072	48 32	37	1,518	33 29
	374	18,870	384 63	402	12,160	362 25

RECAPITULATION.

Total number of vessels.....	676
Total tonnage.....	23,520
Number of open boats.....	250
Tolls collected.....	\$652 88

The first toll ordered to be put on the canal was in 1872, as follows :—

For every vessel passing through loaded, 5 cents a ton ; for each vessel in ballast, 2 cents a ton.

During 1873, tolls were reduced as follows :—

For each vessel passing through loaded, 1 cent a ton on cargo ; 2 cents a ton on the registered tonnage of vessel.

This will account for the diminution in the amount of tolls collected, with an increased tonnage and increased number of working days, as compared with the statement of traffic for the year ending June 30th, 1873.

I have the honor to be, Sir,

Your obedient servant,

(Signed,) HENRY F. PERLEY,
Engineer in Charge.

F. BRAUN, Esq., Secretary,
Department of Public Works.

APPENDIX NO. 10.

SLIDES, BOOMS AND NAVIGATION—RIVER TRENT AND NEWCASTLE DISTRICT.

PETERBORO, 24th October, 1874.

SIR,—I have the honor to submit the following report on the River Trent and Newcastle District Works, for the fiscal year ending 30th June, 1874.

The River Trent and Newcastle District Works extend from the Bay of Quinté to the head of Lake Scugog, a distance of 190 miles.

The navigation proceeds from Port Perry, at the head of Lake Scugog, to Fenelon Falls, and from thence through Lakes Sturgeon, Pigeon, Chemeny and Buckhorn. It passes also from Peterboro by the River Otenabee, Rice Lake and River Trent to Heely's Falls.

Lindsay.

No repairs to these works have been executed during this year. The dam requires to be kept tight so as to retain the water at the required level on the upper portion of the Scugog, which is difficult to navigate at low water with barges laden with lumber, owing to the sunken timber and other *débris*.

Fenelon River.

This river flows in a southerly direction from Cameron's Lake to Sturgeon Lake.

The navigation of this river has been the subject of litigation between the lumbermen and steamboat proprietors, each party petitioning the Government for an appropriation favorable to its own interests, and I received instructions from the Department to examine the river and report on the difficulties.

Accordingly I made a survey of the river, and submitted my report to the Department, in which I recommended the construction of a boom and piers in the river, so located as to divide it into two channels, one for the passage of timber, the other for the passage of steamboats. On the approval of my recommendations, I was instructed to prepare plans and specifications, and receive tenders. The work was satisfactorily completed by the 1st April last at a cost of \$3,090. The piers and booms are now in good condition, and an overseer has been appointed in charge, who has efficiently performed his duty. He is paid out of the appropriation granted for the works.

Bobcaygeon.

The works at this station consist of the following:—

A dam 1,262 feet in length, 12 feet base and 6 feet high, running east and west; the eastern portion, 468 feet in length, being truss work, and the remainder crib work.

A canal 973 feet in length, with wooden retaining walls.

A lock 134 feet by 33 feet, built of Ashlar masonry, with wooden mitre sills, and 7 feet 3 inches lift, having a depth of water on lower mitre sill of 4 feet 8 inches, and a swing bridge across the canal, constructed on the Howe truss principle, 65 feet long and 13 feet wide.

In the Fall of 1872 the dam was repaired, but in the following spring, the drift wood brought down by the freshets, started and tore away not only the portion repaired but part of the dam. The necessary repairs could not be completed, owing to the water rising unexpectedly in the fall.

The repairs executed in the fall of 1873 are standing well, but it is advisable to have the work completed this fall.

The canal walls require renewal from low water mark to cap piece, being in a decayed condition.

The lock gates are in fair working order, but the south upper gate and the north lower gate do not work easily.

The lock walls require pointing.

The swing bridge was repaired last fall, the repairs consisting of new diagonal braces, flooring, and general adjustment; it works well.

There are some boulders below the lock on the north side of the canal, which require to be removed; and a breast wall should be constructed to prevent scows and bateaux from running ashore.

The guard at the south side of the approach to the lock requires to be repaired and strengthened.

Buckhorn.

The works at this station consist of a dam, slide, piers and guide booms. It is the intention of the Department to hand over the slide, piers and guide booms to the Trent Slide Committee, retaining the dam. The dam, which is 387 feet long, 25 feet base, and 5 feet 3 inches in height, is a king post truss, with wings 173 feet long. It leaks badly, and requires to be gravelled so as to retain the water in the lakes at a proper level.

The slide is 65 feet long and 33 feet wide. The piers and bulkheads are in a dilapidated condition, and require renewal. There are large boulders at the foot of the slide which should be removed, as cribs, in running through at low water, strike against them and often are broken up.

The boom piers and booms require repairs.

Little Lake.

The works here consist of three large piers, and a single stick retaining boom, 1,050 feet long. The boom has been repaired, and is in good condition.

Whitlaw's Rapids.

The works consist of a lock 134 feet by 33 feet, built of good Ashlar masonry, lifts 6 feet 6 inches, having a depth of water of four feet on lower mitre sill.

A wing dam of truss work, 323 feet 6 inches in length, 27 feet base and 12 feet 6 inches in height, running in a northerly direction, and a cross dam also of truss work, 160 feet long, 27 feet base, and 9 feet in height, running in an easterly direction across the river, and forming an angle of 70° at its junction with the wing dam.

The lock is in good working order, but a difficulty exists in working the gates, in consequence of the saw-dust and slabs, from the mills above, entering the chamber.

The wing dam which was renewed in 1872 was swept away in the spring of 1873, owing to its peculiar construction.

The contract for its renewal, No. 4,293, was let for \$2,350. Work was commenced on the 15th October, 1873, and was satisfactorily pushed forward up to the 1st December, when the water attained to such a height as to compel the cessation of operations for the season.

The millowners on the river, between this dam and Peterboro', complain of the difficulties they experience in running the mills in the spring of the year, in consequence of the dam not having sufficient escape for the freshet, and they pray that a stop log sluice be placed therein.

Crook's Rapids.

The works consist of—

A lock 134 feet by 33 feet of cut stone masonry, 6 feet 9 inches lift, with six feet of water on lower mitre sill.

A canal 610 feet in length.

A swing bridge 68 feet long and 13 feet wide across the lock.

A dam of truss work, 253 feet in length, and 7 feet 6 inches high, with slide 97 feet by 33 feet, two feet draught of water, piers and guide booms.

The lock requires pointing; the gates require to be raised, and the travellers examined.

The canal wall below the lock was washed away in the spring of 1873. The necessary repairs executed consisted in dredging the canal, constructing a retaining wall of crib work the entire length of the canal, with a glance pier at the end, to prevent scows and steamboats from coming bow on to the wall, and the construction of a three stick boom, 250 feet in length. The navigation through the lock has derived a great benefit from these improvements. The amount expended was \$800.

The swing bridge across the lock is in a dangerous condition. I have caused some temporary repairs to be executed to ensure its safety for a short time.

The dam is in good repair.

Heeley's Falls.

The works at this station consist of a dam 488 feet long, 33 feet base and 8 feet high and a slide about 300 feet in length, and 33 feet wide, and two feet draught of water.

The dam leaks badly; it requires to be made tight by gravelling. The planking which has sprung and been partly torn off, requires to be made good.

No repairs have been executed at this station for some time.

Middle Falls.

Three dams, two slides and a guide boom.

These works require thorough repair this fall.

Campbelford.

Piers and guide booms.

Ranney's Falls.

The works here consisted formerly of a dam, slide, piers and guide booms, but in the spring of 1872 they were partly swept away. Portions of the dam and slide still remain.

Chisholm's Rapids.

The works here consist of a canal, lock of cut stone masonry, dam and slides. The lock is not used.

Navigation closed on the 28th November, and opened on 15th April. It has not been since interrupted.

I have the honor to be, Sir,

Your obedient servant,

(Signed,)

THOMAS D. BELCHER.

Superintendent,

F. BRAUN, Esq., Secretary,
Department of Public Works,

APPENDIX NO II.

SLIDES AND BOOMS.—OTTAWA DISTRICT.

RIVER OTTAWA WORKS,
SUPERINTENDENT'S OFFICE,
OTTAWA, August, 1874.

SIR,—I have the honor to submit to the Department the following Report on the works under my charge for the year ending 30th June last.

The waters of the Ottawa and its tributaries remained at a fair working pitch for a considerable portion of the summer of 1873, but, as the season advanced, great difficulty was experienced in moving all descriptions of timber, on account of the contraction of the volume of water in the river and its principal feeders. Large quantities of saw-logs were stranded on the banks of the main stream and the numerous "chenals" from above the Rapides des Joachims to the Chaudière Falls, a distance of upwards of 150 miles, and downwards to Grenville between 50 and 60 miles.

On the River Gatineau, the navigation for steamers and barges was seriously obstructed during the month of July, and it was only by resorting to the system of "sacking out" the logs and towing them from the Government boom to Kettle Island, a short distance below the mouth of the Gatineau, that a passage could be opened for vessels within a reasonable time; before this was effected, however, the detention of river craft gave rise to claims for demurrage.

As I have frequently reported, this jamming of logs and other kinds of timber was occasioned by the lumbermen turning them adrift on the upper reaches of the Gatineau, without having the means of checking the "drives" until their arrival at the main boom, where sometimes 120,000 pieces in excess of the number stipulated in the Regulations, were to be found covering the river for nearly a mile, to the depth of many tiers, and exerting a pressure against the works that they could not withstand.

The following quantities of timber passed the undermentioned Stations in 1873:—

SOUTH CHAUDIÈRE SLIDE.

	Cribs.	Pieces.
Square timber.....	10,974	248,938
Ties and traverses	277	
Boards and deals	105	
Round cedars	95	
Flatted timber	84	1,573
Dimension.....	9	
Saw-logs		2,518
Total.....	11,544	253,029

NORTH CHAUDIÈRE OR HULL SLIDE.

Saw-logs 260,761

GATINEAU BOOM.

Saw-logs.....	438,289
Square timber.....	4,704
Flatted do.....	3,313
Round cedars.....	6,934

Total..... 452,310

After the timber had passed in the season of 1873, the various works were examined

and repairs executed during the winter months at the following Stations on the River Ottawa, viz :—

Joachim,	Portage du Fort,	Hull,
Calumet,	Chats,	Chaudière,
Mountain,	Deschênes,	Carillon.

The works on the following tributaries were also overhauled and repaired, viz : -

Dumoine,	Black River,	Madawaska,
Petawawa,	Coulouge,	Gatineau.

The main Gatineau Boom having been rebuilt, it is believed that, with ordinary foresight on the part of the lumbermen, breaks will be almost impossible; and as the low-water channel has been completely dredged, the stoppage of navigation for steamers, &c. is not likely to take place for any lengthened period during the season. I may mention that the Order in Council passed on the 21st day of May last, defining the manner in which the "gaps" are to be operated, has been strictly enforced and the result is a more speedy clearance of the boom than could have been accomplished had the practice of previous years been continued—a practice characterized by the want of all concerted action among the raftsmen themselves.

NEW WORKS COMPLETED.

At Rocher Capitaine Rapids on the Upper Ottawa, the new slide was finished by the contractor last spring; but before advantage can be taken of this improvement, certain works will have to be carried out near the head and foot of the slide, the cost of which will be estimated and shortly reported to the Department.

The new slide and headworks, above Lake Traverse on the River Petawawa, were completed and used with great success for the passage of timber and saw logs this season. The drives on this tributary will be much accelerated by these works, and will reach their destination in better marketable condition than formerly, as the delay, and the wear and tear incidental to passing over the chute, will be avoided.

Projected Works.

I would earnestly recommend that the approaches to the Union Suspension Bridge be improved by lateral extensions, and that a new and wider bridge, of more durable materials than are in the present structure, be erected over the slide channel from Bridge Street to Chaudière Island. The traffic here is enormous, and the accommodation now afforded is altogether too limited for an inter-Provincial highway through a busy manufacturing district.

The timber from the more remote limits does not arrive at the Chaudière slides until late in the season, when the water is very low. Steps should therefore be taken this fall to adapt the outlet of the lower slide to the requirements of trade, by placing guard or bed timbers on a rocky reef to form a continuation of the present bottom, with the view of receiving the impact of the descending cribs and obviating the exposure of life and property to danger in case of wreck. All the square timber floated from the Ottawa and tributaries above the City of Ottawa, passes through the Chaudière slide, the Hull slide being used for saw-logs alone.

The works generally will be visited after the timber has passed, and the necessary repairs made during the close of the season of navigation, in order that everything may be in readiness for the business of the coming spring. The principal repairs to be put under contract will be those at Joachim and Portage du Fort Stations, where, in a great measure, the reconstruction of the slides will be necessary.

The gross revenue accrued from the works as tolls for the year, up to 30th June last, was \$117,989.39.

I have the honor to be Sir,

Your obedient servant,
(Signed), HORACE MERRILL,
Superintendent, Ottawa River Works.

F. BRAUN, Esq., Secretary,
Department of Public Works.

APPENDIX No. 12.

SLIDES AND BOOMS.—ST. MAURICE DISTRICT.

SUPERINTENDENT'S OFFICE,
THREE RIVERS, October 8th, 1874.

SIR,—I have the honor to submit, for the information of the Honorable The Minister of Public Works, my Report on the state of the St. Maurice Works, for the fiscal year ending 30th June, 1874.

Apart from the repairs, which have been made under adverse circumstances, and which have already been fully reported upon, there is nothing of an extraordinary nature to communicate.

The improvements have worked, the past year, remarkably well; no accidents of any importance have occurred. The drives have been unusually successful; although the water was high in the spring, and the new booms above the bridges at the mouth were severely tested, they held at one time over 300,000 logs with safety, and proved of great service to the lumbermen.

The quantity of lumber that came down this season was about 25 per cent. more than in any former year.

STAFF AND WORKING EXPENSES.

The cost of staff and working expenses was \$4,783 in excess of the previous year, caused chiefly by extension of works, increased production of lumber, and increase of salaries. The total cost was \$19,283.57.

REPAIRS.

The amounts authorised for expenditure on repairs were as follows:—

3rd November, 1873	\$39,000 00
19th March, 1874	1,000 00
Total	\$40,000 00

EXPENDITURE.

Total expenditure was \$39,960.98. This expenditure may be briefly expressed as follows:—

Station No 1.—Mouth of the River.

Renewing four mooring piers.
 Repairing five "
 Renewing twenty-four mooring posts.
 Demolishing or replacing iron work.
 Renewing 3,500 lineal feet boom 60 × 4 inches.
 Purchasing 25,862 feet of timber for piers.
 Constructing four piers—foundations 35 × 40 feet; superstructure 25 × 30 feet; and 30 feet high.
 Repairs to sheds.

Station No. 2.—Grès Falls.

Sundry repairs to booms.

Station No. 3.—Shawenigan Falls.

Renewing two piers from low-water mark.
 Raising six piers, with fenders and posts.
 Repairs to booms and station buildings.
 Renewing bulkhead and bulkhead dam of slide and piers at foot of slide.
 „ 450 feet of slide.
 „ 1,153 lineal feet boom, above slide.

Station No. 5.—Grand' Mère.

Renewing 600 feet boom, 36 × 12 inches.
 Sundry repairs to remainder of boom.
 Constructing a scow.

Station No. 6.—Little Piles.

Repairing dam, \$1,400.

Station No 7.—La Tuque Falls.

Collecting stone for repairs
 „ timber „

Station No. 8.—Iroquois Falls.

Sundry repairs to slide and booms.

The Department is aware that the estimate for repairs for the year ending 30th June, 1874, was \$39,085; that authority was given to expend this amount; that, subsequently, the necessity of constructing six new piers to strengthen old booms at mouth, estimated by me to cost \$11,840. was urged so strongly by the lumber interests, that I received instructions to abandon the less important of these repairs, sufficient in amount to construct these six piers, thus leaving repairs to the amount or extent of \$11,840. unfinished and unprovided for; that in consequence of the lateness of the season, and the wreck of the timbers, but four of the six piers were then made, the remaining two having been recently finished under the head of construction at estimate prices.

The latter remark applies more properly to the current than to the past year, but it may not be out of place here to state, that in consequence of the timely authority given by the Department this season to proceed with the necessary repairs, advantage has been taken of the low water and fine weather, and the work has proceeded under favorable circumstances in a satisfactory manner and at a reasonable outlay.

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

H. R. SYMMES,
Superintendent.

F. BRAUN, Esq., Secretary,
 Department of Public Works.

APPENDIX No. 13.

SLIDES AND BOOMS—SAGUENAY DISTRICT

SAGUENAY, 30th June, 1874.

SIR, —I have the honor to transmit, herewith, my Report for the fiscal year ending 30th June, 1874.

All the works under my care are at present in good condition, but some repairs will be necessary next spring.

I shall have the honor to submit the estimates in my next Report.

The repairs of this year under contract, such as those of the dams of Lake St. John and the boom, have been done to the satisfaction of the Inspector.

There has been expended, for repairing the slide and deepening the canal at its head, the sum of (\$350) three hundred and fifty dollars.

I have the honor to be, Sir,

Your most obedient servant,

(Signed,)

D. BOULANGER,

Superintendent.

F. BRAUN, Esq., Secretary.

Department of Public Works.

APPENDIX No. 14.

HARBORS, WESTERN LAKES.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, 7th October, 1874.

SIR,—I have the honor to report on the works of the past season under my charge, which consist of surveys and examinations of sundry harbors on the western lakes, with a view to their improvement: likewise of certain works undertaken to obtain additional depth and increased accommodation in the waters where they have been carried on.

LAKE ONTARIO.

Kingston.

A survey was made of this harbor in order to obtain the position of the shoals which, in low water, are found seriously to embarrass navigation. They consist of the Carruthers' Shoal, which lies to the south of the wharf of that name; Point Frederick Shoal, to the east of the harbor; and a shoal on which the Martello tower is built. These several shoals are outcrops of rock. In the season of navigation they are well buoyed out, but it sometimes occurs that vessels drag their anchors, and are cast upon one or other of them, and serious damage ensues.

An appropriation of \$6,000 has been made for the improvement of the harbor, and instructions have been given by the Department to commence operations on the Carruthers' Shoal. It is proposed in the ensuing season to carry on operations to obtain a depth of 13 feet at this point. On the conclusion of the works, the character of the rock will be well known, and its extent thoroughly ascertained, so that an estimate of the cost of its removal can be definitely made, the proposed operations being in some degree tentative in their character.

Napanee.

The town of Napanee, 26 miles from Kingston, and 22 miles from Belleville, is the commercial centre of the counties of Lennox and Addington; and being situated on the right bank of the River Napanee, grain and lumber are brought to the town to pass by the river to the east. Vessels engaged in the trade require from 6½ to 7 feet of water; and when the level of the lake is above the average no serious difficulty presents itself, but when the water falls, which is often the case, much embarrassment ensues. There are eight obstructions in the River, viz:—

Campbell's Bar,
Cascallan Bar,
Baird's Bar,
Wyld's Point,

Bower's Bar,
Mackay's Bar,
Armstrong's Point,
The Middle Ground.

The prevalent winds are the south-west, which raises the water from 6 inches to 18 inches, and the north-east, which turns the water into the bay.

An extraordinary feature of the river is its constant ebb and flow, occurring with regularity, and lasting for about two hours.

The excavation necessary to obtain the desired channel extends from 6 inches to 2 feet and consists of sandy loam, with some sawdust and slabs.

On the 22nd September, 1873, a dredge was placed at work for the removal of the several obstructions. Its operations were continued until the 20th November following. The work was again resumed on the 15th of June, 1874, and continued to the 23rd of that month. The sum of \$6,000 was expended in this work.

Further dredging is required thoroughly to improve the channel, to straighten points which require adjustment, and in spots where the channel is tortuous.

During the present season the writer was instructed to offer, on the part of the Department, the sum of \$2,000 towards defraying the expenses of this work, provided the Municipality would expend an equal sum. This offer remains at present unaccepted, but it has been intimated to the writer that it is the intention of the Municipality to accept these terms.

River Salmon, Shannonville.

A survey was made of this river from the village to its discharge into the Bay of Quinté with the design of establishing what improvement is required to obtain a depth of seven feet. The distance from the bay to the village is two miles, and between the present wharf and the river's mouth, the water is deep. It is only on meeting with the waters of the Bay of Quinté that any obstruction is experienced. This obstruction consists to a very great extent of saw-dust and slabs, brought down from the upper waters of the river. There is also a gravel bar at the mouth of the river which seems to be formed of hard material.

The amount of work necessary to effect the improvement is not serious, and at the last Session of Parliament the sum of \$3,000 was voted to carry it out. Instructions have been given to expend this money during the coming working season.

Belleville, Bay of Quinté.

The position of the town assures it from the violent storms which in other localities on the western lakes form one of the first considerations. The disadvantages under which this town labors are caused by its naturally shallow harbor, which has likewise been partially filled up by the deposits of saw-dust brought down by the River Moira. These deposits are constantly shifting, and in some instances, when the current runs with great strength, are entirely carried away.

A shoal to the south-east of the Lighthouse proved a great hindrance to the entrance of sailing vessels, from their inability to pass over it with their centre-boards down. There was likewise some deposit to the south of Mill Island.

When the survey was made, the water was two feet higher than at the previous season.

During the season the shoals in question were removed, and the approaches to the harbor proper deepened. But the improvement cannot be looked upon as permanent, for it is to be feared that, so long as saw-dust is thrown into the upper waters of the Moira, deposits will be constantly made in the harbor.

Dredging was commenced on the 9th of May, 1873; these operations being, in reality, a continuation of those of the Town Council of the preceding year. The western arm of the harbor was relieved from boulders, and from several large flat stones embedded in clay; a work of much labor and difficulty.

The eastern arm was cleared of the deposit found there, which consisted of gravel and bark, and several large boulders.

To the south of the harbor a channel 20 feet wide was cut, for a length of 275 feet, to connect with the main channel of the river.

The lighthouse shoal has been removed, and it is anticipated that a scour will thus be obtained, by which much of the *débris* will be carried away.

The sum of \$10,000 was expended on this work, but the improvement is yet far from complete.

In the ensuing season the Department has agreed to expend the sum of \$2,000, provided the Municipality will pay an equal amount. The offer has been accepted, and the work will be immediately commenced.

Picton, Bay of Quinté.

This harbor was carefully surveyed, with the view of determining the amount of dredging necessary to obtain nine feet navigation. Picton is a place of importance, being the principal town of the county of Prince Edward, and the centre of one of the richest farming districts on Lake Ontario; it is situated about 40 miles from Kingston.

The class of vessels which frequent these waters is not of great draught. They do not ascend the northern lakes, and the navigation named, 9 feet, may be said to satisfy every interest.

An appropriation of \$6,000 has been voted by Parliament, in accordance with the estimate made. Dredging operations will be carried on during the working season of 1874.

Cobourg.

A survey of this harbor was made with a view of determining the appropriateness of a plan for its extension, submitted to the Government by the Harbor Commissioners.

It was finally determined for the present to construct a pier 1,500 feet long and 30 feet wide, from the foot of Hibernia Street. It was agreed that one-third of the cost should be borne by the Commissioners of the Harbor and two-thirds by the Government. At the same time the former passed a resolution, calling on the Department to assume the whole control and management of the works. In conformity with this understanding, tenders were called for by the Department, and the contract awarded to Messrs. Baker and Sutton, of Montreal, bearing date 23rd September 1873. The proceedings of these contractors were most unsatisfactory. No preparation of any kind was made at the beginning of the present working season, and no arrangements had been entered into for the work to be efficiently prosecuted. Consequently, these contractors were relieved of their engagements, and the work has since been awarded to Messrs. Row and Koyle, the next lowest on the list of tenders. This firm will commence operations as soon as possible, but, from the difficulty of obtaining material, the work cannot be begun till 1875. Thus the completion of the work has been delayed for a year.

Port Hope.

The harbor of Port Hope was surveyed to determine the extent and position of a shoal at its entrance, called the "Sand Bar," and also to lay down some plan of protection against the prevalent south and south-west winds.

Port Hope, being mid-distant on Lake Ontario, is not unfrequently sought as a refuge in tempestuous weather.

It is proposed to dredge the site of the shoal in order to obtain a depth of 13 feet, and to prolong the two piers each 150 feet. Should it then be found that the necessary protection is not yet obtained, the western pier can be lengthened 100 feet additional.

These works are estimated to cost \$20,000, which amount was included in the appropriation of last year.

Tenders will be called for during the season, in sufficient time for the Contractor to make arrangements to get out the material during winter.

LAKE ERIE.

Port Stanley.

Port Stanley is about 85 miles from the entrance of the Welland Canal, 112 miles from Buffalo, 100 miles from Erie, and 85 miles from Cleveland. It is connected by Railway with the Great Western.

This harbor was examined with a view to determine a remedy for the difficulties which affect the navigation at its entrance. Additional protection is required from the south-westerly and westerly winds. It is anticipated that by extending the western pier, the force of the winds will be greatly restrained, and that vessels will make the entrance of the harbor by striking smooth water before coming opposite to the eastern pier. As the harbor now exists there is danger in tempestuous weather of vessels striking the eastern pier.

An appropriation of \$7,000 was voted in 1873 for the improvement, but owing to the depth of water and the character of the bottom of the lake at this point, the crib work must be of considerable depth, and it is estimated that the \$7,000 would do no more than extend the pier 80 feet. No arrangement is yet made for carrying on the work, but tenders will be called for by advertisement during the season.

Kingsville.

Kingsville is about 14 miles to the west of Point Pellée, and 22 miles from Amherstburg. It is claimed that vessels can make this port in a westerly gale, and that the geographical site of the harbor is admirably suited to the requirements of navigation at this portion of Lake Erie.

The present wharf is the private property of Captain Malotte, and an examination was made in order to determine in what mode a harbor could be formed in connection with the pier; there are no marked natural advantages suggesting any scheme of work. A shoal, however, runs at some little distance from the shore which would form the basis of a breakwater, and in that case the inner harbor would require to be dredged.

A design has been prepared by which a certain limited accommodation could be obtained, the estimated cost of which is \$36,500. It has been intimated to the writer that in the event of the Government being prepared to give any assistance, the Municipality would intervene and assume the proprietorship of the present pier.

LAKE ST. CLAIR.

Chenal Ecarté

The River Sydenham has its discharge into one of the channels of the River St. Clair, known by the name of the Chenal Ecarté. Its southern entrance is very shallow, and consequently vessels require to pass to the north, around Walpole Island, even when their destination is south. An examination was made to learn the cost of dredging a channel from the deep water of the river into the deep water of Mitchell's Bay. A line was found 2,700 feet in length, which is the shortest distance attainable, and has the advantage of being protected to the west by Grass Point. The cost of obtaining this channel may be set down at \$12,000. When completed, a beacon with lights will be required. It could then be navigated both by day and night, and the commerce of the River Sydenham, which is considerable, could pass directly to the south.

The survey of the waters was a matter of considerable difficulty, the site examined being six miles from any dry ground. The various points were laid down from a base line at Mitchell's Bay, and it was necessary to build two temporary platforms, from which observations could be taken. It was performed with much ability and patience by my assistant, Mr. Michaud, and is undoubtedly one of the most difficult pieces of work of the character which has ever come under the notice of the writer.

LAKE HURON.

Sarnia.

A survey unusually elaborate was made of this harbor, in accordance with a petition of the Board of Trade, which claimed that the bay in front of the town had been obstructed by parties who had received patents for water lots. Though the question was one not coming within the scope of the Department of Public Works, it was nevertheless reported upon at length, with the recommendation that it be submitted to the Minister of Justice.

It may be said, however, that the Board of Trade did not in all cases lay down a common principle. In one instance, they contended that Mackenzie Brothers, although within the limits of their lot, had exceeded it, as the end of their structure was in deep water. In another case, that parties whose patent was worded in the same terms should be kept strictly to their measurement, and not go to deep water. Independently of this contradiction, the difficulty lies in determining what "deep water" really means.

The navigation of the lakes from Buffalo to Lake Superior is now set down at 16 feet, and hence it may be said that anything below this depth cannot be classed as deep water; and in view of the future it is scarcely possible to assign any arbitrary limit to the term. The case was accordingly submitted to the Minister of Justice, with full details of the physical facts for his information. It may be said that this question embraces that of the validity of a water lot patent of a Provincial Government.

Bayfield.

Bayfield has been thoroughly surveyed and examined.

It has been on more than one occasion brought under the notice of the Department, notably in the report of the Engineer-in-Chief, dated the 7th May, 1872. The striking feature of the harbor is the failure of the crib work, constructed in 1853-54, and hence the fruitless expenditure of \$20,000, which has caused much ill-feeling.

The River Bayfield has its outlet at this spot, and it is charged with much alluvial and gravelly matter, which is carried to the lake when the current is strong. When the latter is languid, the matter held in suspension becomes precipitated, accordingly the harbor has become very shallow. It was reported in January of this year, that the autumn and winter freshets had entirely cleared away this deposit. An examination was made into this matter, and it was found in no way to be the case, the depths remaining the same.

If measures could be taken to accelerate the motion of the current, it is not impossible that the deposits might be much lessened, but their total avoidance can scarcely be hoped for.

While the southern pier is utterly valueless, the northern pier is in good preservation.

A harbor could be formed, generally of nine feet, with the depth of 11 feet five inches at the entrance, without very heavy expenditure.

It is proposed to extend the northern pier 50 feet, with an arm to the south-west of 200 feet.

The south pier being in the worst possible condition, it is proposed to construct a new pier 30 feet wide to the north of it.

Starting from the shore line it will run a distance of 150 feet in a north-westerly direction, and thence run generally parallel to the upper portion of the north pier, a distance of 591 feet, being at its termination 140 feet from it.

The harbor will require to be dredged to the depth required, to the shore line. Thus the inner portion of the harbor will remain untouched till some future occasion.

The cost of these works is estimated at \$46,000, of which \$10,000 will be paid by the Township of Stanley. The design having been approved of, tenders will be called for some time in the fall.

Port Albert.

Port Albert is about 11 miles north of Goderich, and at the foot of the Nine-Mile Creek. A small pier has been constructed at which vessels can load. The sum of \$6,000 was appropriated at the session of 1873 to the improvement of the harbor. Similar difficulties are found here as at the discharge of other rivers, a deposit being cast up by the lake, and removed by the winter or spring freshets.

It is considered that a small breakwater to the south might have the effect of preventing this deposit from forming, and accordingly it is proposed to drive some piling on the beach, and to run out 75 feet of crib work to the south. This structure, it is hoped, will retain any deposit which the lake may cast up. It is also designed to lengthen the northern pier 60 feet, with a small arm to the south-west of 50 feet.

Vessels drawing eight feet of water will be able to come into this harbor.

The Department has allowed the Municipality of the Township of Ashfield to conduct this work under the superintendence of the Departmental Engineers. The Municipality accordingly advertised for tenders, and, with the sanction of the Honorable The Minister, awarded the contract to Messrs. Johnston and Graham, who have begun operations, and the work will be completed this season. All the approaches to the harbor were carefully surveyed.

Kincardine.

The harbor of Kincardine was examined with a view of considering some remedy for the difficulties experienced at its entrance, independently of the dredging operations, which were not under the control of the writer.

It is thought that by extending the present piers 100 feet, turning their direction somewhat to the south-west, and increasing the opening from 130 feet to 200 feet, some relief would be extended.

The cost of this work may be set down at \$12,000.

Inverhuron.

This harbor was very carefully surveyed and sounded, so that its capabilities can be thoroughly considered.

There cannot be a doubt that it presents many advantages of a special character, but they have this characteristic, they can only be developed at great cost.

In the estimates of 1873 the sum of \$6,000 was appropriated for the improvement of the harbor, and on examination the superstructure of the present structure being found quite decayed, it was resolved to expend this money on its restoration. This pier is 245 feet long, and 20 feet wide, the end 100 feet being 30 feet wide, where, from 15 to 16 feet of water is obtained.

Inverhuron is three miles from the village of Tiverton, in the township of Bruce, and in itself is but a mere cluster of houses. An attempt has been made to sink a salt well here, but it has not hitherto been successful. The pier is one of importance, as owing to the depth of water the Lake Superior steamers frequently call in when the weather permits, and its restoration therefore is a necessity.

It requires entire renewal, and the work is of such a character that it is not advisable to let it out by contract, but it can be more profitably done by time work.

This principle has been recognized by the Department, and a Superintendent has been appointed to oversee the work.

The supply of the timber has been given out to Mr. MacLaren, of Tiverton, and the work will be immediately commenced. It is anticipated that it will be completed by the middle of September.

GEORGIAN BAY.

Owen Sound.

The River Garafraxa discharges into Georgian Bay. At its mouth the town of Owen Sound is built, the centre of a large grain growing district. Much grain is collected during the winter, and shipped during the season to Buffalo and the St. Lawrence from this port, and no inconsiderable quantity is also carried to Collingwood. The river was also carefully surveyed to determine the amount of excavation necessary to obtain a ten feet channel. Much difficulty is experienced from its crooked and narrow course, caused by the silting up of the deposits brought down by the stream. It results that vessels which formerly visited this port are now unable to enter it.

The channel can be dredged in the ordinary way, and it is estimated that a generally straight channel 150 feet wide, extending from the wharf at the foot of Peel Street to the outer light, can be obtained for \$10,500, the channel gradually to narrow from the prolongation of Canning Street, from 150 feet to 100 feet in width at Peel Street, space being given at the latter point for winding room.

This sum was voted in the last estimates, and arrangements are in progress to commence the work.

Meaford.

The harbor has been improved by lengthening the pier 160 feet, with an arm turned to the north-east 200 feet.

An inexpensive breakwater is proposed on the eastern side; the matter is more fully detailed in the annexed report of the Resident Assistant Engineer Mr. Alan Macdougall.

Thorndbury.

The harbor of Thorndbury was very carefully surveyed.

It is situated in the County of Grey, at the mouth of the River Beaver, which discharges into Georgian Bay.

Thornbury is 14 miles from Collingwood, and is marked by activity and enterprise, and a good harbor would be a great acquisition to the place. The present wharf has been rendered useless by the action of the river.

The mouth of the River Beaver is constantly changing. Annually a deposit is placed by the roll of the lake in the periodical stormy weather of summer and autumn. If the autumn rains be heavy, the deposit is carried off, but frequently the mass of clay and shingle at the river's mouth is strong enough to resist the action of the descending waters, and hence they force their way through a new outlet, where there is less resistance.

This operation has occurred on several occasions at Thornbury, and the consequence is that a deposit has been formed in the neighborhood of the present dock. It is evident that its site is utterly unfit for the location of a pier for vessels of great draught. If a new wharf be constructed it is advisable to place it in some other position.

In the opinion of the writer this situation will be found at the foot of Mill Street, west of the Railway Station, where in 665 feet, a depth of from 13 feet to 15 feet of water can be obtained.

It will be necessary to turn an arm to the north-east, to the length of 200 feet, to protect it from the prevalent north-west winds, which are frequently very troublesome.

The cost of this work is estimated at \$33,500.

Collingwood.

A breakwater, 700 feet long, is in course of construction to replace the original structure, carried away by the ice in the spring of 1872, and a lighthouse, 40 feet from its base to the top of the lantern, has been placed at the eastern end.

The work has been creditably performed by Mr. Moberly, and requires but a few weeks for its completion. It is more fully described in the accompanying report of Mr. Alan Macdougall, the Resident Assistant Engineer.

I have the honor to be, Sir,

Your obedient servant,

WILLIAM KINGSFORD,

Engineer in Charge.

F. BRAUN, Esq.,

Secretary,

Public Works.

 COLLINGWOOD HARBOR.

DEPARTMENT OF PUBLIC WORKS,
ENGINEER'S OFFICE,
COLLINGWOOD, 1st July, 1874.

SIR,—I have the honor to report the progress of the works at Collingwood harbor.

The improvements consist of a breakwater and pier head 700 feet in length, and a lighthouse. They are placed slightly to the seaward of the original breakwater, which was completely destroyed by ice in the spring of 1872.

These works were commenced in August, 1873, and have been pushed forward with great energy by the contractor, Mr. C. W. Moberly.

The lighthouse was ready, and the light exhibited on the opening of navigation this season.

The body of the breakwater will be completed in six weeks, weather permitting.

The form adopted is one of unusual strength. The front wall is built double up to water line. Commencing 24 feet at the base, the cribs recede to 19 feet 6 inches at water line, the point where the slope commences to five feet below water line, and the angle is protected by boiler plate. The portion above water is carried up to the height of six feet, terminating at 12 feet 6 inches in width. Each angle is protected by boiler plate, $\frac{3}{8}$ inch thick, spiked down by 12 and $\frac{5}{8}$ inch spikes. There are therefore three ranges of iron on the front. A centre wall of 12 inch square timber is carried up perpendicular to the top throughout the whole structure.

The eastern or deep water end finishes in a broad pier head, 60 feet long and 80 feet wide, on which a lighthouse has been erected, about 45 feet in height from the base to the top of the lantern.

This pier head, as well as the body of the breakwater, is covered with three-inch white oak plank.

The following amounts of materials have been placed in the work, up to date:—

Square timber.....	42,600 cubic feet.
Flatted timber.....	24,100 lineal feet.
Oak plank.....	27,200 feet, board measure.
Wrought iron ragbolts.....	43,800 lbs.
Wrought iron boiler plate.....	15,700 lbs.
Stone filling.....	4,000 cubic yards.

The Northern Railway Company and the Municipality of the Town of Collingwood subscribe conjointly one half, the remaining half is paid by the Department.

The breakwater is located at a distance of one mile from the docks of the Northern Railway Company.

I have the honor to be, Sir,

Your obedient servant,

ALAN MACDOUGALL,
Resident Assistant Engineer.

WILLIAM KINGSFORD ESQ.,
Engineer in Charge.

 MEAFORD HARBOR.

 DEPARTMENT OF PUBLIC WORKS,
 ENGINEER'S OFFICE,

COLLINGWOOD, 1st July, 1874.

SIR,—I have the honor to report the progress of the works at Meaford Harbor.

These works consist of the continuation of the pier on the west bank of the Big Head River, for 160 feet, with an arm turning off in a north-easterly direction for 200 feet, in order to afford protection against the north-west wind, which is generally found to prevail here in seasons of storms.

The crib work is 30 feet wide.

The depth of water may be taken at an average of 15 feet within the arm.

The contract was awarded to Mr. J. S. Tolton in the beginning of December, 1873. The works were commenced without delay, and have been regularly and systematically carried on. There is no reason to doubt that these works will be completed within the date assigned, the first day of October next.

The following amounts of materials have been placed in the work up to date :—

Square timber.....	13,000 cubic feet.
Flatted timber.....	14,400 lineal feet.
Blocks under ties.....	520
Binding pieces, pine	760 lineal feet.
Wrought iron ragbolts.....	7,500 lbs.
Stone filling.....	2,000 cubic yards.

The estimated cost of these works is \$14,000.

It is intended to expend on this harbor the sum of \$25,000, of which \$10,000 is paid by the Municipality of St. Vincent, and \$15,000 by the Government.

It is further intended to construct a breakwater on the eastern side of the Big Head River, in order to turn back the gravel carried from a point of land adjacent, by the strong north-easterly winds during the spring freshets. Contracts for this work will be immediately called for.

I have the honor to be, Sir,

Your obedient servant,

ALAN MACDOUGALL,
Resident Assistant Engineer.

WILLIAM KINGSFORD, Esq.,
Engineer in Charge.

APPENDIX No. 15.

MARITIME PROVINCES.—HARBORS, PIERS, RIVERS, &c.

SAINT JOHN, NEW BRUNSWICK,
10th October, 1874.

SIR,—I have the honor to submit the following Report on the works under my charge in the Maritime Provinces, for the year ending 30th June, 1874 :—

These consist of—

Works under contract in New Brunswick.
 " " Nova Scotia.
 Works under Commissioners in New Brunswick.
 " " Nova Scotia.
 Improvement of Rivers.
 Dredging.
 Surveys and Examination

WORKS UNDER CONTRACT IN NEW BRUNSWICK.

Richibucto.

As mentioned in my last report, a contract was made for the construction of 320 feet of breakwater, extending from the north beach at the entrance of the Harbor. The works were being vigorously prosecuted, when the heavy gale of 24th August, 1873 occurred, which damaged them to such an extent that operations were suspended until the spring of this year. By the close of the fiscal year the damages had been repaired, and the work placed in a forward state. The breakwater was completed on the 26th September last.

Stony Creek.

The breakwater at this place, constructed to deflect the current of the River Petitcodiac, and to close a channel gullied out between the western shore and a dangerous ledge of rock, was completed in November last, and I have to report that the results arising from its erection are satisfactory, the current having been turned and the gullied channel being in process of being filled with mud. In some places the deposit has accumulated to a depth of fifteen feet.

Herring Cove.

The breakwater at this place extends from the shore to low-water mark, a distance of 215 feet, and was completed in September, 1873. It only affords shelter to vessels during the times of high water.

Dipper Harbor.

This harbor is situated about eighteen miles to the westward of St. John, and the breakwater 450 feet in length, is being constructed on its western side. At the end of the fiscal year it was about one-half completed. It will be finished about 1st November.

WORKS UNDER CONTRACT IN NOVA SCOTIA.

Brooklyn.

The length of the breakwater, 434 feet, alluded to in my report of last year, was completed in September, 1873. In the same month another contract was entered into for an additional length of 300 feet. The winter was employed in procuring materials, and work was commenced in spring; on the 30th June, one quarter of the whole had been executed.

Yarmouth.

The works for the protection of the beach separating the harbor at this place, from the Bay of Fundy, were completed in October, 1873. During the heavy gales of the past winter, a small extent of the beach was washed away, causing settlement in the work. Measures have been taken this season to remedy this defect, and to prevent the gravel being acted upon by the currents.

Mabou.

Under instructions from the Department, I took charge of the works at this place in June, 1873. They consisted in dredging a foundation and the construction of 582 feet of cribwork, through a sand spit at the entrance, being carried on under a contract dated 25th November, 1871. On my examination in July, I found that 639 feet of cribwork (unfinished) had been put in place; the excavation nearly completed; and the work generally in a backward state. An amount of \$20,000 having been granted for the continuance of work, it was arranged with the contractor to complete the cribwork then in place, to construct a further length of 600 feet of the entrance pier, and to carry on the dredging required for a foundation.

In November the contractor abandoned the work after placing the foundation of 200 feet in length of the pier. At the close of the fiscal year, the works remained in the state in which they had been left.

McNaire's Cove.

McNaire's properly Ballentine's Cove is situated on the west side of St. George's Bay, about five miles south of Lake George.

The works were transferred to my charge in June, 1873, and, at that time, were nearly completed, but the gale of 24th August, 1873, damaged them to some extent, delaying the work till November, when it was accepted.

Ingonish.

The works at Ingonish consist in widening the channel from the harbor to the Gulf of St. Lawrence from 60 feet to 200 feet in width, increasing the depth from 5 to 15 feet, and in the construction of a breakwater for the protection of the new channel, 700 feet in length.

During the past winter, the contractors procured the materials for the breakwater, and built a steam dredge and scows. Work was commenced in May, and up to 30th June about one-tenth had been completed.

WORKS UNDER COMMISSIONERS IN NEW BRUNSWICK.

Hillsboro'.

The amount granted was expended in the construction of a small breakwater, 130 feet in length, for the protection of the shipping lying to the southward from the set of the current of the River Petitcodiac.

Campo-Bello.

The amount appropriated for work at Wilson's Beach was with the understanding that the local authorities were to furnish an equal amount. Under a Commissioner, the sum of \$776.86 was expended by the Department, but no appropriation has been made by the local authorities, and the work stands in an unfinished state.

WORKS UNDER COMMISSIONERS IN NOVA SCOTIA.

Big Pond.

Big Pond is situated on the south side of East Bay, Bras d'Or Lake, C.B. The amount granted was expended in opening a passage through the beach from the bay into the pond

—a large and sheltered piece of water, up to that time land-locked—and to the protection of the sides of the cut with timber work.

Big Tracadie.

The breakwater, built by the Government of Nova Scotia, in 1863, at the entrance of the new channel then opened into Tracadie Harbor, requiring extensive repairs, the timber for that purpose was procured during the winter, and delivered on the ground. Since the close of the fiscal year, an agreement has been made for the construction of the works in question, and the Commissioners have been relieved from duty with regard to it.

Chedabucto Bay.

As at Tracadie, it was not found possible to procure timber until the winter season, to be delivered in the spring. The Commissioners were therefore unable to commence work until the latter part of May; accordingly, on the 30th June but little progress had been made in its construction. The breakwater will, however, be finally completed about the end of November.

Cow Bay.

The Commissioners at this place were appointed by an Order in Council for the expenditure of the amount granted for strengthening the breakwater. Work was vigorously prosecuted during the summer, and about one-half of the grant had been expended when the disastrous gale of the 24th August took place, damaging the breakwater to a very great extent. After the gale, the work of strengthening was resumed, the balance of the grant being largely supplemented by Messrs. Archibald & Co.

Canada Creek.

Canada Creek is situated on the southern shore of the Bay of Fundy in King's County, about sixty miles to the eastward of Digby Gut. The amount granted was expended in repairs to the breakwaters erected many years since, which form the harbor at this place.

Digby Pier.

This pier was constructed by the Government of Nova Scotia, and is used as a public landing for steamboats and vessels, being the only deep wharf at the place. The amount granted was expended in replacing and rebracing a number of piles under the inshore portion, fendering the outer block, supplying new floor joists and replanking the whole top of the pier, which is 866 feet long.

Gabarous Bay.

This bay lies to the westward of Louisburg, C.B., and the amount appropriated was expended in deepening the channel from the bay into a "barachois" or sheltered arm of the bay, where fishing boats only can enter for safety during stormy weather.

Green Cove.

This locality is about twelve miles North of Yarmouth, and the amount granted was expended in raising and repairing the breakwater.

Joggins.

This harbor is situated near the head and on the eastern side of the Chignecto Channel, Cumberland County. The amount was expended by the Commissioners under instructions, in extending the breakwater a further length of 100 feet; in flooring the whole structure; in the construction of an east breakwater 170 feet in length; and in the removal of the accumulation of gravel and a ledge of rock which existed in the basin thus formed.

The work has been well done, and the results are satisfactory, as the gravel, which formerly lodged inside of the old breakwater, is now arrested by the new eastern breakwater.

Maitland.

Maitland is situated on the western side of the mouth of the River Shubenacadie Hants County; and the structure, which has been constructed by the Department, partakes more of the character of a pier than a breakwater. The amount granted was carefully expended on the work, but was found insufficient to complete it. A further sum of \$1,000 has been granted for the year 1874-75.

Morden.

This harbor is situated on the south shore of the Bay of Fundy, in King's County, about fifty miles eastward of Digby Gut. The timber required for repairing the western breakwater, which has been built for many years, was obtained during the past winter, and the work was not commenced until June. The amount granted will be expended in the re-facing that portion of the work built in 1849; in the construction of an L, sixty feet in length, to arrest and retain the gravel; in sheathing the work where required; in building a bulkhead and in excavating the slip; all of which will be completed by the end of November next.

Oak Point.

Oak Point is situated on Minas Basin, Kings County, about three miles to the eastward of Canning, and is now known as Kingsport. The breakwater at this place has been strengthened by the Department, as mentioned in my report of last year, and the amount granted has been expended in completing this work.

Port Greville

Port Greville is situated in Cumberland County, on the northern side of Minas Channel, about twelve miles to the westward of Parrsboro'. The harbor is formed by the River Katchford, which, for about half a mile, flows inside of a gravel beach or bar, which protects it from southerly gales. This bar, composed of coarse sand and gravel, was entirely covered at the times of spring tides; and during the fall of 1872, the sea swept off the summit for a distance of about 2,800 feet to a depth of about 2½ feet. The protection thus afforded by the beach was to a great extent destroyed, and the amount granted was expended, under instructions, in constructing about 2,200 feet of crib work protection, of an average height of about seven feet, thus virtually raising the beach for that distance. This work has been successfully completed and gives satisfaction.

Port Hood.

At Port Hood, Inverness County, C.B., the amount granted was expended in blocking up the flooring joists, and in supplying new and spiking old flooring.

Port George.

This harbor is situated on the southern side of the Bay of Fundy in Annapolis County, about twenty-five miles to the eastward of Digby Gut. The harbor is formed by two breakwaters, and the amount granted was expended in repairing and refacing 150 feet of the western breakwater, which was, on examination, found to be much decayed. The sum appropriated has been found inadequate to effect the repairs necessary to place the breakwater in a state of usefulness.

Port Williams.

The amount appropriated for this harbor, was expended in completing the works left unfinished from the previous year.

Plympton.

Plympton is situated on the south side of St. Mary's Bay, Digby County, and the breakwater at that place has been constructed for some years. The expenditure was made in the construction of a block thirty-four feet square, for the purpose of lengthening and protecting the outer end of the breakwater.

River Salmon.

This harbor is situated on the Bay of Fundy, at the southern end of Digby County. The amount voted was expended in strengthening and repairing the breakwater constructed many years ago, which on examination, proved to be much decayed.

IMPROVEMENT OF RIVERS.

River St. John.

During the low stage of water, two working parties were engaged in the removal of obstructions from the boat channel, between Fredericton and Andover, below the confluence of the Tobique. The obstructions in this portion of the river are caused by numerous "bars," on which the water is rapid and shoal, and further complicated by the presence of large boulders and rocky reefs. Their removal was accomplished by drilling and blasting under water, and then grappling the pieces and taking them ashore. Operations were carried on at the Meductic Falls, the most difficult point in the navigation of the Upper St. John, at Beboisor's Bar, the Nackawie, Debblee's Bar, the Beeaguimie, Campbell's Island Bar, Squire's Bar, Cuffleman's Bar, the Muniac, Bishop's Ledge, Keely's Reef, Green Island Bar and the Shiktahawk. The benefit of this expenditure has been felt this season, and steamboats have been enabled to make their trips to the Tobique with ease and regularity, indicating that the improvements in the channel are equal to the addition of sixteen inches to the depth of water.

River St. Croix.

The only expenditure on this river was for a portion of the expenses of a survey made by the United States Government, of the obstruction between St. Stephen and Calais, and the "Ledge," a distance of about four miles. The removal of these obstructions, which principally consist of slabs, edgings and saw-dust, to the depth in some places of 14 feet, and the formation of a channel 100 feet wide, have been estimated by General Thom, United States Engineer, at a cost of \$100,000.

DREDGING.

"The New Dominion."

This dredge commenced work on the 14th April, and was employed until the 4th of July in operating in the Harbor of St John, removing 9,665 cubic yards of material. On the 10th July 1873, work was commenced at Grand Lake in straightening the entrance to the Jemseg, and continued until the 6th November, during which time 39,980 cubic yards of stuff were removed. On the opening of navigation, the spring operations were commenced at the public landings at Fredericton, and the dredge was engaged at that work at the close of the fiscal year.

"The Canada."

Early in July, 1873, the dredge was refitted at Pictou, N. S., and left that harbor on the 16th inst., for House Harbor, Magdalen Islands, arriving on the 19th inst. The Dredge remained at House Harbor up to the 15th August, working 19 days, and removed 6,800 tons of coarse gravel. On the 22nd August it arrived at Pictou, coaled and refitted, and leaving on the 27th arrived on the 28th at Richibucto, when work was resumed in deepening the North Channel. It worked here until the 16th October, removing 10,200 tons of material. The dredge was repaired at Pictou, and left on

12th November, called at Halifax for stores, and arrived at Liverpool (Queen's County) on 2nd December. Work was commenced and continued at intervals, as the weather permitted, in opening a channel through the bar at the entrance to the Harbor until 12th of May. During that time it removed 8,800 tons of material. The working at this place was unsatisfactory. Nearly as rapidly as the channel was dredged it was again filled up with saw-dust and silt brought down from the mills. And it is my duty to state that, unless a stop be put to this deposit of waste from the mills, it will be impossible to effect any improvement in this Harbor. On the 13th May, operations were commenced at Lockport, Shelburne County, and continued until the 12th June, during which time most satisfactory work was performed; 9,800 tons of material were removed. Arrangements were then made to leave for Richibucto to complete the channel at that place.

SURVEYS AND EXAMINATIONS.

During the year surveys and examinations have been made at the following localities; and plans, reports and estimates of the works have been forwarded:—

Antigonish	N.S.	Little Bras d'Or	C.B., N.S.
Bathurst	N.B.	Maniadien	C.B., N.S.
Black River	N.B.	Merigonish	N.S.
Broad Cove	N.S.	Newcastle Creek	N.B.
Barachois	N.S.	New Harbor	N.S.
Gat Point	N.S.	Oak Point	N.S.
Clam Pond	N.S.	Port Hood	C.B., N.S.
Cranberry Head	N.S.	Port Hawkesbury	C.B., N.S.
Cow Bay	C.B.	Port Hastings	C.B., N.S.
Carribou, Big Island	N.S.	Pictou Island	C.B., N.S.
Cape John Cove	N.S.	River Restigouche	N.B.
Freeport	N.S.	River John	N.B.
Grossecoque	N.S.	River St John	N.B.
Grand River	C.B., N.S.	St. John Harbor	N.B.
Gabarous Bay	N.S.	Sissiboo	N.S.
Granville	N.S.	St. Peter's Canal	N.S.
Gardner's Creek	N.B.	Tracadie	N.S.
Hall's Harbor	N.S.	Tynemouth Creek	N.B.
Margaretville	N.S.	Tignish	P.E.I.
Jordan Bay	N.S.	Tatamagouche	N.S.
Lockport	N.S.	Westport	N.S.
L'Ardoise	C.B., N.S.	Wine Harbor	N.S.
Long Point	N.S.	Wallace	N.S.

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

(Signed,) HENRY F. PERLEY.

Engineer in Charge.

F. BRAUN, Esq.,
Secretary

Department of Public Works.

APPENDIX NO. 16.

—
INTERCOLONIAL RAILWAY.
—

GENERAL SUPERINTENDENT'S OFFICE,

MONCTON, N.B., 21st November, 1874.

SIR,—I have the honor to submit the Accounts, Statements and Reports which will show the operations of this Railway for the fiscal year ending 30th June, 1874.

I have the honor to be, Sir,

Your obedient servant.

LEWIS CARVELL,

General Superintendent.

F. BRAUN, Esq.,

Secretary,

Department of Public Works.

INTERCOLONIAL RAILWAY.

DR.		GENERAL BALANCE.		CR.	
	\$ cts.	\$ cts.		\$ cts.	
Cash		9,651 81	Dominion Account	433,487 07	
General Stores		381,757 49	Intercolonial Railway Commis- sioners	8,895 57	
Stations		14,340 78	Unpaid Pay-rolls and Accounts	49,711 21	
Individual Account		6,239 73			
Collingwood Schrieber		10,172 89			
Vale Colliery Co.		1,289 00			
Post Office Department		20,640 59			
Windsor and Annapolis Railway:					
Punchard, Clark & Co	7,509 03				
T. V. Smith	1,722 09				
Windsor Branch $\frac{1}{2}$ earnings	38,770 44				
		48,001 56			
		492,093 85			492,093 85

E. & O. E.

Moncton, N.B., 30th June, 1874.

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

DR.		CAPITAL ACCOUNT.		CR.	
	\$ cts.	\$ cts.		\$ cts.	
1873. June 30.	To cost of Road, and equipment to date	12,112,260 13	1873. June 30.	By Dominion of Canada	12,112,260 13
1874. June 30.	To expenditure year ending 30th June, 1874, classified as follows, per Abstract A A:—		1874. June 30.	By Dominion of Canada	742,588 33
	Roadway and works	229,017 18			
	Wharf and ferry service	62,465 83			
	Building stations and water service	68,017 46			
	Rolling stock	370,991 45			
	Machinery and tools	11,206 44			
	Miscellaneous	800 00			
		742,588 36			
		12,854,848 49			12,854,848 49

E. & O. E.

Moncton, N.B., 30th June, 1874.

THOMAS FOOT,
Accountant.

(A. A.)—ABSTRACT of Capital Expenditure.

<i>Branch Lines.</i>	\$ cts.	\$ cts.
Dorchester	27,320 16	
Sackville	6,614 78	
Londonderry	1,720 64	
Newport	9,384 79	
Spring Hill	32,733 89	
Saint John	58,346 17	
		136,120 43
<i>Wharves and Extensions.</i>		
Halifax	70,711 73	
Saint John	1,000 00	
		71,711 73
<i>Rolling Stock.</i>		
13 Locomotives	182,953 82	
444 Coal cars ..	188,037 63	
		370,991 45
<i>Miscellaneous.</i>		
General offices and workmen's dwellings	30,754 75	
Sidings, tank houses, station houses, water supply, &c	57,803 78	
Snow sheds and fences	49,097 96	
Shop tools ..	11,296 44	
Blackburn Bridge filling	4,561 95	
Signals	3,799 84	
Oil stores	2,622 00	
Track scales	1,638 03	
Customs Warehouse	2,190 00	
		163,764 75
		742,588 36

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

REVENUE ACCOUNT for year ending 30th June, 1874.

DR.

CR.

Previous Year.	Expenditure.	Ordinary Expenses.	Extraordinary Repairs.	Amount.	Previous Year.	Receipts.	Amount.
\$ cts.		\$ cts.	\$ cts.	\$ cts.	\$ cts.		\$ cts.
267,775 02	Locomotive power, per Abstract 1.	319,248 03	.....	319,248 03	275,520 48	Passenger traffic.....	353,895 90
190,201 03	Car expenses, do 2.	187,260 98	59,180 65	246,441 63	396,049 41	Freight traffic.....	470,962 14
380 1 8 15	Maintenance, way and works do 3.	297,069 94	216,538 60	513,608 54	31,888 37	Mails and sundries.....	68,572 13
95 3 7 01	Station expenses, do 4.	118,087 29	.....	118,087 29	703,488 26		893,430 17
78,560 49	General charges, do 5.	104,164 59	.....	104,164 59	308,434 34	Balance.....	408,119 91
1,011,892 60		1,025,830 88	275,719 25	1,301,550 08	1,011,892 60		1,301,550 08

E. & O. E.

Moncton, N.B., 30th June, 1874.

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

LOCOMOTIVE POWER.—(ABSTRACT 1).

Previous Year.	—	Amount.
\$ cts.		\$ cts.
2,500 34	Mechanical Superintendent's salary. Clerks office, and travelling expenses...	6,540 30
45,181 20	Wages of Drivers, Firemen and Cleaners	56,564 57
85,414 10	Fuel	109,313 18
16,434 10	Oil, tallow, waste and small stores	17,918 67
89,265 40	Repairs to engines, tenders and engine tools	108,322 27
21,369 28	Water, including pump and tank repairs	13,179 18
7,588 50	Miscellaneous	7,409 86
267,755 92		319,248 03

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

CAR EXPENSES.—(ABSTRACT 2).

Previous year.	—	Ordinary Expenses.	Extraordinary Repairs.	Amount.
\$ cts.		\$ cts.	\$ cts.	\$ cts.
28,372 58	Repairs to passenger cars	38,061 04	33,833 95	71,894 99
11,372 43	Repairs to postal, express and baggage cars ..	7,648 94	.....	7,648 94
77,734 59	Repairs to freight cars and vans	62,094 12	25,346 70	87,440 82
43,353 98	Wages of Conductors, Train Baggage Masters and Brakemen	51,621 73	.....	51,621 73
5,516 11	Oil and waste for packing	6,566 60	.....	6,566 60
14,474 61	Small stores and fuel	15,180 95	.....	15,180 95
9,376 73	Miscellaneous	6,087 60	.....	6,087 60
190,201 03		187,260 98	59,180 65	246,441 63

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

MAINTENANCE OF WAY AND WORKS.—(ABSTRACT 3).

Previous year.		Ordinary Expenses.	Extraordinary Repairs.	Amount.
\$ cts.		\$ cts.	\$ cts.	\$ cts.
3,502 67	Engineer's salary, Clerks, office and travelling expenses	7,756 37	.....	7,756 37
149,768 97	Wages in repairing roadway, fences and semaphores	136,647 54	27,483 32	164,130 86
80,522 04	Rails, chairs and spikes	71,020 69	181,701 50	252,722 19
27,703 72	Sleepers	28,214 83	.....	28,214 83
25,516 41	Timber and lumber for repairs to bridges, cattle guards, crossings, &c.	7,789 54	5,763 72	13,553 26
5,142 44	Repairs to wharves	2,272 35	.....	2 272 35
29,556 23	Repairs to buildings	21,320 26	1,556 00	22,876 26
16 176 62	Repairs to snow ploughs, flanges and tools ..	11,574 08	30 31	11,604 39
36,355 53	Clearing ice and snow	9,812 48	.....	9,812 48
5,863 52	Miscellaneous	661 80	3 75	665 55
380,108 15		297,069 94	216,538 60	513,608 54

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

STATION EXPENSES.—(ABSTRACT 4).

Previous year.		Amount.
\$ cts.		\$ cts.
65,119 81	Salaries and wages of Station Masters, Agents, Clerks, Telegraph Operators, Station Baggage Masters, Yardmasters, Switchmen, Watchmen and Laborers	85,422 09
22,390 39	Fuel, oil, light, stationery, tickets and other incidental expenses	32,665 20
7,816 81	Miscellaneous .....	.....
95,327 01		118,087 29

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

GENERAL CHARGES.—(ABSTRACT 5.)

Previous year.		Amount.
\$ cts.		\$ cts.
	General Superintendent's and proportion of Assistant Superintendent's salaries, Clerks', office and travelling expenses.....	11,117 43
	Division Superintendents' and Train Despatchers' salaries, office and travelling expenses.....	10,668 01
32,551 89	Proportion of General Freight Agent's salary, Clerks', office and travelling expenses.....	3,303 05
	Accountant's salary, Clerks', office and travelling expenses.....	4,032 69
	Auditor's salary, Clerks', office and travelling expenses.....	6,155 38
	Paymaster's and Cashier's salaries, Clerks', office and travelling expenses.....	7,606 99
11,353 01	Advertising.....	14,931 30
9,271 06	Damages to men, animals and goods, and accidents to plant.....	20,442 22
5,933 67	Pictou Ferry.....	6,685 93
3,728 19	Telegraph expenses (not including pay to Operators).....	3,026 51
1,820 32	Accident insurance.....	4,095 10
	Storm damages, Point du Chene and Pictou Landing, in August, 1873.....	11,366 53
4,307 05	Miscellaneous.....	2,197 12
9,535 30	Fire at Shediac.....	36 33
		105,664 59
	Less—Received for insurance on buildings destroyed by fire at Shediac.	1,500 00
78,500 49		104,164 59

THOMAS FOOT,
Accountant.

INTERCOLONIAL RAILWAY.

STATEMENT showing the Value of the Stock of Stores on hand at the various Depôts on the 30th June, 1874.

	\$ cts.	\$ cts.
Halifax.....	73,275 82	
Richmond (mechanical).....	13,349 81	
		86,625 63
Truro do.....		2,184 13
Pictou Landing do.....		3,245 82
Stellarton do.....		489 73
Point Du Chene do.....		55 01
Moncton.....		74,859 13
Saint John.....	7,861 49	
Saint John (mechanical).....	7,572 57	
		15,424 06
Stationery and tickets.....		12,148 30
Track material.....		141,863 64
Fuel.....		46,220 94
Total.....		381,757 49

Moncton, N.B., 30th June, 1874.

D. LEISHMAN,
For General Storekeeper.

INTERCOLONIAL RAILWAY.

MONTHLY STATEMENT of Receipts for Year ending 30th June, 1874.

Months.	Passengers.		Freight.		Mails and Sundries.		Total.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.
July	35,403	88	37,802	20	7,984	81	81,190	89
August	36,902	61	33,706	50	7,307	18	77,916	29
September	38,793	14	38,089	54	7,233	15	84,115	83
October	35,017	90	47,280	21	12,151	40	94,449	60
November	27,126	69	43,900	68	5,489	89	76,517	26
December	26,993	72	40,717	07	2,710	68	70,421	47
January	22,558	36	30,433	72	1,735	97	54,728	05
February	16,897	66	28,647	68	2,447	88	47,993	22
March	24,546	72	41,134	00	2,265	60	67,946	32
April	25,595	68	41,903	60	2,110	67	69,609	95
May	30,692	02	43,261	02	2,993	27	76,946	31
June	33,367	43	44,085	92	14,141	63	91,594	98
Totals	1874... 353,895 90		470,962 14		68,572 13		893,430 17	
	1873... 275,520 48		396,049 41		31,888 37		703,458 26	

E. & O. E.

Moncton, N.B., 30th June, 1874.

J. J. WALLACE,

Auditor.

INTERCOLONIAL RAILWAY.

MONTHLY STATEMENT OF EXPENSES.

Months.	Locomotive Power.		Car Expenses.		Maintenance of Way and Works.		Station Expenses.		General Charges.		Total.	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
1873.												
July	28,675	74	18,254	07	18,664	85	7,618	26	6,331	15	79,574	07
August	26,866	64	19,477	97	15,890	09	8,584	04	5,255	81	76,074	53
September	27,055	39	16,792	90	76,353	08	8,119	78	11,812	87	140,134	03
October	28,740	12	18,285	23	190,552	36	9,177	00	0,370	37	288,134	38
November	26,681	26	17,121	09	92,047	85	9,539	44	7,180	03	122,570	57
December	28,854	09	19,168	63	34,436	93	11,302	83	9,340	20	103,106	68
1874.												
January	29,104	71	20,713	50	13,902	53	9,783	37	9,482	54	82,956	74
February	26,300	00	19,478	05	16,525	20	9,913	47	4,880	48	77,106	20
March	25,290	03	25,376	04	19,871	93	8,825	80	9,013	36	83,907	13
April	24,176	45	21,782	66	18,065	12	9,179	29	9,504	84	83,302	36
May	24,758	03	20,467	38	18,948	72	9,065	53	9,407	80	82,647	46
June	22,732	97	29,326	42	27,719	88	17,278	47	11,978	24	109,035	98
	319,248	03	246,441	63	513,608	54	118,087	29	104,164	59	1,301,550	08

E. & O. E.

Moncton, N.B. 20th June, 1874.

THOMAS FOOT,

Accountant.

INTERCOLONIAL RAILWAY.

PASSENGER STATEMENT.

Months.	LOCAL.		THROUGH.		BOTH.		
	Number.	Mileage.	Number.	Mileage.	Number.	Mileage.	
July	56,645	1,492,175	2,807	380,419	59,452	1,872,594	
August	60,241	1,704,133	3,853	472,160	64,094	2,176,293	
September	95,196	2,031,971	3,070	440,488	98,266	2,472,459	
October	48,274	1,419,594	2,728	510,137	51,002	1,929,731	
November	41,980	1,201,881	2,014	326,825	43,994	1,528,706	
December	42,026	1,358,588	1,222	231,399	43,248	1,589,987	
January	38,045	920,744	2,358	288,849	40,403	1,209,593	
February	28,211	798,246	549	108,370	28,760	906,616	
March	40,429	1,126,580	1,813	305,173	42,242	1,431,753	
April	41,838	1,044,713	2,741	316,665	44,579	1,361,378	
May	51,644	1,266,950	2,655	409,064	54,299	1,676,014	
June	52,927	1,658,471	3,096	224,059	56,023	1,882,530	
Totals.....	1874..	597,456	16,024,046	28,906	4,013,608	626,362	20,037,654
	1873..	444,824	11,982,487	20,326	2,636,868	465,150	14,619,355

E. & O. E.

Moncton, N.B., 30th June, 1874.

J. J. WALLACE,

Auditor.

INTERCOLONIAL RAILWAY.

FREIGHT STATEMENT.

Months.	LOCAL.		THROUGH.		BOTH.		
	Tons.	Mileage.	Tons.	Mileage.	Tons.	Mileage.	
July	35,891	1,084,650	2,717	298,374	38,608	1,383,024	
August	31,947	1,045,342	2,158	224,189	34,105	1,269,531	
September	31,770	1,050,343	2,657	316,097	34,427	1,366,440	
October	39,515	1,427,332	3,201	415,876	42,716	1,843,208	
November	32,341	1,196,807	3,231	382,809	35,572	1,579,616	
December	26,356	1,924,418	1,354	172,165	27,710	2,096,583	
January	18,703	1,277,321	844	106,086	19,547	1,383,407	
February	15,956	1,033,173	997	123,351	16,953	1,156,524	
March	25,878	1,717,382	1,080	142,360	26,958	1,859,742	
April	26,962	1,484,513	1,868	266,037	28,830	1,750,550	
May	32,159	1,268,519	2,623	307,929	34,782	1,576,448	
June	46,263	1,408,173	2,381	193,772	48,644	1,601,945	
Totals.....	1874..	363,741	15,917,973	25,111	2,949,045	388,852	18,867,018
	1873..	309,842	11,876,767	23,104	2,482,766	332,946	14,359,523

E. & O. E.

Moncton, N.B., 30th June, 1874.

J. J. WALLACE,

Auditor.

INTERCOLONIAL RAILWAY.

COMPARATIVE STATEMENT FOR FIVE YEARS.

Year.	Miles in Operation.	Receipts.	Passengers.		Freight.	
			Number.	Mileage.	Tons.	Mileage.
1870	272	471,245 09	426,594	12,419,415	224,013	8,593,502
1871	289	565,713 52	451,232	13,113,600	301,317	11,996,615
1872	278	622,900 56	462,223	13,123,495	341,171	17,520,249
1873	311	703,458 26	465,150	14,619,355	332,946	14,359,523
1874	339	893,430 17	626,362	20,037,654	388,852	18,867,018

E. & O. E.

Moncton, N.B., 30th June, 1874.

J. J. WALLACE,
Auditor.

INTERCOLONIAL RAILWAY.

STATEMENT showing the Business and Expenses of the several Stations.

Stations.	Number of Passengers, 1874.			Tons of Freight, 1874.			Station Expenses, 1874.		
	Inward.	Outward.	Per Cent.	Inward.	Outward.	Per Cent.	Amount.	Per Cent.	
							£	cts.	
Richmond	63,174	59,315	9.78	54,509	17,482	9.25	20,286	26	17.18
Bedford	8,822	10,283	1.53	921	275	.60	709	00	.80
Windsor Junction	6,339	3,533	1.79	9,670	1,483	1.44	945	90	.60
Wellington	30	62	.01	371	5	.04	707	22	.59
Enfield	1,882	3,822	.38	1,860	1,166	.35	651	89	.55
Elmsdale	4,466	4,317	.70	1,972	1,888	.49	653	38	.55
Milford	1,523	1,640	.25	308	996	.16	586	88	.49
St. Hubernacadie	10,737	12,261	1.84	4,821	3,071	1.01	1,538	77	1.33
St. Steviacke	3,030	3,447	.82	2,599	1,209	.48	762	14	.63
Brookfield	5,714	5,727	.92	1,421	2,183	.46	720	00	.61
Truro	30,573	28,996	4.75	23,019	6,982	3.87	6,531	68	5.53
Valley	335	972	.10	54	485	.07	730	20	.62
Riversdale	1,453	1,391	.23	461	1,154	.20	818	94	.69
West River	2,466	2,002	.36	505	1,896	.30	757	44	.64
Glenarry	2,680	2,596	.42	178	1,201	.17	602	76	.51
Hopewell	4,694	4,708	.75	915	721	.21	717	02	.60
Stellarton	8,389	8,746	1.37	4,362	128,970	17.28	1,694	03	1.44
New Glasgow	16,834	17,676	2.75	10,041	10,659	2.66	1,824	54	1.54
Pictou Landing	11,869	11,078	1.83	108,273	9,394	14.73	6,201	20	5.34
Pictou	19,389	19,227	3.10	2,682	1,519	.54	1,406	77	1.19
De Bert	1,567	2,697	.35	584	859	.18	867	59	.73
Londonderry	5,126	2,951	.82	9,259	708	1.28	1,347	14	1.14
Wentworth	2,963	2,951	.48	953	627	.20	1,016	49	.86
Greenville	1,291	1,206	.20	463	1,278	.22	1,139	46	.80
Thomson	2,552	1,817	.35	544	922	.18	1,264	24	1.07
Oxford	979	1,314	.18	422	186	.07	685	80	.58
River Philip	2,634	1,861	.36	1,066	1,081	.27	871	01	.74
Athol	3,521	3,292	.55	996	396	.17	1,211	38	1.03
Maccan	3,148	3,116	.50	800	282	.13	917	01	.78
Annerss.	13,136	14,778	2.23	5,758	2,752	1.09	2,322	21	1.97
Anlac	3,197	2,702	.48	951	681	.21	969	80	.82
Sackville	8,422	8,397	1.34	2,769	2,361	.66	1,106	68	.94
Borchester	4,355	4,601	1.51	2,906	3,384	.42	1,101	68	.93

INTERCOLONIAL RAILWAY.

MECHANICAL SUPERINTENDENT'S OFFICE,
 Moncton, August 1st, 1874.

SIR,—I beg to submit a Report of the operations of the Mechanical Department for the year ending 30th June, 1874.

Appended hereto will be found the following statements :—

- No. 1—Shows the number of locomotives and the various classes of cars.
- No. 2—Shows the number and description of locomotives on the line.
- No. 3—Shows the performance and condition of each locomotive.
- No. 4—Is an abstract of Locomotive Returns.
- No. 5—Is a monthly statement of the cost of locomotive power.
- No. 6—Shows the yearly and total Car mileage.

On reference to Statement No. 1, it will be seen that sixteen locomotives, twenty-five box freight cars, and four hundred and forty-four hopper coal cars have been placed on the railway during the year ; and that two first class and two second-class passenger cars, twenty-one box freight cars, four stock, nine platform and one hopper coal car have been rebuilt. It will further be noticed that eight first-class, three second-class, fifteen box freight, nine stock, and eighteen platform cars were condemned, or being rebuilt, at the close of the year.

Statement No. 3 shows that the locomotives have received eight steel driving-wheel tires, one hundred and fifty screw steel tired-wheels, seventy-two chilled wheels, twenty-seven axles and thirteen injectors, and that fourteen have been painted.

The miles run by Locomotives were.....	1,057,333
do by Cars.....	6,765,817
do by Snowploughs.....	3,028
The cost of Locomotive Power was.....	\$319,248 03

The cost of repairs to Cars was as follows :—

Passenger Cars.....	\$71,894 96
Postal, Baggage and Express.....	7,648 97
Freight Cars and Vans.....	87,440 82
Total.....	\$166,984 75

The cost of locomotive power per 100 miles run by engines was \$30.19 ; and per 100 miles run by cars \$4.71.

The cost of repairs to cars per 100 miles run by engines was \$15.79 ; and per 100 miles run by cars \$2.46.

Oil and waste for packing cars per 100 miles run by engines, cost 62 cts. and per 100 miles run by cars 9 cts.

The cost of repairs to the various classes of cars per 100 miles run by them, was as follows :—

Passenger Cars.....	\$4 93
Postal, Express and Baggage Cars.....	1 32
Freight Cars and Vans.....	1 85

Since December last a monthly sheet has been issued shewing the miles run, the consumption and averages of stores and fuel, and the work done by engines. This effected a considerable reduction in the consumption of fuel and stores.

I have the honor to be, Sir,

Your obedient servant

H. A. WHITNEY,
Mechanical Superintendent.

LEWIS CARVELL, Esq.,
 General Superintendent,

STATEMENT shewing the number of Locomotives, and of the various classes of Cars on the 1st July, 1873, and the 30th June, 1874, respectively.—(M. I.)

PARTICULARS.	THE VARIOUS CLASSES OF CARS.											Total.
	Locomotives.	First Class.	Second Class.	Postal and Smoking (Combined).	Express and Baggage (Combined).	Conductors' Vans.	Box Freight.	Stock.	Hay.	Platform.	Hopper.	
On hand July 1st, 1873, serviceable	52	35	21	9	10	5	197	39	9	569	211	1,105
do do condemned	0	2	5	0	0	0	26	4	0	9	1	47
Total on Record July 1st, 1873	52	37	26	9	10	5	223	43	9	578	212	1,152
Bought and charged to Construction	*10	0	0	0	0	0	0	0	0	0	344	344
Received from Intercolonial Railway Commissioners	6	0	0	0	0	0	25	0	0	0	100	125
Total on Record 30th June, 1874	68	37	26	9	10	5	248	43	9	578	656	1,621
Condemned Cars on hand or being rebuilt 1st July, 1873	0	2	5	0	0	0	26	4	0	9	1	47
Condemned since	0	8	0	0	0	0	10	9	0	18	0	45
Less Cars rebuilt	0	10	5	0	0	0	36	13	0	27	1	92
Cars not yet rebuilt including those in progress	0	2	2	0	0	0	21	4	0	9	1	39
In use or receiving repair	68	8	3	9	10	5	15	9	0	18	0	53
Total on Record 30th June, 1874	68	29	23	9	10	5	233	34	9	360	656	1,568

First Class includes one Pay Car and one First Class Smoking and Baggage combined. Second Class includes thirteen Second Class and Smoking combined, and ten second Class and Baggage combined. *Three Locomotives received in May, 1873, were also paid for this year and charged to construction.

NUMBER and Description of Locomotives on Line (M. 2.)

No.	Received on Line.	Builder.	Size of Cylinders.		Number and Size of Drivers.		Number of Truck Wheels.		Capacity of Tank in Gallons.	Remarks.	Total Mileage.
			Diameter.	Stroke.	Number.	Diameter.	Engine.	Tender.			
1	June 1854	Boston Locomotive Works	17	Ins.	4	5	4	8	1,846	Inside connected	152,874
2	June 1854	do	17	20	4	5	4	8	1,846	do	114,180
3	January 1858	do	14	22	4	5	4	8	1,689		175,542
4	December 1857	do	14	20	4	5	0	4	1,232	Shunter	177,145
5	January 1858	do	14	22	4	5	4	8	1,589		235,173
6	December 1857	Neilson & Co.	16	21	4	5	4	8	1,700		197,076
7	January 1858	do	16	21	4	5	4	8	1,700		209,818
8	July 1858	Portland Co.	14	22	4	5	4	8	1,950		315,226
9	July 1858	do	16	22	4	5	4	8	1,700		270,012
10	August 1858	Neilson & Co.	16	21	4	5	4	8	1,700		207,114
11	August 1858	do	16	21	4	5	4	8	1,700		205,049
12	October 1858	Portland Co.	16	22	4	5	4	8	1,950		232,485
13	December 1858	do	14	22	4	5	4	8	1,700		264,343
14	February 1859	do	16	22	4	5	4	8	1,950		276,242
15	November 1858	Neilson & Co.	16	21	4	5	4	8	1,700		155,135
16	December 1858	do	16	21	4	5	4	8	1,700		161,063
17	April 1859	do	16	21	4	5	4	8	1,700		136,197
18	May 1859	do	16	21	4	5	4	8	1,700		133,800
19	August 1859	do	16	21	4	5	4	8	1,700		182,204
20	August 1859	do	16	21	4	5	4	8	1,700		125,516
21	December 186	Canadian Engineering Co.	15	22	4	5	4	8	1,900		91,375
22	May 1867	do	15	22	4	5	4	8	1,900		131,170
23	May 1867	do	15	22	4	5	4	8	1,900		147,140
24	June 1869	do	15	22	4	5	4	8	1,900		113,658
25	July 1869	do	15	22	4	5	4	8	1,900	Six-wheeler	79,158
26	June 1870	Grant Locomotive Works	18	24	6	4	4	8	1,950		35,677
27	December 1872	Danforth	18	24	6	4	4	8	1,950	Six-wheeler	27,484
28	March 1873	Grant	18	24	6	4	0	4	1,100		20,769
29	May 1873	Baldwin	14	22	4	4	4	8	1,861	Shunter	185,113
30	June 1858	Boston	15	22	4	4	4	8	1,861		206,709
31	August 1858	Fleming & Humbert	14	22	4	4	4	8	1,632		272,231
32	June 1859	do	15	22	4	4	4	8	1,861		

33	August	1859	do	15	22	4	5	4	8	1,861	236,712
34	July	1860	do	15	22	4	5	4	8	1,861	261,506
35	November	1860	do	15	22	4	5	4	8	1,861	266,230
36	July	1861	do	15	22	4	5	4	8	1,861	247,242
37	July	1868	do	16 ¹	24	4	5	4	8	1,861	99,912
38	August	1868	do	16 ²	24	4	5	4	8	2,000	49,502
39	February	1871	Portland Co.	16	24	4	5	4	8	1,400	53,310
40	December	1870	do	14	22	4	5	4	8	1,980	56,466
41	December	1871	Dübs & Co.	16	22	4	5	4	8	1,980	60,810
42	December	1871	do	16	22	4	5	4	8	1,980	55,973
43	December	1871	do	16	22	4	5	4	8	1,980	61,495
44	December	1871	do	16	22	4	5	4	8	1,980	40,514
45	January	1873	do	16	22	4	5	4	8	1,980	37,273
46	January	1873	do	16	22	4	5	4	8	1,980	47,760
47	January	1873	do	16	22	4	5	4	8	1,980	40,292
48	February	1873	do	16	22	4	5	4	8	1,980	17,079
49	November	1873	do	16	22	4	5	4	8	1,980	20,517
50	November	1873	do	16	22	4	5	4	8	1,980	18,284
51	November	1873	do	16	22	4	5	4	8	1,980	19,663
52	December	1873	do	16	22	4	5	4	8	1,980	14,511
53	December	1873	do	16	22	4	5	4	8	1,980	20,263
56	September	1872	W. Montgomery	16	22	4	5	4	8	1,980	17,317
57	February	1873	do	16	22	4	5	4	8	1,980	23,912
58	March	1873	do	16	22	4	5	4	8	1,980	3,954
59	October	1873	do	16	22	4	5	4	8	1,980	7,155
60	March	1874	Portland Co.	18	24	6	4	2	8	2,000	7,814
61	April	1874	do	18	24	6	4	2	8	2,000	2,105
62	May	1874	do	18	24	6	4	2	8	2,000	11,454
63	May	1874	do	18	24	6	4	2	8	2,000	3,193
64	March	1874	do	16	24	4	5	4	8	2,000	90
65	March	1874	do	16	24	4	5	4	8	2,000	30,632
66	April	1874	do	16	24	4	5	4	8	2,000	32,373
67	May	1873	do	16	24	4	5	4	8	2,000	37,005
68	May	1873	do	16	24	4	5	4	8	2,000	26,956
69	August	1873	do	16	24	4	5	4	8	2,000	19,224
70	September	1873	do	16	24	4	5	4	8	2,000	23,039
71	November	1873	do	16	24	4	5	4	8	2,000	21,968
72	February	1874	do	16	24	4	5	4	8	2,000	12,968

7,434,052

Total Mileage

Performance and Condition of each Locomotive (M 3.)

No. of Engine.	Mileage from 30th June, 1873, to 30th June, 1874.	Nature of Service.	Running Expenses.	Cost of Repairs.	Present Condition.	REMARKS.
			cts.	cts.		
1	15,577	Shunting Moncton.	2,497 34		Unserviceable.	Condemned.
2	18,425	Passenger and Specials, W. D.	2,955 07	1,332 71	Fair	Received 8 steel-tired wheels and running repairs.
3	13,284	Shunting, St. John.	1,950 05	1,412 94	Fair	Received 4 steel driving tires, and overhauled, December, 1873.
4	4,674	Shunting, W. D. Ballast, I.C.R.	748 44	2,121 63	Good	Received 4 steel driving tires, and has been painted.
5	23,560	Shunting, Richmond	3,267 37	1,905 36	Fair	Needs general repairs. Received 4 steel-tired wheels and 1 injector.
6	7,492	Passenger and Specials, W. D.	1,719 44	1,064 29	Bad	Has received considerable repairs.
7	31,817	Passenger, E. D.	3,846 53	2,866 74	Fair	Received 8 steel-tired and 8 chilled wheels, and 1 injector.
8				89 06	Unserviceable.	Condemned.
9	14,553	Freight and Specials, E. D.	2,819 74	2,579 21	Fair	Received 4 steel-tired and 2 chilled wheels, and 1 injector. Painted.
10	12,389	Freight and Specials, E. & C. D.	2,728 60	4,035 73	Fair	Received set brass flues, new smoke stack, &c. Painted.
11	7,539	Shunting and Freight, E. D.	1,209 14	3,531 52	Good	Received 4 steel-tired wheels, 2 truck axles, 1 injector, &c.
12	16,438	Shunting, Pictou Landing	2,124 13	241 30	Under Repair	Light engine—not worth much repairs.
13	17,587	Shunting and Freight, E. D.	2,987 45	2,072 97	Fair	Received 8 steel-tired wheels, 8 chilled wheels, and 8 truck axles.
14	20,222	Coal and Freight, E. D.	4,047 43	638 77	Under Repair	Cylinders and running gear receiving repairs.
15	17,218	Ballast and Freight, C. D.	3,280 33	1,049 49	Good	Painted, and received 1 injector, smoke stack, &c.
16	13,662	Ballast, C. D., Shunting, E. D.	2,506 30	1,963 66	Good	Painted, and received 1 injector, smoke stack, &c.
17	15,719	Shunting and Freight, E. D.	2,715 47	581 11	Bad	Received light repairs.
18	9,951	Freight, E. D.	2,081 69	4,933 09	Good	Painted, boiler thoroughly repaired, set brass tubes put in, &c.
19	3,330	Ballast, C. D., Freight W. D.	770 51	2,826 99	Bad	Received thorough repairs at Moncton shops.
20	17,360	Express Trains, E. P.	2,819 14	1,285 34	Fair	Received 4 steel-tired wheels, 2 truck axles, and running repairs.
21	12,891	Passenger, E. & C. D.	2,131 92	852 69	Under Repair	Received 4 steel-tired wheels, and 2 chilled wheels, and 1 truck axle.
22	16,518	Passenger, E. D.	2,731 24	1,326 72	Bad	Received 4 steel-tired wheels, and 2 chilled wheels, and 3 truck axles.
23	14,900	Passenger, E. D.	2,272 70	1,551 86	Good	Received 4 steel-tired wheels, 1 truck axle, smoke stack, &c.
24	16,264	Passenger, Pictou Branch	2,916 75	2,355 78	Good	Received 4 steel-tired wheels, 1 truck axle, smoke stack. Painted.
25	10,876	Ballast, C. D., Coal, E. D.	2,440 75	1,364 02	Under Repair	Received 4 chilled wheels, running repairs, &c. Painted.
26	20,254	Freight, E. D.	4,803 72	2,943 74	Good	Received 21 chilled wheels and 6 truck axles. Thoroughly repaired.
27	22,132	Coal, E. D.	4,958 89	1,228 55	Fair	Received 8 steel-tired wheels.
28	18,576	Shunting, St. John	2,595 86	235 91	Good	Received light repairs.
29	130	Shunting, Moncton	22 55	6,764 13	Good	Received 1 injector, new fire box, &c. Being painted.
30						At Restigouche.
31	10,943	Passenger, W. D.	1,785 13	2,551 98	Bad	Received 4 steel-tired wheels, Needs general repairs.
32	8,555	Shunting and Specials, C. D.	1,462 95	3,381 92	Fair	Received 1 injector. Will need thorough repairs shortly.

34	Passenger, W. D.	20,757	3,210 43	Fair	Received 4 chilled wheels, smoke stack, &c.
35	Passenger, W. D.	16,375	2,209 98	Good	Received 2 steel-tired wheels. Boiler tested to 200 lbs.
36	Passenger, W. D.	9,132	1,609 04	Good	Received 4 steel-tired and 2 chilled wheels. Painted.
37	Ballast and Specials, C. D.	16,228	2,704 66	Under Repair	New stays and new tubes being put in.
38	Shunting and Freight, C. D.	9,125	1,530 64	Good	Painted, and put in good running order.
39	Freight, C. D.	14,266	2,412 84	Good	Received 6 steel-tired wheels, new smoke stack. Painted.
40	Ballasting, L. C. R.	9,979	2,212 84	Good	Painted. Fires turned off and received running repairs.
41	Ballast and Freight, C. D.	15,653	2,925 62	Good	Received new smoke stack, tires turned off, &c.
42	Freight, C. D.	18,824	3,087 28	Good	Received 2 steel-tired wheels, 1 injector, &c.
43	Freight, W. D., Ballast I. C. R.	23,021	4,424 52	Good	Received 4 steel-tired wheels, and 2 chilled wheels.
44	Freight, W. D.	27,766	4,869 53	Good	Received 2 chilled wheels. Needs thorough repair.
45	Freight, W. D.	28,055	5,186 44	Bad	Received 3 steel-tired wheels, 1 injector. Receiving general repairs.
46	Freight, C. D.	24,387	4,861 53	Under Repair	Requires thorough repairing.
47	Freight, C. D.	20,162	5,242 88	Under Repair	Requires thorough repairing.
48	Passenger and Freight, C. D.	27,808	4,963 50	Good	Received slight repairs. In good running order.
49	Freight and Coal, C. D.	17,079	3,857 01	Good	Received 3 steel-tired wheels, 2 truck axles. Rec'd on line, Nov., 1873.
50	Freight, E. D.	20,517	3,267 06	Good	Received 8 steel-tired wheels. Received on line, November, 1873.
51	Freight, E. D.	18,284	3,480 01	Good	Received 4 steel-tired wheels. Received on line, December, 1873.
52	Mixed, E. D.	19,653	3,544 93	Good	Received 8 steel-tired wheels. Received on line, December, 1873.
53	Express, E. D.	14,511	2,137 19	Good	Received 8 steel-tired wheels, 1 truck axle, and 1 injector.
56	Shunting and Freight, E. D.	9,479	1,516 35	Good	Received running repairs, new smoke stack, &c.
57	Specials and Shunting, E. D.	9,373	2,224 98	Fair	Received 8 steel-tired wheels, and 6 chilled wheels.
58	Freight, E. D.	19,752	4,068 78	Fair	Received on line, October, 1873. Damage, by running off track at Memramook. Cost of repairs charged to snow-storm expenses.
59	Freight, E. D.	3,954	140 10	Good	Received on line, March, 1874.
60	Freight, W. D.	7,155	1,231 18	Good	Received on line, March, 1874.
61	Freight, W. D.	7,844	1,516 51	Good	Received on line, May, 1874.
62	Freight, W. D.	2,105	413 72	Good	Received on line, May, 1874.
63	Express, C. D.	11,454	1,518 82	Good	Received on line, March, 1874.
64	Express, W. D.	3,193	452 56	Good	Received on line, March, 1874.
65	Express, W. D.	30	23 77	Good	Received on line, April, 1874.
66	Express, W. D.	26,228	3,859 97	Good	Received light repairs, 2 steel-tired and 3 chilled wheels.
67	Express, W. D.	28,463	4,053 03	Good	Received 2 steel-tired and 1 chilled wheel.
68	Express, C. D.	33,408	5,062 06	Good	Received 2 steel-tired and 1 chilled wheel.
69	Express, C. D.	26,576	3,950 72	Good	Received on line, August, 1873. 1 chilled wheel put under.
70	Passenger and Freight, C. D.	19,224	3,315 41	Fair	Received 4 steel-tired wheels. Needs slight repairs.
71	Freight, W. D.	20,039	3,230 93	Fair	Received 4 steel-tired wheels.
72	Express, E. D.	12,968	1,730 41	Good	Received ordinary running repairs.
Totals..					
					1,057,333
					182,013 13
					106,447 98

ABSTRACT from Locomotive Returns (M. 4.)

Months.	Hours in Steam.	Mileage.			Consumption of				Average Mileage.			Consumption per 100 miles run.			
		Locomotive.	Cars.	Snow-ploughs.	Coal, in bushels.	Oil, in pints.	Tallow, in pounds.	Waste, in pounds.	Miles run to one hour in steam.	Cars to one mile run.	Snow-ploughs to one mile run.	Coal, in bushels.	Oil, in pints.	Tallow, in pounds.	Waste, in pounds.
July.....	12,609	96,522	632,839	.....	62,028	5,899	4,106	2,153	7.81	6.42	.....	62.96	5.98	4.16	2.18
August.....	12,390	95,262	585,003	.....	59,363	5,530	3,929	2,091	7.68	6.14	.....	62.31	5.80	4.12	2.19
September.....	12,050	94,599	604,077	.....	61,392	5,840	3,994	2,114	7.85	6.38	.....	64.89	6.17	4.22	2.23
October.....	13,620	103,987	654,483	.....	73,567	6,271	4,274	2,297	7.63	6.29	.....	70.74	6.03	4.11	2.20
November.....	12,111	88,746	577,802	.....	64,592	5,242	3,635	2,020	7.32	6.51	.....	72.78	5.90	4.09	2.27
December.....	12,767	90,108	537,278	423	70,557	5,508	3,941	2,040	7.05	5.96	.0046	78.30	6.11	4.37	2.26
January.....	10,902	80,978	479,998	482	55,522	4,511	3,350	1,683	7.42	5.92	.0059	68.56	5.57	4.13	2.07
February.....	9,993	74,472	411,658	2,089	55,315	3,407	2,698	1,345	7.45	5.52	.0280	74.28	4.57	3.62	1.80
March.....	10,482	81,419	557,604	.....	54,521	3,629	3,072	1,605	7.62	6.84	.....	66.96	4.45	3.77	1.97
April.....	10,408	78,559	549,146	.....	48,869	2,977	2,618	1,617	7.54	6.99	.....	62.20	3.79	3.33	2.06
May.....	11,000	81,233	576,125	34	46,597	2,980	2,742	1,461	7.38	7.09	.0004	57.36	3.66	3.37	1.79
June.....	12,511	89,448	699,804	.....	51,567	3,451	3,144	1,655	7.15	6.70	.....	57.65	3.85	3.51	1.85
Totals and Yearly Averages	141,043	1,057,333	6,765,817	3,028	703,890	55,245	41,503	22,081	7.48	6.39	.0028	66.57	5.22	3.92	2.06

MONTHLY STATEMENT of the Cost of Locomotive Power from 30th June, 1873 to 30th June, 1874, (M. 5.)

Months.	Miles run by Engines.	Cost.							Averages per 100 miles run by Engines.							
		Drivers, Fire-men's and Cleaners' Wages.	Fuel.	Oil, Tallow, Waste and Small Stores.	Repairs to Engines, Tenders and Tools.	Water, including Pump and Tank repairs.	Miscellaneous, including expenses of office and engine houses.	Total.	Drivers, Fire-men's and Cleaners' Wages.	Fuel.	Oil, Tallow, Waste and Small Stores.	Repairs.	Water.	Miscellaneous.	Total.	
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
July	98,522	5,048 76	10,122 52	1,856 21	9,377 65	1,286 50	1,082 92	28,784 56	5 12	10 27	1 89	9 52	1 30	1 11	29 21	
August	95,262	5,027 33	9,647 40	1,763 98	8,633 80	953 69	895 08	26,921 88	5 28	10 12	1 86	9 06	1 00	0 93	28 25	
September	94,599	4,874 47	9,640 24	1,787 05	8,583 39	1,476 47	750 18	27,109 80	5 15	10 19	1 90	9 07	1 56	0 79	28 66	
October	103,987	5,047 67	11,446 29	1,929 17	8,340 58	1,253 37	973 20	28,990 28	4 85	11 00	1 86	8 02	1 20	0 93	27 86	
November	88,746	4,986 53	10,072 98	1,597 40	7,910 06	945 44	1,964 03	26,776 44	5 62	11 35	1 81	8 90	1 07	1 42	30 17	
December	90,108	4,787 63	10,691 69	1,717 49	9,546 04	1,105 98	1,173 38	29,022 21	5 31	11 86	1 91	10 59	1 22	1 30	32 19	
January	80,978	4,540 03	8,408 74	1,389 00	12,180 68	985 62	1,542 94	29,047 01	5 60	10 38	1 72	15 04	1 09	1 90	35 73	
February	74,472	4,379 30	8,354 32	1,111 53	10,062 80	746 75	1,578 88	26,233 58	5 88	11 22	1 50	13 51	1 00	2 12	35 23	
March	81,419	4,317 64	8,248 35	1,235 21	9,425 25	611 60	1,363 07	25,201 12	5 30	10 13	1 52	11 57	0 75	1 67	30 94	
April	78,559	4,285 01	7,385 78	1,099 49	9,467 19	557 82	1,196 04	23,991 33	5 45	9 40	1 41	12 05	0 71	1 52	30 54	
May	81,233	4,546 48	7,127 36	1,123 25	8,138 76	2,633 33	977 80	24,546 98	5 60	8 77	1 39	10 01	3 24	1 20	30 21	
June	89,448	4,723 72	8,167 51	1,308 89	6,658 07	622 61	1,142 04	22,622 84	5 29	9 13	1 47	7 44	0 69	1 28	25 30	
Yearly Totals } Averages.	1,057,333	56,564 57	109,313 18	17,918 67	108,322 27	13,179 18	13,950 16	319,248 03	5 35	10 34	1 69	10 24	1 25	1 32	30 19	

CAR MILEAGE (M. 6.)

Months.	First Class.	Second Class.	Express, Baggage and Postal.	Box, Hay and Cattle.	Platform and Eight wheel Coal.	Four-wheel Coal, two rated as one Platform.	Total
July.....	72,733	61,565	61,088	164,993	226,252	46,208	632,839
August.....	70,048	60,378	56,954	145,524	213,214	38,885	585,003
September.....	72,186	61,973	56,031	153,706	223,072	37,109	604,077
October.....	67,039	65,731	57,445	175,200	240,475	48,593	654,483
November.....	56,919	60,991	49,483	166,992	192,938	50,479	577,802
December.....	59,883	65,853	42,472	147,516	142,472	79,082	537,278
January.....	57,178	62,930	41,269	120,732	128,768	69,121	479,908
February.....	44,414	53,957	37,586	106,468	111,841	57,392	411,658
March.....	53,017	59,781	43,018	141,805	168,722	91,261	557,604
April.....	54,671	57,641	43,117	150,419	161,611	81,687	549,146
May.....	62,013	54,646	44,024	168,705	197,001	49,736	576,125
June.....	61,528	59,740	46,255	169,245	208,551	54,483	599,804
Total Mileage to 30th June, 1875	731,629	725,186	578,742	1,811,305	2,214,917	704,038	6,765,817
Total Mileage to date.....	3,306,164	3,315,722	2,131,064	9,256,739	8,487,965	1,313,047	27,810,701
Total Mileage to date.....	4,037,793	4,040,908	2,769,806	11,068,044	10,702,882	2,017,085	34,576,518

INTERCOLONIAL RAILWAY.

ENGINEER'S OFFICE,
MONCTON, 15th August, 1874.

SIR,—I beg to submit the following report as the result of the operations of the Road Department for the year ended 30th June, 1874.

196,044 lineal feet, or $37\frac{13}{100}$ miles of track were renewed with steel rails, weighing 56 lbs per lineal yard, and secured at their joints by fish plates and bolts.

121,013 sleepers were renewed in main line and sidings. In addition to this quantity, 14,063 were laid in new sidings hereafter enumerated, in the extension of old sidings, and in the branch lines at Sackville and Dorchester Stations.

10,510 sleepers were also laid on the Windsor Branch, including 1,280 provided for the siding leading from Newport Station to the Plaster Quarries, 3,500 feet distant.

11,626 rods of new post and board and pole fence were built, and a large quantity of old fencing was repaired.

The sum of \$11,615 $\frac{52}{100}$ was expended in ballasting various portions of the line between Truro and Richmond, and many points between Moncton and Boundary Creek have also received a supply.

At St. John the old freight house was moved to a convenient site and converted into a car shed, and tracks were laid thereto.

The wooden bridge at Salmon Creek, one mile to the eastward of Rothesay, consisting of five spans of 30 ft. each, is being replaced by a 10 feet arch culvert of stone, 96 feet long, and so soon as the masonry is finished the embankment will be formed.

At Boundary Creek an extension of 425 feet was made to the siding.

A spur siding 485 feet long has been laid at Crowson's, four miles south of Memramcook, and a tank house and tank were erected and provided with a gravitation supply.

At Cole's Island, $1\frac{1}{2}$ miles south of Sackville, a spur siding 408 feet long was laid and a freight platform was built.

A spur siding 448 feet long was laid at Evan's, five miles south of Dorchester.

At Little Forks, one mile south of Athol, a spur siding 305 feet long was laid.

At Thompson's Mills, one mile south of Spring Hill, a spur siding 416 feet long was provided.

A spur siding 529 feet long was laid at McCulloch's Road, one mile south of De Bert
19 small sheds were erected on the Central Division, between Truro and Painsec, to house the hand cars and track tools of the respective foremen.

An appropriation of \$21,000 was inserted in the estimates for rebuilding the south pier of Sackville Bridge, but in consequence of the delay which occurred, on the part of the contractor, in preparing for the work, by which the repairs were thrown late into the season, it was deemed expedient to alter the original plan (as reported to you on 18th Sept. last), and to strengthen the old pier by building heavy cutwaters of masonry at either end, in order to relieve it from the shocks it had to sustain from the immense masses of ice kept in continual motion by the tidal flow. Although there was a good deal of difficulty and risk in incorporating new and old masonry in a river, with a rise of tide of upwards of 30 feet, no alternative was left but to make the attempt, as it was considered unsafe to delay the repairs for another season, and it is satisfactory to state, that with the exception of a slight displacement of a stone at the extreme point of one of the bottom courses of the eastern cutwater, and three stones in the footing course below (caused by a heavy block of ice becoming jammed in the cofferdam, and throwing a strong current against the outer end of masonry), the work has proved successful.

A number of bridges of short spans, as well as cattle guards and beam culverts, were supplied with new stringers, and necessary repairs were made to station buildings and platforms.

The station buildings and wharf at Point du Chene were seriously damaged by the almost unprecedented storm of 25th August, 1873, and the necessary repairs have entailed a heavy outlay.

The tank house at Westcock, $3\frac{1}{2}$ miles north of Sackville, was accidentally destroyed by fire on the morning of 8th May, 1874, originated, it is believed, by a south-bound coal train. This tank was supplied by means of a hand pump, and as it is an important watering place in winter, it will be necessary to erect a new building during the present season.

The tank at Penobscuis, supplied by hand pump, was also burnt down, but a new supply has been provided by gravitation a short distance to the eastward, hereafter referred to among the works chargeable to Construction Account.

With the exception of the repairs required on the eastern and western Divisions (the old portions of the line) during the year ending 30th June, 1875, all the station buildings are in good condition.

The south abutment of the iron girder bridge over the Stewiacke River, two miles north of that station, still continues to move bodily down the river, and requires early attention; as it is now four feet off the centre.

The movement has been going on for a number of years, and is in consequence of the abutment having been built on a side hill, and on a foundation of marsh clay.

A piled foundation will be required for the new work.

Owing to the defective condition of one of the old piers of Nine Mile River Bridge at Elmsdale Station, it has been necessary to take it down, and to support the track for the present by means of timber bents.

I would recommend that the south abutment and the remaining old piers, six in number (the stone in which is also crumbling), be removed, and two iron girder spans of seventy-five feet each, supported on new masonry, be substituted.

This work could probably be extended over two years.

Attention has also been paid to the proper drainage of the worst cuttings throughout the line, and during the present season the ditches in the remaining cuttings will be cleaned out, as the benefits to be derived tend greatly to the efficient maintenance of the track.

The following works of "Construction" were executed, and are chargeable to Capital Account.

A frame building, 40 x 200 feet was erected at St. John, for a Customs' Warehouse.

A through siding, 1,305 feet in length, was laid at Moosepath.

A through siding, 1,288 feet long, was put in at Riverside.

A frame station house was erected at Quispamsis, 21 x 30 feet, and an extension of 220 feet to the through siding was made.

A combined passenger and freight house of wood, 25 x 65 feet, was erected at Nauwigewauk, and the through siding was extended 510 feet.

A combined passenger and freight house of wood, 25 x 65 feet, was erected at Passekeag, and a new through siding, 1,311 feet long, was laid.

At Bloomfield 496 feet were added to the through siding.

At Norton a through siding was laid, the total length being 1,311 feet. A small amount of grading is still required before the siding can be made available for traffic purposes.

The siding at Apohaqui was extended 452 feet.

A spur siding 1,254 feet in length was laid at Sussex, and a reservoir for the supply of water by gravitation, and of a capacity of 246,791 gallons was built.

An extension of 304 feet was made to the siding at Anagance.

A through siding 1,360 feet long was laid at Petitcoliac; a freight shed 88 x 25 feet was also erected, and the reservoir, which affords a supply of water by gravitation, was enlarged to a capacity of 600,000 gallons.

An extension of 425 feet was made to the siding at Pollet River.

At a point two miles east of Penobscuis, cast-iron pipes four inches diameter were laid, and an excellent supply of water provided by gravitation.

At Salisbury a through siding 1,337 feet long was laid.

At Moncton a three story building of brick, 50 × 50 feet, with a stone basement, was erected for general offices; twelve detached frame buildings, for the use of employees, were built; the old frame passenger house was repaired and converted into two dwellings, and the large frame building belonging to the Government was also repaired for the same purpose.

A brick oil store, 20 × 30 feet, was erected adjacent to the machine shops.

A through siding, 1,300 feet long, was laid at Painsec Junction, on the Shediac Branch.

The branch railway which connects the Memramcook River with the main line at a point one mile south of Dorchester Station, was completed, its length being 4,900 feet.

A wharf having a frontage of 200 feet on the above river, and a depth of 15 feet at high water, was built, and facilities provided for the shipment of coal brought over the railway from Spring Hill Mines a distance of 44 miles.

At Sackville a branch line, 2,600 feet long, was built to connect with the wharves on Tantamar River.

At Au-Lac the siding was extended 777 feet.

At Amherst the water supply failed, and it became necessary to secure one elsewhere. The 1½-inch wrought pipe laid at the time the road was built was taken up and cleaned, and relaid to a new source of supply.

The branch line, 4⁸/₁₀ miles long, between Spring Hill Junction and the coal fields, was completed, and sidings of an aggregate length of 6,266 feet were laid.

A frame engine shed and covered turn-table were also erected, and track scales of 60,000 lbs. capacity were provided at the junction.

The Londonderry branch was completed for a distance of 2⁸/₁₀₀ miles from the junction with the main line, and so soon as the grading is finished by the Acadia Iron Works Company, the remaining distance of 1,700 feet will be laid to their works.

An engine shed and covered turn-table of wood were constructed at the junction.

At Truro track scales of a weighing capacity of 100,000 lbs. were provided, and a brick building 15 × 20 feet, for the storage of oil, was erected.

A through siding 1,360 feet long was laid at Polly Bog.

The trestle bridge at Blackburn's meadow, two miles south of Shubenacadie, consisting of 18 spans of 20 feet each, is being filled in. A box culvert of stone, and a beam bridge 15 feet span, for a farm crossing, were built.

At Milford a through siding 1,339 feet was laid.

A combined freight and passenger house of wood was erected at Wellington, the dimensions being 25 × 65 feet.

A spur siding 295 feet long was laid at Nine Mile River, one mile south of Bedford.

At Richmond a large amount of work was performed on the deep water wharf, under construction by W. D. O'Brien, contractor.

The dimensions of this structure are 750 × 114 feet; it consists of three parallel rows of cribs, numbering 45 altogether. At this wharf there will be a total frontage of 1,538 feet, having a depth of water ranging from 10 feet to 49 feet at low tide.

On the western or inner side, a trestle work, with an elevation of 24 feet above high water, was erected, and three "shutes" were provided for the shipment of coal brought over the railway from the mines in Pictou and Cumberland counties.

A brick building, 40 × 20 feet, for the storage of oil was erected at this station, as well as a frame building, 20 × 40 feet, in which to store the castings, &c., for use of the Mechanical Department; a frame shed 16 feet 4 inches by 60 feet, for the storage of coal for locomotive use, was also erected, and a through siding, 1,027 feet long, was laid to facilitate the coal traffic.

At the following stations timber trestle work, with tracks laid thereon, were provided for the storage of coal required for the use of the inhabitants of the respective places:—

Sussex,	length of trestle work	262 feet,	length of siding	367 feet.
Moncton,	" "	286 "	" "	360 feet.
Amherst,	" "	210 "	" "	335 feet.
Shubenacadie,	" "	75 "	" "	205 feet.

Semaphore signals were provided at Moncton, Painssec, Spring Hill, and Richmond, and others at St. John, Hampton, Norton, Sussex, and Truro, are partially completed. Of the appropriation of \$4,000 for this service in the estimates for the year, the sum of \$2,178 was expended on the erection of Nunn's telegraph signal at every locking station on the main line and branches.

Five snow sheds were erected at the most exposed points between Londonderry and Folly Lake, and one immediately north of Wentworth, embracing a total length of 11,790 lineal feet.

An aggregate length of 40,100 lineal feet of snow fence was also built at various points between Truro and Painssec, on the Central Division; between Point du Chene and Boundary Creek on the Western Division; and on the Pictou Branch Eastern Division, between West River and Pictou Landing.

Although the winter of 1874 did not equal in severity that of the former year, there is little doubt that frequent and serious interruptions to traffic would have occurred but for the protection which was afforded by these sheds and fences; as it was, the marked regularity in the arrival of the trains during the winter months at the two termini almost equalled that of the summer season.

On the Pictou Branch the following works of construction were executed:—

A tank house and tank, fed by gravitation, and of a capacity of 4,700 gallons, were built at Landsburgh's summit, $1\frac{1}{2}$ miles west of West River station.

At a point $1\frac{1}{2}$ miles west of Glengarry a through siding, 800 feet long, was laid on what is known as the "New Laing" grade, to facilitate the coal traffic.

A through siding, 1,343 feet long, was provided at the junction with the Intercolonial Coal Company's branch railway, one mile west of Stellarton.

At New Glasgow and Pictou Landing through sidings of an aggregate length of 3,793 feet were laid for the accommodation of the Vale Coal Company's traffic.

A freight shed, 88 x 25 feet was erected at Shediac.

On the Windsor Branch two sidings were laid to connect with plaster quarries, one at Newport, 3,500 feet long, and the other (known as McLatchy's) 387 feet long, and four miles west of the above station.

In addition to the execution of the works herein enumerated, the daily routine of duty demanded unceasing vigilance on the part of all the employees in the track department, and it affords me pleasure to bear testimony to the energy and activity at all times displayed by them.

The heavy renewals of rails and sleepers made during the year have placed the entire road in fair running order, and forty miles of steel rail (provided for in the estimates of the current year) have further to be laid to the great improvement of the permanent way.

I have the honor to be, Sir,

Your obedient servant,

ALEX. MACNAB,

Engineer.

LEWIS CARVELL, Esq.,
General Superintendent.

(Copy.)

SAINT JOHN, N. B.

23rd November, 1874.

SIR,—I herewith enclose the Report you have asked for on the works in connection with the branch line from the Intercolonial Railway, near Gilbert's Island, to the ballast wharf.

I have the honor to be, Sir,

Your obedient servant,

(Signed.)

HENRY F. PERLEY.

Engineer in Charge.

LEWIS CARVELL, Esq.,
General Superintendent,
Intercolonial Railway, Moncton.

REPORT

On the state of works on the Branch Line, from the Main Line of the Intercolonial Railway, near Gilbert's Island, to the Ballast Wharf in the City of St. John.

The works on this branch were, at the beginning of the fiscal year ending 30th June, 1874, owing to the death of Mr. Mahony, the contractor, brought to a stand-still, and remained so until the middle of August, when Mr. Edward Faye, under a contract with the Department, commenced operations, and pushed the work forward vigorously.

During the summer of 1873, negotiations were opened with the Corporation of the City of St. John, for the purchase of a small portion of the Ballast Wharf (so called), which was deemed necessary, in addition to the lands given by the City to the Dominion Government, for the construction of a deep water wharf and terminus at the Harbor of Saint John, with large and suitable facilities for all classes of shipping. The sum offered by the Department was refused by the Corporation, who placed a value on the property far exceeding its worth; and since January last the question of a deep water terminus has remained in abeyance.

In March last, under instructions from the Department of Public Works, work through the barrack grounds was stopped, and the contractor requested fully to complete the line from the junction with the main line to Clarence Street, and to complete and render safe the crib work from Clarence to Sheffield Street.

On the 30th June, 1874, there remained about one-fifth of the work between the Junction and Sheffield Street to be completed.

(Signed,)

HENRY F. PERLEY,
Engineer in Charge.

St. John, N. B., 30th August, 1874.

STATEMENT of Averages for Fiscal Year ending 30th June, 1874.

Average miles of Railway in operation including 32 miles worked by Windsor and Annapolis Railway.....	371
Miles run by Engines.....	1,057,333
Miles run by Cars.....	6,765,817
Average trips of one Engine over whole line.....	3,119
Average trips of one Car over whole line.....	19,958
Percentage of Revenue to Gross Receipts :—	
Passenger Earnings.....	39·61
Freight Earnings.....	52·71
Other Earnings.....	7·68
Percentage of Working Expenses to the whole cost of operating :—	
Locomotive Power.....	24·53
Car Expenses.....	14·39
Maintenance.....	22·83
Renewals.....	21·18
Station Expenses.....	9·07
General Charges.....	8·00
Earnings per mile of Railway.....	\$2,635 48
Expenses per mile of Railway including Renewals.....	3,839 38
Locomotive Power per mile run.....	30 19
Car Expenses per mile run.....	17 71
Maintenance per mile run.....	28 10
Renewals per mile run.....	26 08
Station Expenses per mile run.....	11 17
General Charges per mile run.....	9 85
Total Expenses per mile run.....	123 10
Total Receipts per mile run.....	84 50
Percentage of Working Expenses to Gross Receipts :—	
Locomotive Power.....	35·73
Car Expenses.....	20·96
Maintenance.....	33·25
Station Expenses.....	13·22
General Charges.....	11·66
Renewals.....	30·86
Car Repairs, per mile run of the Cars, in cents.....	\$1 59
Car Renewals, per mile run of the Cars, in cents.....	0 87
Train Expenses, per mile run of the Cars, in cents.....	0 84
Oil, Waste, Fuel, &c., per mile run of the Cars, in cents.....	0 34
Total.....	3 64
Passengers :—	
Percentage of Local.....	95·39
Percentage of Through.....	4·61
Percentage East.....	50·52
Percentage West.....	49·48
Average miles travelled by each.....	31·99
Average Receipts per passenger, per mile, in cents.....	\$56 50
Average Receipts per passenger, per mile, in cents.....	1 76
Freight :—	
Percentage of Local.....	93·54
Percentage of Through.....	6·46
Percentage East.....	40·27
Percentage West.....	59·73
Average distance carried.....	48·52
Average Receipts per Ton.....	\$1 21
Average Receipts per Ton, per mile, in cents.....	24 96

STATEMENT OF CASUALTIES.

On the 31st July, Michael Birmingham a Brakesman on a coal train, was accidentally killed at Stellarton.

He fell between two cars which he was uncoupling, and six flat cars passed over his body. At the inquest the jury returned a verdict attributing no blame to the Railway servants.

On the 15th August, a Brakesman named Archibald met with his death at Riversdale, in the following manner:—Engine No. 10 was engaged hauling a wood train from Riversdale and in backing up to couple on to the train, the lever of the engine, from some unaccountable cause, jumped forward and started the engine suddenly against the car upon which Archibald was standing. The shock caused Archibald to fall from the car and some wood falling upon him caused his death. The jury returned a verdict of accidental death.

On the 1st September a Brakesman named McNutt was killed on No. 11 Train from Halifax to Truro, in consequence of his head coming in contact with an overhead bridge whilst standing on a box car, about one mile east of Stewiacke.

An inquest was held and the following verdict returned, viz: "That deceased came to his death from contact with the Stewiacke bridge while passing from one end of the car to the other on No. 11 train, and the jury think the E. & N. A. cars, on one of which this man was killed, should not be run on this road in the present state of the bridges, said cars being much higher than those in general use on the road; and the Jury also think that the Department should make arrangements to warn Brakemen when approaching a bridge on dark nights, as such arrangements are made elsewhere, as they do not from the evidence, think it altogether safe for persons to stand upright on any box car while passing said bridge."

Instructions have since been given, prohibiting the cars in question from being used on the Eastern Division.

On the 16th October, an Indian, name unknown, was found dead on the track near Drummond Colliery, twelve miles from Pictou, and supposed to have been run over and killed by one of the night trains. He was observed the evening before in the vicinity of the place where he was killed, under the influence of liquor, and a verdict was returned attributing no blame to the Railway servants.

On the 27th November, a man employed in the Mechanical Department at Richmon was run over by the Shunting Engine at that place and killed.

At the Coroner's inquest a verdict of accidental death was returned.

On the 8th December, at Amherst, William Noiles, a laborer, when in the act of getting up on a box car to put on a brake, fell and the car ran partially over him, causing death shortly afterwards.

A coroner's inquest was held and a verdict of accidental death was returned.

An Indian, named Joseph Paul, was killed near the East Switch at Londonderry by Train No. 21, on the evening of the 24th December.

It appears that he had been drinking, and investigation proved that he had laid himself across the track, about a mile and a quarter east of the station.

An inquest was held and a verdict of accidental death was returned.

A man named Michael Mahan, was killed by Train No. 23 at 1.10 o'clock a.m. on the 11th January, 1874, near Spring Hill Junction. He was last seen at the Junction, at 12.15 a.m. under the influence of liquor, and it is supposed he wandered on the track and was killed as stated.

An inquest was subsequently held, and a verdict returned attributing no blame to the Railway.

On the 22nd January, an Indian named Cope, being drunk, attempted to get on No. 9 train while in motion at Shubenacadie Station, and fell between the platform and the train. The wheels of the baggage car passed over his hand, injuring it so badly that amputation was necessary.

On March 7th, when at Norton engaged in taking a car out of siding, Brakeman John McAlec got so badly jammed that he died one hour and a half afterwards.

The verdict of the jury was accidental death.

On the 20th April Train No. 2, ran over a man named Henry Morrison on the track near Londonderry, whilst he was either asleep or in a fit, and killed him.

A verdict was returned laying no blame to the Railway servants.

On the 27th April, when crossing the bridge near New Glasgow, Train No. 3 ran over a man, name unknown, the body falling into the river.—An inquest was held and verdict returned attributing no blame to the Railway.

On the 3rd June, a Norwegian sailor named Martin Eccoson whilst in a state of intoxication, was run over by the shunting train at Richmond wharf. He subsequently died from the effects.

The Jury returned a verdict of accidental death.

APPENDIX No. 17.

INTERCOLONIAL RAILWAY.

ST. JOHN, N.B., 6th Nov., 1874.

SIR,—I have the honor to submit a report of the new works of construction pertaining to the old lines of the Intercolonial Railway, for the fiscal year ending 30th June, last.

NEW SIDINGS.

New sidings were laid at the following Stations—

<i>Name.</i>	<i>Lineal feet.</i>
1 Quispamsis	1,090
1 Salisbury.....	1,337
1 Petitcodiac	1,360
1 Sussex.....	1,254
1 Norton.....	1,311
1 Riverside.....	1,288
1 Moose Path.....	1,305
1 Painsec.....	1,300
1 Nine Mile River.....	295
1 Milford.....	1,339
1 Polly Bog.....	1,360
1 I. C. Coal Co. }	1,343
1 Acadia Co..... }	
1 Crowson	485
1 Evans.....	448
1 Thompson.....	426
1 Windsor Junction.....	700
1 Three Mile House.....	447
1 Bishops	1,163
1 New Glasgow.....	1,067
1 Pictou Landing.....	2726
1 McLachie.....	387
1 New.....	800
1 Cole's Island.....	408
1 Debert.....	529
1 Little Forks.....	305
1 Passekeag.....	1,311
27	Total.....25,784

Showing that 27 new sidings were constructed, having an aggregate length of 4.89 miles.

OLD SIDINGS.

Old sidings were extended at the following Stations—

<i>Name.</i>	<i>Lineal feet.</i>
1 River Pollet.....	425
1 Anagance	304
1 Aulac.....	777
1 Bloomfield.....	496
1 Nauwigewauk	510
1 Apohaqui	452
1 Boundary Creek	425
<hr/>	
7	Total..... 3,389

Showing that 7 old sidings have been increased in length by 0.64 of a mile.

COAL DROP SIDINGS.

New sidings have been provided at the following Stations:—

<i>Name.</i>	<i>Lineal feet.</i>
1 Sussex.....	367
1 Moncton	360
1 Amherst.....	335
1 Shubenacadie.....	205
<hr/>	
4	Total..... 1,267

Showing that 4 new Coal Drop sidings were built, giving an aggregate length of 0.24 of a mile.

NEW BRANCH LINES.

The following have been laid with iron rails, and ballasted:—

<i>Name.</i>	<i>Miles.</i>
1 Dorchester.....	0.93
1 Sackville.....	0.47
1 Springhill.....	4.80
1 Londonderry.....	2.18
1 Newport.....	0.63
<hr/>	
5	Total..... 9.01

Showing that 5 Branch Lines have been laid with iron rails, and ballasting for a length in the aggregate of 9.01 miles. Of these Dorchester, Sackville, Springhill and Newport were laid with old worn rails, the Londonderry Branch only having been laid with new iron. In the cases of the Springhill and Londonderry Branches, the Springhill Coal Co. and the Londonderry Iron Co. prepared the road bed and furnished the sleepers of their respective Branches at their own cost. But in the cases of the Dorchester, Sackville and Newport Branches, the Government executed the whole of the works of construction, with an addition of a wharf at Dorchester and Sackville.

TERMINAL EXTENSION IMPROVEMENTS.

Improvements have been in progress at the following points:—

At Halifax, a Deep Water Wharf with storage accomodation for coal has been provided; the work is nearly completed.

At Point du Chêne, a Store House has been built and the wharf extended.

At St. John, a Breastwork of timber is in course of construction in the rear of the City. The work is in an advanced state and will be completed in a few months.

PASSENGER AND FREIGHT HOUSES.

Buildings have been erected at the following Stations during the year ending June last :—

<i>Name.</i>	<i>Description.</i>
1 Petitcodiac	Freight Shed,
1 Passekeag.....	Passenger and Freight Station combined,
1 Nauwigewauk	do do
1 Quispamsis	Passenger Station,
1 Wellington	Passenger and Freight Station combined,
1 Shediac	Freight Shed.

TANK HOUSES.

Tank Houses have been built at the following Stations :—

<i>Name.</i>
1 Penobsquis,
1 West River,
1 Painsec,
1 Point du Chêne.

COAL SHEDS.

Coal Sheds have been erected at the following Stations :—

<i>Name.</i>
Sussex,
Petitcodiac.

ENGINE HOUSES.

Engine houses have been provided at the following Stations :—

<i>Name</i>	<i>Description.</i>
1 Londonderry.....	One stall
1 Spring Hill Junction.....	do
1 Stellarton.....	Two do

The two first mentioned were built for the use of the Londonderry and Spring Hill Branches ; that of Stellarton to serve the Pictou coal traffic.

OIL HOUSES.

Brick oil houses have been built at the following supply stations. One each at Moncton, Truro and Halifax. These buildings were considered necessary as a precaution against fire.

OFFICES.

New offices have been built at Moncton for the use of the General Superintendent and his staff. The building is of brick resting upon a stone foundation.

NEW DWELLINGS.

Twelve new houses have been erected at Moncton upon the station ground for the use of the workmen. The buildings are frame and of a small class. The house accomodation in the town of Moncton being insufficient, it became necessary to provide the employees with houses.

OLD HOUSES.

Three old dwellings were shifted to a convenient spot upon the Moncton station ground and fitted up for the workmen.

WATER SUPPLY.

Water supply improvements were made at the following stations.

<i>Name</i>	<i>Description.</i>
Petitcodiac.....	Reservoir enlarged
Point du Chêne.....	New well
Sussex.....	New reservoir
Amherst.....	Water pipes extended
Stellarton.....	New well

These points being important watering stations the increase of traffic demanded a lower water supply than had previously been available.

NEW TRACK SCALES.

Scales have been provided at the following stations :

<i>Name.</i>	<i>Capacity.</i>
Spring Hill Junction.....	60,000 lbs.
Truro.....	100,000 "

NEW MACHINERY.

Machinery of the following description has been provided at Moncton during the year ending June last.

4 Lathes,
 1 Plainer,
 1 Blind and Pully,
 2 Vertical Drills,
 1 Bolt Cutter,
 1 Daniel Plainer,
 1 Steam Hammer,
 1 Nut Tapper,
 1 Axle Lathe,
 1 Drill Grinder,
 1 Variety Moulder,
 Sundry small Tools.

The above mentioned Tools are now set in place, and are in daily use.

NEW ROLLING STOCK.

The Rolling Stock provided during the year consists of thirteen Locomotives and four hundred and forty four Hopper Coal Cars of 5 ton capacity.

SEMPHORE SIGNALS.

Signals have been set up at the Stations where they were considered indispensable for the safety of the Trains, such as St. John, Moncton, Painsec, Truro and Halifax.

SNOW SHEDS AND FENCES.

Sheds and fences have been built during the year, at points along the line, where, by the last few winters' experience, they have been proved to be absolutely necessary. The snow sheds are solely confined to the Folly Mountain and are about $2\frac{3}{4}$ miles in extent ; the snow fences are scattered in small patches along the entire length of the road.

EMBANKMENT AND CULVERT.

A Culvert has been built at Blackburn in substitution of the old Blackburn Wooden Bridge. It makes a far better job than renewing the old structure.

The foregoing statement embodies all the new works executed during the fiscal year. Their execution has, without doubt, greatly added to the facilities for operating the

traffic ; and the additional sidings, and new Station Buildings are a great accomodation to those parties who have business relations with the road. At the close of the fiscal year the line cannot be said to be more than in fair running order. The old double headed rails much need removal from the track, and a very considerable mileage of new rails requires to be laid, and a large number of new sleepers to be placed on the track.

The work provided for during the present fiscal year will go far towards improving the road bed.

I have the honor to be,

Your obedient servant,

COLLINGWOOD SCHREIBER,

Engineer.

F. BRAUN, Esq.,

Secretary Department Public Works.

APPENDIX No. 18.

INTERCOLONIAL RAILWAY.

REPORT OF THE GENERAL SUPERINTENDENT OF GOVERNMENT RAILWAYS.

RAILWAY DEPARTMENT,

MONTREAL, 24th December, 1874.

SIR,—In compliance with your instructions, I now beg to report upon the progress of the works upon the Intercolonial Railway between River du Loup and Truro.

That portion of the line lying between Painsec Junction, the point where it leaves the European and North American Railway and Truro, where it connects with the Nova Scotia Railway, has been in running operation now for upwards of two years.

The whole of the works, including ballasting, station building, &c., upon that section of the railway are completed, and are now under the control of the Department as portions of the opened railways in Nova Scotia and New Brunswick.

The portion of the railway not yet entirely completed is that lying between River du Loup, where a connection is made with the Grand Trunk Railway and Moncton, on the European and North American Railway, where a junction is made with the existing Government lines in the Lower Provinces. The length of that portion of the line is 374 miles.

I enclose you a balance sheet (Appendix A) of the financial condition of the whole system, on the 30th June, 1874, from which you will see that the total expenditure at that date was the sum of \$17,937,735.76, divided into the following items.

Buildings	\$493,395 02
Engineering and survey	1,207,458 94
Legal expenses, land survey and valuation	62,979 34
Management	116,734 64
Printing, advertising and stationery	26,231 66
Right of way	234,577 12
Rolling stock.....	1,122,183 48
Works and permanent way.....	14,641,259 00
Cordwood.....	8,654 00
Telegraph line.....	16,830 00
Temporary running arrangements	4,361 70
Receiver General, special deposit	300 00
Paymaster's balances	2,770 86
	\$17,937,735 76

The total expenditure on the 30th June, 1873, was \$14,520,073.89, so that the expenditure during the year ended 30th June, 1874, was the sum of \$3,417,661.87.

Owing to the great amount of wet weather which we had in the spring of this year, it was not until pretty late in the season that active operations could be proceeded with, and the amount of work, therefore, done between the close of last winter and the 30th June, 1874, was not large.

The great bulk of the work had, however, been completed by the beginning of last winter, and I am now enabled to give you complete information in regard not only to the condition of the work on the 30th June last, as shewn by the statement which I have above quoted, but, also, to tell you the position of the work at the present moment, and to give you an estimate of the probable amount that will be required to complete the whole line.

With this view, I now enclose you a balance sheet of the actual expenditure on the railway, on the 30th November, 1874 (Appendix B), amounting to the sum of \$19,480, 716.35, which shews that between the 1st July and the 30th November, 1874, there has been expended the sum of \$1,542,980.59.

I also enclose a statement (Appendix C) showing somewhat in detail the total amount of this expenditure up to the 30th November, 1874; and, also, statement (Appendix D) showing the amount expended under the principal headings on the 30th June, 1873, 30th June, 1874, and 30th November, 1874.

This will show in a clear form the progress of the expenditure between the dates I have mentioned.

That portion of the railway extending from River du Loup to St. Flavie, (where the line crosses the Metapedia Road) a distance of 83 miles, has been in partial operation for several months. The part of it lying between Rivière du Loup and Trois Pistoles, a distance of 23 miles, was worked under an arrangement made with the Grand Trunk Company, up to the end of October, 1874. That part of it lying between Trois Pistoles and St. Flavie was partially worked during the summer, by the contractor who was engaged in the ballasting of the line.

The whole distance from Rivière du Loup to St. Flavie was laid upon the broad gauge, but arrangements having been made during the summer to narrow it when the Grand Trunk changed their gauge—the whole length, from Rivière du Loup to St. Flavie, was narrowed during the last week of October, 1874. By that time the ballasting of the line was completed, and on the 2nd November, 1874, the entire line between the two points was taken charge of by the Government and worked by officers appointed by your instructions.

That portion of the line is now entirely completed, both as regards roadway and stations, water service, and a sufficient amount of snow sheds and fencing.

The necessary narrow gauge rolling stock was purchased under your directions during the summer; arrangements were made for the changing of the gauge of the eight engines upon that portion of the line (some having already been altered and are now running as narrow gauge), and the whole of the remainder of the rolling stock upon that portion of the line will be changed to narrow gauge during the present winter.

By the 1st of April, 1875, all the rolling stock at that end of the line, consisting of eight engines, 150 box cars, and 150 platform cars will be of the narrow gauge.

From St. Flavie the track has been laid to a point a little beyond the bridge crossing the Metis River, but operations were suspended in regard to further track laying towards the close of the season.

A considerable quantity of rails are now upon the ground, ready to commence track laying as early as possible in the spring. It will of course be laid then on the narrow gauge.

The whole of the earth works from St. Flavie to River Restigouche are now completed. This distance comprises sections 13, 14, 17, 18 and the greater part of 19.

Section 13 was taken out of the hands of the original contractors when it was not far from completion. The balance of the work was done by day labor, employed by the Government under its own officers.

This is the heaviest section on the line, and is now entirely completed and ready for the track layers.

The next Section No. 14 has been completed by the original Contractors, and is now also ready for the track layers.

The next Section No. 17 was taken out of the hands of the contractor during the summer, and has been completed with the exception of one pier across the River Metapedia, by day work, under the direction of the Government Engineers.

The work upon this section was in an advanced state when taken out of the contractor's hands, and is now entirely completed, with the exception of about 7 feet of masonry on one of the piers of the second bridge across the River Metapedia. All the rest of the masonry upon this section is completed.

There will be no obstruction to the track layers during the next season, as the pier to which I have already referred will be completed before the track layers can reach it.

The next Section No. 18 is being completed by the original contractor. Everything upon this section is practically finished, except the crossing of the River Metapedia at Mill Stream.

Great delay has taken place in the prosecution of this work, but I believe that the arrangements now in progress will ensure its completion so as not to delay the track layers.

The next Section No. 19 is finished up to the River Restigouche.

Several of the iron bridges between St. Flavie and the Restigouche have been erected in place, and the balance will be completed this winter before the track layers commence next spring.

A contract has been let for the track-laying and ballasting of the portion of the line from St. Flavie to Mill Stream Bridge, a distance of about 75 miles.

There is a considerable quantity of rails upon the ground.

The necessary narrow gauge rolling stock will be ready by the 1st April, and, as soon as the weather will permit, active operations both as regards track-laying and ballasting will be commenced.

Upon Section 13, it will be necessary to expend a considerable sum in providing snow sheds to prevent, as far as possible, obstructions from snow during the winter. This has been provided for in the estimate to which I will hereafter refer, for the completion of the entire work.

The Restigouche Bridge is in a very forward state, and may be said now to be practically completed.

All the foundations were in, by the end of the summer. The iron bridge builders are at work erecting the superstructure, and this bridge will be ready to pass trains across it by the time the track layers begin work next season.

No. 19 extends about 3 miles on the New Brunswick side of the Restigouche Bridge and that piece of work is entirely completed.

The next four sections carry the railway to a point about 3 miles east of the River Nepissiquet. These four sections have been taken out of the hands of the original contractors, and have been completed by day labor under the direction of the Government Engineers.

Track-laying and ballasting have been progressing upon these sections during the whole summer, and 57 miles of track have been laid and very nearly ballasted, from a point near the east end of the Restigouche Bridge, to within 18 miles of Bathurst.

About 24 miles of track will require to be laid in the spring to the end of Section No. 16, to complete this portion of the line.

All this track is being laid upon the narrow gauge.

Everything, indeed, between St. Flavie and the River Miramichi, is being laid upon the narrow gauge.

The necessary number of engines were supplied at Newcastle and at Campbelltown, to enable this to be done. The broad gauge platform cars, which had been provided at these two places, have all been altered to narrow gauge, and a sufficient additional number of narrow gauge platform cars supplied to enable the work to be vigorously carried on.

The next Section is No. 16, which was taken out of the hands of the original contractor, Mr. Gough, and has now been entirely completed, by day labor, under the Government Engineers.

I passed over this section in the month of October last, when it was very nearly completed. It is now entirely finished and ready for the track layers.

The next Section, No. 10, has been completed by the original contractor, and carries the line to the River Miramichi.

The track-laying and ballasting have been in progress from the River Miramichi westward during the past summer, 20 miles of track having been laid, and a considerable amount of ballast put under the ties.

It will require about 23 miles more to meet the track layers from the north.

In regard to the bridges across the River Miramichi; one, that across the south-west branch has been entirely completed so far as regards masonry, and four out of the six spans have been erected and are now completed; the other two will be put in place during the present winter.

The piece of line between the two branches of the river is completed.

In regard to the north-west branch, you are aware of the circumstances connected with the foundations of the piers on that river and I need not therefore enter into any explanations of the difficulties which have arisen at that point.

The track north from the River Miramichi, starts from the end of the bridge.

The station buildings at Newcastle are completed.

From the east side of the River Miramichi the next contract, No. 21, has been entirely completed by the original contractor and is now ready for the track layers.

The next two sections, Nos. 22 and 23, were both taken out of the hands of the original contractors and were both completed by day labor under the direction of the Government officers.

The track laying over these three last sections has been in progress under a contract let some time ago, and about 40 miles laid, upon which a very considerable amount of ballasting has also been done.

This leaves thirty-five (35) miles to lay to complete the line up to the River Miramichi. This will be commenced as soon as spring opens and will be completed next year.

The bridging upon the entire line, except the north-west branch of the River, Miramichi will be completed before the close of the present winter.

The track between Moncton and the River Miramichi has been laid upon the broad gauge, there being no rolling stock of the narrow gauge to enable it to be laid in any other way.

The whole of the track from the River Miramichi to the River du Loup is now being laid and will be completed on the narrow gauge, and that portion lying between Moncton and the River Miramichi will be narrowed at a small cost after the existing Railways in New Brunswick and Nova Scotia have been altered next summer to the narrow gauge.

The total distance from Rivière du Loup to Moncton, as I have already stated, is 374 miles; of this, 205 miles are now laid, leaving 169 miles to lay next season.

This work will be commenced at the opening of the season, and there is nothing to prevent its being completed by the end of August, 1875.

It will not, of course, for its whole length, be fully ballasted by that time, but by the end of next season there ought to be as much ballasting done as will put the line in a thoroughly satisfactory condition. In fact it will not be desirable to complete the ballasting next season.

It will be better to allow it to have a winter's consolidation and then to complete it during the following year, when it can be fully and satisfactorily done.

All the necessary arrangements have been made for having the rails at the different points required, so that no delay may take place in track laying, and I can see no reason why, with the exception of the bridge across the north-west branch of the River Miramichi, the line should not be completed and in satisfactory running order by the end of the month of September, 1875. I have gone carefully with Mr. Schreiber into the question of the cost of completing the railway as from the 1st December, 1874.

I have included in this estimate all the stations that are necessary to be erected between St. Flavie and Moncton.

With the exception of Campbelltown, Dalhousie and Bathurst, the stations will be of an exceedingly inexpensive character.

They can of course be increased whenever traffic develops itself at any point.

Provision has been made for a proper supply of water and for sidings at convenient points to allow trains to pass. Allowance has also been made for such additions to the rolling stock as will be required for the entire line between Moncton and Rivière du Loup.

It will also include the necessary amount of snow fencing and shedding at such points as at present are considered to be necessary.

The total amount of this estimate is \$1,600,000, which, if not exceeded, will make the total cost of the railway a little over \$21,000,000.

I think it is quite safe to say that the total outlay for the completion of the entire line from the River du Loup to Truro, with the amount of station accommodation that we propose to provide, and with a sufficient amount of rolling stock to meet any traffic likely to arise at first, will not exceed the sum of \$21,250,000. (*See Note).

In making this estimate, I have not made any allowance for claims which have been made or may be made by contractors who have failed to carry out their contracts.

The figures include the total amount of the contracts in all cases, and all the expenditure which the Government has made in order to complete the works.

It would of course be quite wrong for me to enter into any discussion upon these matters; I only wish to call your attention to the fact, that in the figures which I have stated in this report, I have in no way whatever dealt with anything but the amounts of the contracts, and the expenditure which the Government will have to make where these contracts were not completed by the original contractors.

I think this will give you all the information that you require upon the subject of the works upon the Intercolonial Railway, and I think you may be satisfied, that the amount which I have estimated for the completion of the work will not be exceeded, and that the sum of \$21,250,000, will be the ultimate cost of the whole of the Railway between Rivière du Loup and Truro.

I have the honor to be, Sir,

Your obedient servant,

(Signed,) C. J. BRYDGES,

General Superintendent Government Railways.

F. BRAUN, Esq.,

Secretary, Department of Public Works,
Ottawa.

*NOTE.—This is exclusive of a branch line to accommodate the Mail Service at Rimouski. This, if done, with the needed additions to the existing wharf will cost about \$30,000.

APPENDIX No. 18.

INTERCOLONIAL RAILWAY

Addenda, A. B. C. D.

APPEN

INTERCOLON

DR.

BALANCE SHEET at 30th June,

	\$ cts.	\$ cts.	\$ cts.
Buildings			493,395 02
Engineering and Survey			1,207,458 94
Legal Expenses, Land Survey and Land Valuation			62,979 34
Management			116,734 64
Printing, Advertising and Stationery			26,231 66
Right of Way			234,577 12
Rolling Stock			1,122,183 48
Works and Permanent Way		12,765,441 83	
Appropriation for Section 1 to 7		175,623 07	
			12,941,064 92
Contract No. 3, F. X. Burlinquet & Co	93,974 37		
do 6, do	55,335 54		
do 9, I. B. Bertrand & Co	25,091 89		
do 15, do	78,165 49		
do 12, Sumner & Somers	104,410 94		
do 13, W. E. McDonald & Co	76,069 73		
do 16, King & Gough	17,110 69		
do 22, C. Cummings & Co	137,261 12		
do 23, Sutherland, Grant & Co	76,382 14		
			663,801 91
			13,604,866 83
Advances to the following Contractors:—			
Thos. Boggs & Co., Section 19	3,500 00		
Brown, Brooks & Ryan, Section 20	13,000 00		
King & Gough, Section 16	26,000 00		
R. H. McGreevy, Section 18	34,000 00		
S. P. Tucke, Section 17	15,269 16		
			91,769 16
			13,696,635 99
Eastern Extension Railway		944,623 01	14,641,259 00
Cord Wood		8,654 00	
Receiver-General (Special Deposit of amount retained in purchase of the Eastern Extension Railway)		300 00	
Telegraph line		16,830 00	
Temporary running arrangements		4,361 70	
			30,145 70
W. H. Stevenson, Paymaster:—			
Balance in hands to pay Labor for June, 1874, on Contract No. 13			2,770 86
			17,937,735 76

INTERCOLONIAL RAILWAY OFFICE,
OTTAWA, 30th June, 1874.

DIX A.

IAL RAILWAY.

1874. Per General Ledger.

Cr.

	\$ cts.
The Dominion of Canada	17,937,735 76
	17,937,735 76

THOS. C. DUPLESSIS,
Accountant.

APPEN

INTERCOLONIAL

DR.

BALANCE SHEET at 30th November.

	\$	cts.	\$	cts.	\$	cts.
Buildings					536,297	03
Engineering and Survey					1,233,380	35
Legal expenses, Land Survey and Valuation					63,945	90
Management					122,779	89
Printing, Advertising and Stationery					26,490	49
Right of way					240,458	42
Rolling Stock					1,233,771	92
Works and Permanent Way	13,935,934	84				
do appropriation for Sections Nos. 1 to 7 inclusive			191,335	26		
			14,127,270	10		
Contract No. 3, F. L. Burlinquet & Co	97,985	07				
do 6, do	62,623	47				
do 9, W. B. Bertrand & Co	25,091	89				
do 15, do	92,265	23				
do 12, Sumner & Somers	104,798	50				
do 13, W. E. McDonald & Co	109,003	15				
do 16, King & Gough	56,986	47				
do 17, S. Parker Tuck	81,213	92				
do 22, C. Cummings & Co	163,146	77				
do 8, Sutherland, Grant & Co	92,334	04	885,448	51		
			15,012,718	61		
Brown, Brook & Ryan—advance	17,700	00				
Robert H. McGreevy, do	300	00	18,000	00		
			15,030,718	61		
Eastern Extension Railway			944,623	01	15,975,341	62
Telegraph Line			16,830	00		
Montreal Office			677	82		
Bank of Montreal—Contingent Account			191	41		
Receiver General (special deposit of balance of purchase of Eastern Extension Railway)			300	00		
Jas. Worthington (current account)			67	74		
Intercolonial Railway—Traffic Department			8,895	57		
W. H. Stevenson, Paymaster, Balance on hand for payment of expenditure incurred in November instant, (vouchers to be returned in December, 1874)			20,547	38	26,962	
John Murphy, Paymaster, Balance on hand to pay off unadjusted accounts (vouchers to be returned in December, 1874)			740	81		
					21,283	19
					19,480,716	25

INTERCOLONIAL RAILWAY OFFICE,

OTTAWA, 30th November, 1874.

DIX B.
RAILWAY.

Per General Ledger.

CR.

	\$ cts.	\$ cts.	\$ cts.
The Dominion of Canada			19,459,624 35
Ryan & Bootee, 10 per cent retained on contract for tracklaying and ballasting.....		2,710 00	
John J. McDonald & Co., 10 per cent. retained on contract for tracklaying and ballasting.....		5,017 00	
Duncan McDonald, 10 per cent. retained on contract for tracklaying and ballasting.....	2,665 00		
Duncan McDonald, Balance due on Certificates	10,700 00	13,365 00	
			21,092 00
			19,480,716 35

THOS. C. DUPLESSIS,
Accountant.

APPENDIX C.

INTERCOLONIAL RAILWAY.

STATEMENT Shewing the Total Expenditure under each Special Service up to the 30th November, 1874.

		Total.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.
Buildings—			
Amherst Station		13,436 14	
Engineers' Houses		32,212 65	
Engine Houses		126,682 33	
Freight do		8,771 98	
Flag Station Houses		1,300 00	
Moncton Buildings		173,831 52	
Painsec Junction Station		2,049 30	
Passenger and Refreshment Houses		30,517 90	
Station Houses		93,961 19	
Tank Houses and Fuel Sheds		47,833 29	
Buildings Expenses		5,700 73	
			536,297 03
Engineering and Survey			1,233,380 35
Legal Expenses, Land Survey and Land Valuation			63,945 90
Management			122,779 89
Printing, Advertising and Stationery			26,490 49
Right of Way			240,458 42
Rolling Stock—			
Locomotives		557,097 53	
Passenger Cars, first class		44,025 94	
Passenger Cars, second class		8,550 00	
Postal and Baggage Cars		13,950 00	
Box Freight Cars		184,470 00	
Platform Cars		414,974 80	
Snow Ploughs		5,038 92	
Rolling Stock Expenses		5,664 73	
			1,233,771 92
Works and Permanent Way—			
Grading Works, Fencing, Drainage, Sidings, Road Divisions, &c	9,735,621 07		
Appropriation for Sections Nos. 1 to 7, inclusive	191,335 26		
		9,926,956 33	
Branch Lines		34,088 22	
Iron Bridging		699,142 77	
Rails and Fastenings		2,279,081 45	
Cross Ties		346,598 58	
Tracklaying and Ballasting		803,845 03	
Snow Sheds and Fences		37,557 72	
		\$14,127,270 10	
Contract No. 3, F. X. Berlinquet & Co.	97,985 07		
do 6, do	62,623 47		
do 9, J. B. Bertrand & Co.	25,091 89		
do 15, do	92,265 23		
do 12, Sumner & Somers	104,798 50		
do 13, Wallace E. Macdonald & Co.	109,003 15		
do 16, King and Gough	56,986 47		
do 17, S. Parker Tuck	81,213 92		
do 22, C. Cummings & Co.	163,146 77		
do 23, Sutherland, Grant & Co.	92,334 04		
		15,012,718 61	
Brown, Brooks & Ryan, advance	17,700 00		
Robert H. McGreevy	300 00		
		18,000 00	
		15,030,718 61	
Eastern Extension Railway		944,623 01	
			15,975,341 62

APPENDIX C.—Intercolonial Railway, Statement shewing the Total Expenditure under each Special Service up to the 30th November, 1874.—*Continued.*

		Total.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.
Telegraph Line.....			16,830 00
Montreal Office.....			677 82
Bank of Montreal (Contingent Account).....			191 41
Receiver General (special deposit).....			300 00
Jas. Worthington (Current Account).....			67 74
Intercolonial Railway, Traffic Department.....			8,895 57
Paymaster's Balances, W. H. Stevenson.....		20,547 38	
John Murphy.....		740 81	
			21,288 19
			19,480,716 35
Less at credit of the following Contractors—			
Ryan & Booth, Tracklaying and Ballasting.....		2,710 09	
John J. McDonald & Co., do.....		5,017 00	
Duncan McDonald.....		13,365 00	
			21,092 00
			\$19,459,624 35

THOS. C. DUPLESSIS,
Accountant.

INTERCOLONIAL RAILWAY OFFICE,
OTTAWA, 30th November, 1874.

APPENDIX D.
INTERCOLONIAL RAILWAY.

TABULAR STATEMENT shewing the Total Expenditure for the construction of the Intercolonial Railway at the 30th November, 1874.

	Total at 30th June, 1873.	Total at 30th June, 1874.	Total at 30th Nov., 1874.	Grand Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Buildings.....	372,837 04	493,395 02	536,297 03	
Engineering and Surveys.....	1,074,397 14	1,207,458 94	1,233,380 35	
Legal Expenses, Land Survey and Valuation..	60,421 21	62,979 34	63,915 90	
Management.....	96,249 54	116,734 64	122,779 89	
Printing, Advertising and Stationery.....	24,473 12	26,231 66	26,490 49	
Right of Way.....	199,724 39	234,577 12	240,458 42	
Rolling Stock.....	785,278 51	1,112,183 48	1,233,771 92	
Works and Permanent Way.....	11,868,549 13	14,641,259 00	15,975,341 62	
Cordwood.....	8,654 00	8,654 00	.....
Telegraph Line.....	6,480 00	16,830 00	16,830 00	
Temporary Running Arrangements.....	2,666 96	4,361 70	.....
Receiver-General—Special Deposits.....	300 00	300 00	300 00	
James Worthington (open account).....	.....	.....	67 74	
Intercolonial Railway, Traffic Department	.....	.....	8,895 57	
Montreal Office.....	.....	.....	677 82	
Bank of Montreal, Contingent Account.....	.....	.....	191 41	
Paymaster's Balances.....	20,042 85	2,770 86	21,288 19	
	14,520,073 89	17,937,735 76	19,480,716 35	19,480,716 35
	.....	.....	.....	21,092 00
	.....	.....	.....	19,459,624 35

Less.—Amount at Credit of Contractors per Balance Sheet.....

(Signed,) THOS. C. DUPLESSIS,
Accountant

INTERCOLONIAL RAILWAY OFFICE,
OTTAWA, 30th November, 1874.

APPENDIX No. 19.

REPORT OF THE CHIEF ARCHITECT.

PUBLIC BUILDINGS, WORKS AND REPAIRS.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 2nd November. 1874.

SIR,—I have the honor to submit the following general remarks upon the construction of new works, and the repairs made to the public buildings under the control of the Department, for the fiscal year ending the 30th June, 1874.

PROVINCE OF ONTARIO.

OTTAWA.

PARLIAMENT BUILDINGS.

The system for ventilating the House of Commons, mentioned in my report for the year ending 30th June, 1873, has been carried out. The main air ducts have been thoroughly cleaned and lined internally with galvanized iron; new iron ducts, to which trapped air shoots are attached, have been introduced; also an exhaust fan to carry off the foul air. Arrangements have been made in the floor of the House for ventilation, all draught at the same time being avoided. The work performed, so far as can be judged from the experience of last session, is to a certain extent satisfactory.

Nevertheless, I beg leave to draw your attention to the difficulty which arises among so many members of different temperaments and habits, of regulating the temperature to meet the approval of all. Moreover, the galleries at times are filled with spectators, to complicate the problem; this crowded condition of the chamber has often to be considered when the external atmosphere is below zero and in a brief period of time ascends above freezing point—a change of temperature which frequently takes place within a few hours.

An examination of the boilers used for the warming apparatus having been made, their condition was found to necessitate their removal. Tenders for new boilers were accordingly called for, and the contract was awarded to Messrs. Gouldie & McCulloch of Galt, for three tubular boilers. They are now, together with a boiler for the new library, under construction, to be ready for the ensuing session. Advantage is being taken of this change to renovate the floors on which the boilers are placed, and at the same time to give additional facilities for the passage to and from the boiler house; as previously designed a difficult matter.

Work done under the immediate inspection of the Department.

Alterations have been made in the rooms of the Speaker's residence, also in rooms connected with the "reporters' gallery."

The usual and ordinary repairs to the buildings have been executed during the past year, the extent of which has not been great.

LIBRARY.

Work has been prosecuted on this building during the last twelve months with increased vigor. The whole of the plaster work and finishing will be done by the fall of this year. It is proposed immediately after this portion of the work is done, to commence the decoration of the vaulted ceiling, and also to proceed with the required fittings; these

fittings are proposed to be of wrought and cast iron, with shelving of slate or other non-inflammable material. The plans have been approved, and the detail drawings are now in progress.

The whole of the masonry, with slight exception, is finished; the roof covering of slate and galvanized iron is nearly completed. The lantern will be covered with copper.

The glazing of the windows is also under contract; arrangements have been made for the building to be enclosed before the ensuing winter. At present the windows are glazed with clear glass; eventually it is proposed to have stained glass of a character to suit the style of the building.

Architect in charge, Mr. John Bowes; contractors for mason work, Messrs. Farquhar & Co.; contractor, galvanized iron, &c., Mr. E. G. Laverdure; contractor, glazing and decoration, Mr. Wm. McKay.

EAST BLOCK, DEPARTMENTAL BUILDINGS.

Since the date of my last Report, the attic of that portion of the building facing Parliament Square, has been converted into offices of various sizes adapted to official requirements. One half of them are now occupied.

Two new tubular boilers have been placed in the boiler-house; those previously in use were considered inadequate to bear the extra strain put upon them. At the same time, their condition made their removal advisable.

The galvanized iron roofing, not previously executed, has been finished similarly to that of the Western Block, where it has been found to answer in a satisfactory manner.

The roofing extending from the centre entrance on Wellington Street, towards the northerly portion of the block facing the Rideau Canal, requires similar covering.

The attic has been divided into sections by division walls of brick, with iron doors, thus lessening the risk in case of fire. An iron staircase, in addition to the stairs already provided, has been arranged for, immediately over the Privy Council staircase, to give access to the attic from floor below. The contract was awarded to Mr. Fleck, of the Vulcan Iron Works, Ottawa, and the work is now in progress.

The usual and ordinary repairs, work, &c., have been done under the immediate inspection of the Department.

WEST BLOCK, DEPARTMENTAL BUILDINGS.

The attic floor has been divided by brick walls into six sections. These walls extend the full height of the story up to the roof-boards. This was considered necessary, that in case of fire it should be confined within a narrow limit. The steam pipes for warming the various rooms of the attic floor have been cased as far as possible by building brick walls on either side, and the floor-boards on top have been sheeted with tin; iron gratings have been inserted at intervals to prevent the accumulation of hot air.

The new tubular boilers placed in the boiler-house of this building have been found more than equal to the service now required of them.

The usual and ordinary repairs have been done. Work done under the immediate inspection of the Department.

WORKSHOPS.

The present workshops being of a temporary character, instructions were given to prepare plans for permanent buildings, on approval of which tenders were called for, and the work let out by contract. It is now being carried out at a rapid rate, and it is expected that before the close of the season the shops will be finished and occupied.

The building, with an addition for the Department of Marine and Fisheries, extends on the line of Bank Street 130 feet, with an average width of 45 feet. It is two stories in height. The roof of upper story being economized for the stacking of dressed timber, &c. It is proposed to place machinery of the most approved kind in the positions best adapted to its working. The motive power to be steam, placed in the basement, for which arrangement the fall of the ground offers great facilities.

The building is plain in character, the materials and workmanship being in accordance with the "Public Buildings."

It is proposed to fill in the space between these shops and the river boundary with coal sheds, and with gateways to the workshop's yard and to "Lovers' Walk." This will complete the enclosure of the grounds on two-sides.

The work is being carried out under the immediate superintendence of the Department.

Contractors:—Messrs. Mathews, Stewart and Stockand.

GROUNDS.

The fence or boundary wall on the line of Wellington Street is finished. It extends from "Dufferin Bridge" to the new "workshops." The iron railing is also complete. Designs for iron gates are prepared and approved. When the "grounds" are laid out they will be placed in position. Drawings have also been prepared for approach to the Canal at or near the Dufferin Bridge end of fence. It is proposed as an experiment to lay the sidewalk on Wellington Street, from the gateway opposite the main entrance of East Departmental Building to Dufferin Bridge, with wood blocks.

The design, furnished by Mr. Marshal Wood, for the adornment of the grounds as exhibited in a large model, having been submitted to the Department, it was decided that it should not be adopted. A plan arranged by Mr. Calvert Vaux, of New York, and myself, was submitted and approved, and is now being carried out.

The main avenue, parallel to the line of Wellington Street, is being brought to a level; the original grade had a rise in its length from East to West of nearly seven feet. One of the advantages gained by lowering the ground will be; that the basement rooms of the West Block, now dark and gloomy, will on the lowering of the present road obtain uninterrupted light, and will be rendered suitable for offices, &c. The level line of the road likewise will materially add to the appearance of the façade of the Central Buildings or Parliament House.

The Square is now being graded in accordance with the plan approved. When the alteration of grade to avenue was decided upon, extra drainage, new gas main and water pipes from the "City Waterworks" were provided for, so that connections can be made when required.

Since the date of Confederation the various Departments have increased in their wants and requirements to a very great extent, and staffs of the several Departments have been largely augmented. Hence the accommodation in the two Departmental Blocks has been found insufficient even with the additional accommodation provided in the attics of each. It has accordingly been decided that an addition to the West Block should be made, the sketch plans for which have been prepared and approved. This proposed extension will be a continuation of the westerly portion of the West Departmental Block, 245 ft. in length, 60 ft. in width, three stories in height, with basement. The style of architecture in its external features will be in accordance with the present building, with improvements in internal arrangements suggested by experience. The whole is to be fire-proof. Plans are now being prepared, so that tenders can be obtained this year for the basement portion.

This will expedite the work and give time for the consideration of the details required in the superstructure. The excavation is now being made by the contractor for this work at a schedule rate of prices. Cost is lessened and difficulty overcome by having one contractor only for both works.

Work done under the immediate superintendence of the Department.

Contractor for excavation and levelling, Mr. B. Gibson.

POST OFFICE, CUSTOM HOUSE AND INLAND REVENUE.

Messrs. Hatch, Brothers the original contractors for this building, having failed to carry out their contract, the Department considered it necessary to take the work off

their hands and relet it. This course occasioned considerable delay : 1st. By the necessity of settling for the work done by Messrs. Hatch, Brothers ; and 2nd. by having to enter into new contracts. Unfortunately, the difficulty occurred at a season of the year best adapted for the preparation of materials for the work of the ensuing summer. The progress made since the new contract was entered into is such, that in my opinion the building cannot be roofed in this year, without extraordinary exertions. The delay is the more to be regretted as the necessities for further accommodation in the present Post Office and Custom House are increasing. If, however, these anticipations are correct, the ensuing winter will give sufficient time to have all materials prepared, so that early in the spring of 1875 a vigorous push can be made, and the building completed by the fall of that year. The ground adjacent to the canal has been levelled up and a terrace in front of the building formed, and the approaches to the two bridges settled upon. The style of the building has been described in my Report of last year.

The several works, as now relet, are being done in sections, Mr. John Webster, of Ottawa, being contractor for the masonry, brickwork, &c. Messrs. Cameron & Mudie, of Kingston, for carpenter's work, &c. Mr. Godfroi Chapleau, of Montreal, for wrought iron, iron girders, safes and cast iron columns.

Architect, Mr. Walter Chesterton, of Ottawa.

RIDEAU HALL.

Repairs and slight additions have been made to the residence of His Excellency the Governor General. The reception room and green house, referred to in my previous Report, are now finished ; as well as the whole of the internal portion of the building. The roof of the old portion of the Hall, having been found to be in a leaky condition, it has been entirely re-covered. Arrangements are being made to have the City water supply taken from the main, on McKay street, to the Hall and outbuildings, thus giving a full supply of water at all times with the additional benefit of having it pure. Advantage can be taken of this water supply for the introduction of fountains, &c., in the gardens.

Work done under the immediate superintendence of the Department.

LONDON.

CUSTOM HOUSE.

This building, referred to in my previous Report as being nearly completed, is now occupied. Fixtures in shape of desks, counters, &c., specially designed, have been placed in the building.

Architect, Mr. W. Robinson. Contractor for building, Mr. Charles Dunnitt. Contractor for fixtures, Messrs. Wright and Durand.

POST OFFICE.

An addition to this building is now in course of erection one story in height ; it will give increased accommodation for the sorting of letters, &c., and a dwelling for accommodating the caretaker. Arrangements have been made to clean and to paint portions of the present building, it will be generally placed in a good state of repair.

Architect, Mr. W. Robinson. Contractors, Messrs. Wright and Durand.

IMMIGRANT DEPOT.

This building, owing to the original appropriation being insufficient, was curtailed from the dimensions first proposed, and certain portions were therefore omitted. Work on it was resumed this spring, and is now being carried on. Arrangements will have to be made with the Grand Trunk and Great Western Railway Companies for sidings to be placed on their property for the accommodation of immigrant trains, and until this be done the building cannot be utilized to its full extent.

Fences and outbuildings still require to be erected, but they are of minor importance and can be executed at short notice.

Architect, Mr. W. Robinson. Contractor, Mr. John Christie.

HAMILTON.

POST OFFICE.

The alterations and additions to this building, mentioned in my previous report, have to a certain extent been carried out, and have given increased facilities for transaction of business.

The fences surrounding the property have been repaired, the ground made up, and other repairs done. Further work is still necessary, which will have to be carried out at an early date. Owing to the work having to be prosecuted during the occupation of the buildings by the post office authorities and the public, the time taken for them has been longer than was originally anticipated. The remaining works, if authorized, can be more speedily done.

Architect, Mr. F. J. Rastrick.

TORONTO.

NEW POST OFFICE.

This building, fully described in my report of last year, is now completed and occupied. The necessary fittings now in position were designed to suit the various rooms, as well as to assure expedition in carrying on the duties of the post office.

Letter boxes of the American type have been placed in the external hall, each lessee having a separate key of his own, so that access is obtained to his box without reference to the officials. This plan is found to work well. The general arrangements have been executed from suggestions made by Mr. Sweetman, Post Office Inspector for the District, approved by the Department, and carried out by the Architect in charge.

The heating apparatus is found to work well.

Architect, Mr. Henry Langley.

Contractor for building, Mr. John Elliott; contractors for fixtures and fittings, Messrs. Wm. Elliott and O'Connor.

NEW CUSTOM HOUSE.

The works on this building, contracted for in 1873, and fully described in report of last year, are so far completed as to enable me to state that the roof will be on this fall, and the building closed in.

The work, so far as executed, is satisfactory. No just idea of the effect of the building when finished can be formed, until the scaffolding is removed.

Plans have been prepared for the warming apparatus, so as to place it under contract at an early date.

Architect, Mr. R. C. Windeyer of Toronto; contractor, Mr. Benjamin Walton of Toronto.

EXAMINING WAREHOUSE.

It is proposed to erect this building on a portion of the property purchased from the Ewart Estate for the Custom House, now in course of erection. The portion in question faces on Yonge Street and the Esplanade, with a frontage of 115 feet on the former and 86 feet on the latter.

The style of the building is to accord in design with that of the Custom House; to be four stories in height, the floors supported by iron columns and iron girders, and joists with brickwork between, and concrete floor, &c., over same; externally it is to be built of white brick with stone facings to windows and doors.

Plans are now in course of preparation, so that the work can be contracted for at an early date.

Architect, Mr. W. Irving of Toronto.

REVENUE OFFICES.

These offices, mentioned in my previous report, under the heading "Assistant Receiver General, Inland Revenue Offices and Offices for Marine and Fisheries," are now, and will hereafter be known as the "Revenue Offices."

Tenders for the various works were called for and contracts awarded. That portion of the building required as offices by the Assistant Receiver-General is now sufficiently finished to be occupied. The remainder of the work, viz., the Inland Revenue portion, is being carried on at a rapid rate.

The contract for the warming apparatus has been awarded.

Architects, Messrs. Langley, Langley and Burke. Contractors for building, Messrs. Elliott and O'Connor. Contractors for warming apparatus, Messrs. Keith & Co.

KINGSTON.

CUSTOM HOUSE.

The several works mentioned in my last Report have been executed in a satisfactory manner and the building is now in good order and condition.

POST OFFICE.

Repairs, mentioned in my previous Report, are now finished.

PROVINCE OF QUEBEC.

MONTREAL.

NEW POST OFFICE.

Owing to various causes, the progress on this building has not been such as to enable the contractors to finish the work by the time mentioned in the contracts, consequently, although the works were continued till late in the season they were closed for the winter at the level of the first floor cornice. At this stage the walls were covered in, in such a manner as to protect them from the effects of frost, the building remaining in that state until May.

The late spring of this year led me to stop the prosecution of the works until satisfied with the condition of that portion previously erected; the superstructure of which being of such a character, that I considered it necessary to adopt every precaution for its safety. A further delay arose from the non-arrival from Europe of wrought iron joists which had been substituted for those of wood. Every preparation has, however, now been made to push the work on by making use of steam as well as hand power.

In the course of last winter, the whole of the stone work required for the building proper was cut, and now only awaits the setting; this will greatly accelerate the work and when recommenced, there will exist no further cause for stoppage, and I fully anticipate that before the close of this year, sufficient progress will be made to enable the building to be covered in. The work already done is of a superior character.

The first contract entered into with Messrs. Allard & Dufort was for masons, bricklayers, carpenters and other works. Further contracts have since been awarded to them for the completion of the building excepting the fittings and warming apparatus, which will form separate contracts.

Plans have been made for warming apparatus, and tenders will be received at an early date. Further Drawings will have to be prepared for internal fittings and fixtures so as to have work ready at the same time as the building is complete.

This building was fully described in my Report for fiscal year ending 30th June, 1873. Architect, Mr. H. M. Ferrault. Contractors, Messrs. Allard & Dufort.

CUSTOM HOUSE.

The necessary repairs have been done on this building. The warming apparatus is now complete, so far as contract work is concerned. Further slight alterations and

repairs will be called for, and additions to the building, owing to the rapid increase of the requirements in this branch of the Public Service.

EXAMINING WAREHOUSE.

This building is proposed to be erected on the line of Common and McGill streets, contiguous to the wharves. The site is irregular in plan, bounded on the south-west by McGill street, on the north-west by a projected lane in rear of Messrs. Allan & Co's. offices, on the north-east by land ceded to the Harbor Commissioners for their offices and on the south-east by Common street.

Sketch plans have been prepared and approved of, and will be carried out so soon as a decision is arrived at with the city authorities, as to the new proposed alignment of Common street. It is intended to lay out the whole of the area enclosed in the limits mentioned above, and to cover it with one building, four stories in height. The proposed structure is to be fire-proof, and the loading and unloading of goods will be done by steam power.

At the junction of Common and McGill streets, offices will be arranged for the Engineer of the Lachine Canal, and rooms for the office care-taker.

QUEBEC.

POST OFFICE.

Slight alterations and additions, essential to the proper working of the Post Office, and to render the building complete and perfect, have been executed in the course of the current year.

An electric clock is ordered, and arrangements have been made for gas fixtures; the latter having been delayed until such time as the various tables were placed in definite position.

Architect, Mr. Thos. J. Lepage.

CUSTOM HOUSE.

A fence to enclose the building has been arranged for. Slight repairs have been executed in the interior to make good the damages produced by the river flooding the basement in the spring and fall of each year, causing the rotting of the timber of the basement floor. The approaches from the city have been improved.

Architect, Mr. Thos. J. Lepage. Contractor, Mr. J. B. Lafrancois.

OBSERVATORY.

This building, particularly described in my report of last year, has since been completed, and is now occupied by the Director, Commander Ashe, R.N.

Further requirements, in shape of fencing the property as well as for the introduction of water from the city mains have still to be executed, to render the whole complete.

Architect, Mr. Thos. J. Lepage. Contractor, Mr. Joseph Matthieu.

MARINE HOSPITAL.

The repairs to this building, mentioned in my report for the fiscal year ending 30th June, 1873, have been, to a great extent, executed. There is still further required the painting, or otherwise cleaning of the whole of the interior of the building—necessitated originally by its having suffered some years ago from the effects of an earthquake, and since then by the wear and tear to which it has been exposed.

The works contracted for have been delayed owing to further dilapidations having been discovered on removing the plastering from the walls. These defects have now been rectified.

Architect, Mr. Thos. J. Lepage. Contractor, Mr. A. Laberge.

CITADEL.

The alterations and additions required to the Building, known as the "Officers' Quarters," one portion of which is used as a residence for His Excellency the Governor

General, and the other for Officers' Quarters, have been finished, including the stables.

The buildings generally have received slight repairs, and portions of the walls of the fortifications been pointed. The casemates have been repaired, and roof in parts made good. These works will have to be continued during the present and ensuing year; the extent of which is now under consideration by the Department.

Architect, Mr. Thos. J. Lepage.

IMMIGRANT DEPOT, POINT LEVIS.

An additional gallery has been added to this building for the accommodation of Immigrant's baggage. The floors of the main building have been caulked and made watertight, a work rendered necessary by the building being sluiced with water when it was required to wash the floors. Slight alterations in internal arrangements have been executed, and the building is now in good working order.

Architect, Mr. Thos. J. Lepage. Contractor, Mr. Joseph Garneau.

QUARANTINE STATION, GROSSE ISLAND, NEAR QUEBEC.

These buildings, for which a contract was entered into with Messrs. Piton & Co., are not yet finished. The progress of the work and the quantity of material delivered are so unsatisfactory that the work will have to be taken out of the contractor's hands. Fortunately, the number of immigrants this year has been small, and there has been no sickness among them, otherwise the delay would have caused a serious injury to the proper working of the establishment.

Architect, Mr. Thos. J. Lepage. Contractors, Messrs. Piton & Co.

CUSTOM HOUSE AND INLAND REVENUE OFFICES, THREE RIVERS.

This building, now being erected, is placed on a portion of the Platon Property, immediately facing Notre Dame street, in close proximity to the business street of the city. Accommodation will be provided for the Customs and Inland Revenue Departments. It has a frontage on Notre Dame street of 45 feet 4 inches with a depth of 32 feet 6 inches; in addition to which there is a wing in rear, adapted for a Long Room, measuring 30 feet by 20 feet external dimensions. The main floor is placed at a sufficient height to make that of the basement habitable. In this portion of the building, the Examining Warehouse and dwelling for the keeper is placed. On the principal floor is the Long Room with four offices attached.

The upper story, formed by the mansard roof, is to be left unfinished. The Style is of a plain character, the stone from the district being used for the external walls of the basement, and brick for the external walls above basement, and internal walls. The roof is to be covered with galvanized iron.

Owing to the level of the site being much higher than that of Notre Dame street, it required the removal of a large quantity of material, thereby adding to the expense. The necessary fence enclosures, out-buildings and office fixtures, have yet to be provided.

It is fully expected the building will be ready for occupation before the end of this year.

Architect, Mr. H. M. Perrault, of Montreal. Contractor, Mr. Charles Dugré, of Three Rivers.

PROVINCE OF NEW BRUNSWICK,

ST. JOHN.

NEW POST OFFICE.

The work on this building has, during the last year, been carried on in a satisfactory manner. The preparations made, in shape of materials and scaffolding for the continuance of the work, are so satisfactory that I have little hesitation in assuming that the building will be closed in by the fall of this year. The work of the interior can be proceeded with

during the winter to a certain extent, and the finishings can be commenced, so as to have the whole completed by the autumn of 1875.

This building was described in detail in my report for the fiscal year ending 30th June, 1873.

Architect, Mr. Mathew Stead. Contractors, Messrs. Causey, Stirling and Emery.

CUSTOM HOUSE.

In accordance with a requisition made by the Department of Marine and Fisheries, the roof of this building has been utilized for a Signal Station and for the Time Ball and Weather Drum in communication with Partridge Island, at the mouth of the Harbor. They are now in working order. Internally the various offices have been placed in a good state of repair, and other usual repairs have been executed during the past year.

Architect, Mr. Matthew Stead.

SAVINGS-BANK.

This building is now occupied by the Assistant Receiver-General. It has lately been fitted up with a steam apparatus, as the open fires originally proposed were found to be insufficient. The attic has been utilized in part for the accommodation of the keeper. The change from his former position in the basement was considered necessary, owing to the position which the building occupies on the slope of a steep hill, whereby the water from the adjacent and higher places entered the basement floor and rendered it damp and unhealthy.

Architect, Mr. Matthew Stead.

QUARANTINE STATION PARTRIDGE ISLAND NEAR ST. JOHN.

Necessary slight repairs have been done to this building. The wharf, having had more ballast placed in it, is now secure and its position has proved satisfactory. The buildings generally are in a good state of repair.

CHATHAM.

CUSTOM HOUSE, POST OFFICE AND INLAND REVENUE OFFICE.

The contract work on this building purchased for this branch of the Public Service has since been executed. It is now occupied and in good order and condition.

Work done under the superintendence of the Department.

Contractor, Mr. Peter Loggie.

NEWCASTLE.

CUSTOM HOUSE.

The alterations required to this building in order to adapt it to its various purposes, have been executed and the building is now occupied. The work was done under the immediate superintendence of the Department.

Contractor, Mr. George Brown.

ST. ANDREWS.

MARINE HOSPITAL.

This building has, since the date of my last report, been erected and finished. Fences, &c., of a slight character have yet to be attended to.

Work was done under the superintendence of the Department.

Contractor, Mr. Angus Stinson.

PROVINCE OF NOVA SCOTIA.

HALIFAX.

DOMINION BUILDING.

The repairs required to this building as mentioned in my last report, have since been done. Further repairs will have to be executed this year.

By the alterations made to suit the various rooms on the ground floor, the floors above were weakened and commenced to sag. This injury has to be rectified; the expense, however, will not be great.

Architect, Mr. H. G. Hill.

QUARANTINE BUILDINGS, LAWLOR'S ISLAND, NEAR HALIFAX.

The buildings recently erected upon this Island have proved advantageous. It has been considered necessary to fit them up for winter use, as immigrants arrive in the Port of Halifax at all seasons of the year. The buildings, generally, are in good condition. A further small outlay will be required to place the various roads connecting the several buildings in a good state of repair, and arrangements are being made to extend them to the level of the proposed wharf, the position of which has now been definitely settled.

Architect, Mr. H. G. Hill.

PICTOU CUSTOM HOUSE.

A new set of plans, to meet the amount of the appropriation, has been prepared and approved, and tenders asked for. The site will be the same as originally proposed, viz: at the steamboat landing on the Pictou side of the Pictou Extension Railway.

PROVINCE OF MANITOBA.

WINNIPEG.

CUSTOM HOUSE, INLAND REVENUE AND POST OFFICE.

The necessary plans having been prepared for these buildings, tenders were received, and the contract was awarded to Mr. Joseph Wood. As it was decided to place the two former buildings upon the property of the Hudson Bay Company, it has been necessary to arrange for the transfer of the sites to the Government, owing to which some delay has arisen. These buildings are now in course of erection; both are to be built of brick on stone foundations, with mansard roof, the latter covered with shingle and gravel. The Custom House has a frontage on Garry Street of 54 feet, and a depth of 56 feet. The offices for the Custom House proper occupy the principal floor; the upper stories are fitted up as a residence for the Collector. The Land Office is similar in construction, being situate at a distance of 74 feet from the Custom House with a frontage of 41 feet on Garry Street and a depth of 41 feet; it is two stories in height, with an unfinished attic. The latter is of sufficient height, and arranged so as to be made useful if required. The internal arrangements give one large room at the front, with two rooms in connection with it, and fire proof vaults in the rear. The upper floor is similar in every respect to the lower.

The Post Office Building was originally proposed to be placed adjacent to the Custom House and Land Offices, but a requisition of citizens, numerously signed, having been received by the Department, and an offer made by Mr. Ballantyne to give a site, free of expense, to the Government, it was decided to accept the offer; and it is expected that after the necessary deeds have been prepared, the building will be started and pushed forward, so as to be ready for occupation only a few months later than if the site had not been changed.

The position selected for this building is at the south angle of Garry and Owen streets. The construction will be similar in every respect to that of the Custom House and Land Office; but internally the whole space will be left clear and open, excepting the iron columns which support the upper floor.

Contractor, Mr. Joseph Wood.

PENITENTIARY.

Plans, &c., having been prepared and approved, tenders were asked for the erection of this building. The contract was awarded to Messrs. Morrison and Barclay, of Guelph.

The site chosen is situated at Stoney Mountain, about fourteen miles from Winnipeg. As proposed to be erected, the building will contain residences for the keepers and other prison officials. It is considered that this portion will be sufficiently large to accommodate the staff, when the jail proper is built to the full extent. At the present time, one wing only of the five is proposed to be erected. Its arrangement is similar to that of the Central Prison at Toronto, the cells being built in the centre of the enclosure, with a space between them and the outside walls of ten feet. These cells are to be four ranges in height, the upper ones being approached by means of stairs and open galleries. Of these cells, 12 will be on the basement floor, 20 on the first, 20 on the second, and 15 on the third floor, making a total of 67 cells. The size of each cell is eight feet by four feet. The basement is allotted to the female cells, wash and bath rooms, water closets and boilers. The dining hall is also placed in this portion of the building, kitchen and other rooms being in close contiguity. Ventilation has been provided in the shape of a large shaft, built with brick; an iron tube leads the smoke from the furnaces, causing a constant draft. Externally this shaft forms a feature of the design. The stone, of which the lower portion is constructed, has been found on the spot, and it is expected that bricks can be made from clay which is found in the immediate vicinity.

Architect, Mr. I. P. M. Lecourt; contractor, Messrs. Morrison and Barclay.

PROVINCE OF BRITISH COLUMBIA. VICTORIA.

POST OFFICE, SAVINGS BANK, AND CUSTOM HOUSE.

Buildings are now in course of construction for Post Office, Receiver General or Savings Bank, Public Works and Indian Department.

Materials used are stone for foundations, brick for external walls, roof of wood covered with gravel. The buildings are so arranged, that when found to be insufficient for the requirements, they can be sold to advantage, on more suitable buildings being erected.

Architect, Hon. B. W. Pearse.

Plans are now being made by the Department, for Custom House, in which are to be placed offices for Departments of Inland Revenue and Marine and Fisheries.

The buildings mentioned in my last report as being in course of construction are now finished and occupied. It was proposed to place the Custom House in this block, but the requirements having been found to exceed the space that could be allotted, it was decided to have an independent building erected for this Department. Plans were prepared in this Department and sent to Victoria, B.C., and upon them tenders were received. The contract was awarded to Messrs. Smith and Clark and McKay and Burgess. The building itself will have a frontage of 40 feet, with a depth of 62 feet, plain in character. Foundations and basement floor walls are of stone and superstructure of brick. On the main floor are Long Room and rooms for Collector, Chief Clerk, Landing Waiters, Vault, &c. On the upper floor are those for Inland Revenue offices, and Marine and Fisheries. The basement is devoted to Examining Warehouse and caretaker's apartments. The Examining Warehouse is also on this floor from which there is access to the wharf. This wharf is proposed to be enlarged, and the matter is now under consideration.

PENITENTIARY.

Plans, &c., have been prepared and approved, and tenders asked for the erection of this building.

The site chosen is situate at the Government Reserve. New Westminster. As proposed to be erected, the building will contain residences for the keepers and others required for the control of the prisoners, and it is considered sufficiently large to accommodate the staff when the jail proper is built to its full extent. At the present time, one wing only out of five is proposed to be erected. The arrangement of same is similar to that of the penitentiary in course of erection at Stoney Mountain, Manitoba; the cells

being placed in the centre of the wing, with a space between them and the outside walls of ten feet. These cells are to be four ranges in height; the upper cells being approached by means of stairs and open galleries. Of these cells, 12 are to be placed on the basement floor, 20 on the first, 20 on the second and 15 on the third floor, making a total of 67 cells. The size of each cell being 8 feet by 4 feet. The basement is allotted to the female cells, wash and bath rooms, water closets and boilers. The dining hall is also placed in this portion of the building, the kitchen being in close contiguity. Ventilation has been provided for in the shape of a large shaft built of brick; an iron tube leading the smoke from furnaces causes a constant draft. Externally this shaft appears as a feature of the design.

Architect, Hon. B. W. Pearse. Contractors, Messrs. Kinsman & Styles.

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

THOS. S. SCOTT,

Chief Architect, Public Works.

F. BRAUN, Esq., Secretary.

Public Works Department.

APPENDIX 20.

GENERAL STATEMENT shewing: 1st Water Power and other Public Property leased on Canals, &c., during the Fiscal Year ending 30th June, 1874.

Date.	Term of Lease	Lessees.	Property Leased.	For what purpose used.	Amount of Water Power Leased.	Area of Property.	Date from which the Lease is reckoned.	Annual Rental.	Terms of Payment.			Remarks.
									Amount of each instalment.	When payable each year.	When first instalment was due.	
Sept. 30, 1873	Pleasure of Govt	Government to John Branigan.	Part of Lots Nos. 35 and 36, in 4th Concession Kingston, and being part of Rideau Canal Reserve.	Pasturage and right of way.			Aug. 1, 1873	\$ 10 00	cts. 10 00	Aug. 1.	On delivery of lease.	
May 5, 1874	do	Government to Abel R. Ward.	Part of Lot No. 1, in 4th Concession North Elmsley near the combined Locks at Smith's Falls, Rideau Canal				July 1, 1873	0 20	0 20	July 1.	do	
131 Aug. 27, 1873	During his life.	Henry Ogden to Government.	Land at South-W. end of Rang des Grandes Prairies, North shore River St. Maurice.	Booming.			Sept. 2, 1871	200 00	200 00	Sept. 2.	Sept. 2, 1872.	
Oct. 29, 1873	21 years, and 21 years.	Government to John Rochester.	Two strips of Government Reserve on Lot No. 39, broken front Concession A, Nepean, on River Ottawa.				Sept. 8, 1873	50 00	50 00	Sept. 8.	Sept. 8, 1874.	
Mar. 7, 1874	21 years, renewable.	Government to George Stirling.	Strip of Ordnance land at foot of Major's Hill, Ottawa City.				Jan. 1, 1874	1st 10 years, 20 00 2nd 11 years, 40 00 3rd after, 100 00	20 00 40 00 100 00	Jan. 1, July 1, July 1.	July 1, 1874.	
Mar. 6, 1874	do	Government to Montreal Cotton Company.	Water Lots 3, 4, 5, 6, 7, and Cotton Building Lot in rear, on Grande Isle de Beauharnois, head of Canal, and West end of lower dam.		Unlimited over 800 horse power.	182 x 76 feet.	Jan. 1, 1874	\$1 per horse power to 800 horse power, and 30 cents per horse power over 800 horse power.	800 horse power, and 30 cents per horse power over 800 horse power.	Jan. 1 July 1	July 1, 1876.	To secure Govt. for advance on this lot.
Mar. 5, 1874	4 years.	John Brown to Government.	Lot North 1/2 of North 1/2 22, Thorough and part of Lot 13, Welland Canal.	Service ground.			Mar. 1, 1874	0 01	0 01	(When demanded).		
May 1, 1874	Pleasure of Govt	Government to Wm. Hurstman & al. Road Trustees.	Right of way over Ordnance land for a road through Lot F, Concession D, Nepean, on Rideau Canal.	Right of way.			May 1, 1874	Free.				

2nd.—Property Purchased or Sold by the Department during the Fiscal Year ending 30th June, 1874.

Date.	Vendors, &c.	Purchasers.	Property Sold or Purchased.	For what purpose used.	Area of Land.	Price of sale.	Remarks.
July 15, 1873.	Robert Ross and wife.	Her Majesty	Lots D. F. on Western Point of St. Andrews Island, County of Charlotte, N. B.	Pest house.	13 acres.	\$ cts. 300 00	
Aug. 16, 1873.	Bank of New Brunswick.	do	Additional strip 6x11 feet for right of way, at end of passage along and between the Bank and Post Office, St. John, N. B.	Right of way.	6x11 feet.	650 00	
May 5, 1873	Her Majesty	Abel R. Vard.	Part of Lots Nos. 1 and 2, in 4th Concession, North Elmsley, with reservation of other parts for Rideau Canal purposes.		(A. R. Poles 0 1 39 ⁴ 1 0 6 0 0 37 3 0 17 }	1 00	Certain portions are reserved.
13 Aug. 30, 1873.	John Kerry and az.	Her Majesty	Land and Water, on Lot No. 26, in 4th Concession, Bedford, Rideau Canal.	Site of Crow Lake Dam.	1 acre.	400 00	
do	Joseph H. Pellerose.	do	Lot at St. Vincent de Paul, on Riviere des Prairies.	Penitentiary.	5,996 feet.	10,000 00	With interest at 6% since 1st May, 1872.
Feb. 11, 1870.	J. H. Pellerose and C. Germain.	do	Servitude for Water Works.	Right of way.		1,000 00	
Nov. 4, 1873.	Her Majesty	Maurice Cavillier.	Promise of sale of old Post Office site, Montreal.			100,000 00	
do	W. A. Himsworth	Her Majesty	Release of damages, loss of riparian rights in front of Lot No. 6, in 3rd Range, Ptul. by Little Chaudiere Station Works.			800 00	
do	Alex. Dewar	do	Release, damages to his mill property in Grenville, by Grenville Canal Works, past damages and five years to come.			350 00	
Oct. 21, 1873.	Eust. H. Lemay	do	Lot of land at St. Vincent de Paul, Riviere des Prairies.	Penitentiary.	76 arpents.	18,000 00	With interest at 6% from 11th December, 1872.
do	Hugh Robertson	do	Release, damages to his mill property at Isle aux Chats, Chatham, by Carillon Canal Works, past damages and four years to come.			3,800 00	
Jan. 10, 1874.	Hiram Parks	do	Part of Lot No. 10, in 7th Concession, Grantham (Sub-division No. 4).	Welland Canal	12 acres.	5,500 00	

do	12, 1874.	F. X. Deoust.....	do	...	Release, damages to Lot No. 22, 1st Beauharnois Concession, Catharinetown.	do	13 00
Sept. 1, 1854.	J. McLeod and others, Commissioners.	do	...	Dedication to the Queen, of land at St. Peter's Richmond, N.S.	Dam. Canal.	do	do
Aug. 29, 1854.	C. D. Archibald and G. Handley.	do	...	do	do	do	do
do	3, 1855.	C. W. Folsom, Engineer.	do	...	do	do	do
June 5, 1873.	Her Majesty.....	Hudson's Bay Company.	do	...	Land on North side of River Assiniboine, and West of Red River, Manitoba.	do	450 acres.
Mar. 30, 1874.	Jas. Mota	Her Majesty	do	...	Lot No. 2, 832, on Buede and Frontenac Streets, Quebec.	Post Office	1,731 feet, English measure.
June 15, 1874.	John Riley and ux...	do	...	Part of Lot No. 19, in 3rd Concession, Grantham.	Welland Canal enlargement	do	34.45 acres...
do	9, 1874.	R. Slingerland and ux.	do	...	Part of Lot No. 13, in 6th Concession, Grantham.	do	7.49 do
May 5, 1874.	F. E. De Jonghe and ux.	do	...	Part of Lot No. 15, in 5th Concession, Grantham.	do	do	2.00 do
April 21, 1874.	Jas. M. Potter and ux.	do	...	Park Lot No. 2, or part of 16, in 4th Concession, Grantham.	do	do	4.65 do
do	22, 1874.	S. Needon and ux.....	do	...	Lots 4, 5, in 2nd W. Roll's Estate, or part of 15, in 5th Concession, Grantham.	do	4.00 do
do	22, 1874.	M. Cook and ux.....	do	...	Lots 4, 5, in 2nd W. Roll's Estate, or part of 13, in 6th Concession, Grantham.	do	1.75 do
April 8, 1874.	J. Horner and ux...	do	...	Lots 16, and part 15, 1st R. Roll's Estate, part 15, in 5th Concession, Grantham.	do	do	1.50 do
May 1, 1874.	L. Cyrrill and ux...	do	...	Lots 16, and part 15, 1st R. Roll's Estate, part 13, in 6th Concession, Grantham.	do	do	24.71 do
April 8, 1874.	Isaac Gilmore and ux	do	...	Lot 12, R. 1, Roll's Estate, part 15, in 5th Concession, Grantham.	do	do	1.21 do
do	8, 1874.	J. A. Lambert.....	do	...	Lot 12, R. 1, Roll's Estate, part 17, in 4th Concession, Grantham.	do	25.48 do
do	13, 1874.	D. Watson and ux...	do	...	Lots 2, 3, in R. 2, Roll's Estate, part 15, in 5th Concession, Grantham.	do	4.00 do
do	6, 1874.	Jas. M. Potter and ux.	do	...	Lots 2, 3, in R. 2, Roll's Estate, part 16, in 5th Concession, Grantham.	do	2.63 do
May 15, 1874.	Widow Ann Flannery	do	...	Plan Lot No. 3, on South-West 4 of Lot 16, in 4th Concession, Grantham.	do	do	5.00 do
April 23, 1874.	N. Cyrrill and ux...	do	...	Lots 10, 14, R. 1, Roll's Estate, part 15, in 5th Concession, Grantham.	do	do	1.97 do
May 16, 1874.	J. Stull and mother.	do	...	Lots 10, 14, R. 1, Roll's Estate, part 7, 8, in 8th and 9th Concession, Grantham.	do	do	12.93 do
April 30, 1874.	J. M. Potter and ux and al.	do	...	Lots 10, 14, R. 1, Roll's Estate, part 15, in 5th and 9th Concession, Grantham.	do	do	1.31 do

50 acres reserved out of 500, for public purposes.
And ground, rent of sixfrances, to Hotel Dieu, Quebec.

2nd.—Property Purchased or Sold by the Department, &c.—*Concluded.*

Date.	Vendors, &c.	Purchasers.	Property Sold or Purchased.	For what purpose used.	Area of Land.	Price of sale.	Remarks.
June 2, 1874.	J. W. Grote and <i>uz.</i>	Her Majesty	Part Lot 1, Shenstone Estate, or part 16, in 4th Concession, Grantham.	Welland Canal enlargement	2.78 acres	\$ 752 50	
May 5, 1874.	H. Conlan	do	Lots 11 and 13, R. 1, Koll's Estate, or part 15, in 5th Concession, Grantham	do	1.90 do	2,000 00	
April 21, 1874.	C. Brown and <i>uz.</i>	do	Lots 1 to 13, Brown's Survey, or 6, 2nd R., Koll's Estate, part 15, in 5th Concession, Grantham.	do	1.69 do	1,800 00	
May 27, 1874.	M. P. Neff and <i>uz.</i>	do	Part Lot 26, in 3rd Concession, Humbersstone.	do	13.23½ do	992 25	
June 5, 1874.	J. G. Currie and <i>uz.</i>	do	Lots 4 to 10, Block D, Donaldsons, or part 14, in 5th Concession, Grantham	do	8.57 do	4,275 00	
May 16, 1874.	Rev. C. B. Fuller	do	Part of Lots 6, 7, in Township Thorold	do	36.75 do	3,675 00	
do 16, 1874.	do	do	do 4, 5, 6, do	do	70.43 do	7,746 20	
do 25, 1874.	D. Fraser	do	Part Lot 14, in Block 70, official map, Victoria, B. C.	Custom House	.....	1,800 00	
do 22, 1874.	H. A. Cuazo	do	Part Lot 16, in Block 70, official map, Victoria, B. C.	do	.....	1,800 00	
June 30, 1874.	H. Pultz and <i>uz.</i>	do	West part of No. 28, 3rd Concession, Hinchinbrooke, Rideau Canal.	Drowned land	8 acres	123 75	
do 30, 1874.	do	do	Release, damages to Hinchinbrooke, Rideau Canal.	do	.....	.....
July 8, 1874.	C. & M. M. Montgomery.	do	do do do	do	.....	.....

3rd.—Property no longer under Control of this Department.

Date of Order in Council.	Published in Canada Gazette at page	Property Abandoned or Transferred.	To Whom.	Remarks.
Dec. 1, 1873.	.....	Huntingdon and Lake St. Francis Road.....	Village of Huntingdon and other municipalities through which the road passes.	Transferred.
Oct. 30, 1873.	.....	Jesuit Barracks, Quebec.....	Government of Quebec.....	do
June 19, 1874.	2035	Hamilton and Port Dover Road and Caledonia Bridge.....	Municipalities.....	Abandoned.
do 19, 1874.	83	Government House, Charlottetown, Prince Edward Island.....	Government of Prince Edward Island.....	Transferred.

APPENDIX No 21.

STATEMENT of Claims referred to and awarded upon by the Official Arbitrators during the Year ending 30th June, 1874.

Claimant.	Subject of Claim.	Date of Reference to Arbitration.	Amount Claimed.	Amount Awarded.	Date of Award.	Remarks.
Alex. Ynull.	Ottawa River Works.	21st April, 1873.	\$ 6,795 84	Nil.	29th Sept., 1873.	
Heirs D. Campbell.	Intercolonial Railway.	14th Aug., 1873.	950 00	600 00	do	
Charles Poherty.	do	do	2,500 00	1,050 00	do	
Mrs. James Nevins.	do	do	2,500 00	1,250 00	do	
John O'Brien.	do	do	4,000 00	1,700 00	do	
Estate J. Simonds.	do	do	3,958 00	2,630 00	do	
Edward Simonds.	do	do	350 00	3,750 00	do	
James Van Horne.	do	do	4,000 00	Nil.	do	Abandoned by Claimant.
J. & R. Smith.	do	do	2,553 05	2,857 00	do	
Robert MacLeod.	do	do	9,600 00	6,323 14	do	
Estate H. Mahoney.	do	do	10,000 00	1,800 00	do	
John Smith.	do	9th Sept., 1873.	8,000 00	2,000 00	do	
Mrs. Christiana Ross.	do	29th Aug., 1873.	500 00	Nil.	do	
John Black.	do	8th Sept., 1873.	11,344 00	Nil.	7th Nov., 1873.	
A. O'Leary.	do	4th Oct., 1873.	14,000 00	7,000 00	15th Nov., 1873.	
E. O. Richard & Son. W. D. Campbell and H. Gowen.	St. Maurice River Works.	7th do	175 00	Nil.	do	Referred by Dept. of Customs.
Michael MacMahon.	Intercolonial Railway.	14th do			do	Referred by Dept. of Marine and Fisheries
Alex. Cameron.	do	25th do			do	do
James Motz.	Quebec Post Office Building	31st do			do	do
Charles Beamish.	Market Wharf, Halifax	24th do			do	do
Robert Ingraham.	Land taken for Lighthouse, Sydney.	3rd Dec., 1873.			do	do
J. W. Young.	do do Causo.	20th Jan., 1874.			do	do

OTTAWA, 30th June, 1874.

(Signed) F. HENNIS,
Secretary O. A.

APPENDIX No. 22.

REPORT OF THE CHIEF ENGINEER OF PUBLIC WORKS ON THE BAIE VERTE CANAL.

(In No. 38,591.)

OTTAWA, 10th December, 1873.

THE SECRETARY OF PUBLIC WORKS.

SIR,—

I duly received your letter, No. 19,415, together with an order of the Honorable the Privy Council, dated 9th May, 1873, directing an investigation to be made relative to the different projects recently submitted for a canal between the Bay of Fundy and the Gulf of St. Lawrence.

In carrying out these instructions, it may be premised, that for the past 50 years a project of this kind has been at intervals before the public, and has resulted in several instrumental surveys being made, and numerous reports descriptive of the respective localities prepared.

These explorations appear to have been chiefly carried on at the instance of, or directly through, the Government of New Brunswick, who naturally retained the documents connected with them, and subsequently (1868) handed over as many of them as could be collected, to the Dominion Government.

All the plans and reports thus received were sent to me, with instructions to examine them, so as to advise the best course to adopt, in order to comply with the import of an address passed by the Senate and House of Commons on the subject.

In May following, I submitted a brief summary of these reports, together with such remarks in relation to them as circumstances seemed to warrant; it is not therefore deemed necessary to refer again to them, further than to say that they had in view the construction of a canal of much less capacity than that now contemplated, and such as would be quite inadequate to the requirements of the present time.

On the whole, it was found that the documents did not contain sufficient information to enable a reliable opinion to be formed of a work of this extent, nature and importance; still it was clearly stated that a line between Cumberland Basin and Baie Verte was the most favorable route of any that could be selected for the purpose.

I therefore recommended that authority be obtained to make such surveys and examinations of the isthmus, as would enable the whole subject to be laid fully and clearly before the Government.

This was subsequently authorized, and in July, 1870, Mr. G. F. Baillairgé was detailed to the duty of conducting the surveys and examinations required, which fully occupied him until the early part of June, 1871.

In February of that year, Mr. Samuel Keefer, secretary to the Canal Commission, made a special report to that body "on the practicability of the Baie Verte Canal," making various suggestions on the subject, which, together with the estimated cost (\$3,250,000) of carrying them out on the scale recommended, are endorsed by Mr. C. S. Gzowski, one of the Canal Commissioners.

In April, 1872, Mr. Baillairgé submitted a carefully prepared map of all that section of the country between Cumberland Basin and Baie Verte, and for a width of fully 10 miles, shewing minute soundings of the harbors at both ends, accompanying which were profiles of six different survey or trial lines, and a report containing much valuable information relative to the tides, harbors, rivers and general nature of the country.

The principal features of the scheme recommended for adoption are to make the low water level of the canal about the height of the lowest neap tides in Cumberland Basin, or about 85 feet over datum*—bottom to be 69 feet over datum—and to make the high water level about two feet under ordinary spring tides, or 88 feet over datum, so as to leave a range of three feet for lockage purposes, &c., during neap tides.

This reserve, it is stated, should be as large as possible, but its height should be such as not to interfere permanently with the drainage of the marshes; if, however, the quantity thus retained be found insufficient, some of the rivers which empty into Cumberland Basin might be converted into reservoirs.

For a canal, accessible at all times of the tide, four locks are to be placed at the western terminus, three of them to have a lift of $40\frac{1}{2}$ feet, and one to be arranged so as to exclude the tide after the level reached the elevation of ordinary high water, or 88 feet over datum.

This summit level he proposes to extend either to a little above the post road bridge over the River Tidnish, a distance of $16\frac{3}{4}$ miles, or to about the full extent of the canal at Tidnish Head, where two locks, embracing a lift of about $25\frac{1}{2}$ feet are to be built.

Thence outwards into Baie Verte, piers of cribwork are to be carried for such a distance as may be necessary for the protection of the channel after it has been dredged to a depth of 16 feet at low water. Piers at the western entrance are also to be built, and the channel made to a depth of 16 feet.

An estimate of quantities of excavation, pierwork, &c., required on each of the six lines described in the report is furnished, based upon forming a canal accessible to vessels of 15 feet draught at all times of the tide; but no estimate is given of the cost of carrying out the work on either line.

The Au-Lac, viâ Tidnish route, is recommended as the most favorable with respect to access at low water, elevation of the ground, water supply, and drainage of adjoining lands.

It is also stated that the terminus for a canal accessible to vessels of a like draught at about half-tide, can be located between Au-Lac Point and Sharp's Creek; but "the best entrance in such case would be between the outlet of the La Planche and Sharp's Creek."

The report of Mr. Baillaigé on his survey, together with the plans and other documents connected with it, were handed to me in the latter end of April, 1872; but being at the time unable to give that attention to the matter which its importance demanded, the Minister invited Messrs. Gzowski and Keefer to examine the plans, report, &c., and to favor the Government with their opinion on the subject.

These gentlemen at once complied, and after making some suggestions relative to the location, &c., prudently intimated that no decisive opinion could be given without a formal examination of the locality, and more time to consider the question.

In reply to a letter subsequently addressed to them on the subject, they informed the Minister that one of them was ready, if desired, to go over the ground to ascertain whether the best line had been selected.

In the latter end of August of that year, after an examination of the locality had been made by Mr. S. Keefer, they pointed out a number of objections to the line recommended, and directed attention to what was considered a more favorable and better route, a location survey of which they desired to have made under their own personal direction.

This having been authorized, the survey was made, plans prepared, and a general report on the subject, "with Mr. Gzowski's approval prefixed," was handed to the Minister in February last.

The latter document, together with others submitted since that time, contain elaborate descriptions of the design contemplated, the main features of which may be readily understood from the following synopsis:—

It is stated that there are great difficulties to be encountered in the construction of a canal through the isthmus; but that they can all be surmounted with care, skill, &c.

* The assumed datum line of all levels marked on the map, shown in the profiles, or referred to in the report, is 50 feet below ordinary low water of spring tides of the Bay of Fundy.

The entrance on Cumberland Basin is recommended to be at the mouth of the River La Planche, and from there the line continues straight to Fox's Point, thence trends to the Northward, and after passing in a winding course through Long Lake and certain swamps, it crosses, then follows in nearly the same direction the Little West branch of the Tidnish River.

Near the junction of this branch with the main river, the third lock is to be placed, and the water level below it raised five feet over high water in Baie Verte, by a dam at the mouth of the river.

From this lock downwards, the canal winds along either in the main channel of the river, or low ground adjoining it, to Tidnish Head, and by means of "a sea embankment," two-and-a-quarter miles long, is continued at the same level to the fourth or entrance lock, situated in the bay, at about 1,600 feet out from Weeks' Point.

This lock will have a lift varying from five to fifteen feet, and is to be connected with the shore by a water-tight embankment; and at the lower end, two parallel piers, 1,800 feet long, are to be built out to a depth of 15 feet at low water.

At the Western entrance it is proposed to have two locks, both carried to the same height; the first, situated near the mouth of the La Planche, will have a varying lift from 0 to 12 feet, and the second, about 600 feet further inland, will be a guard lock, with gates facing both ways, and adapted to a lift of from 0 to 10 feet in either direction, and so as to keep out such spring tides as rise over ninety-two feet above the datum line.

It is recommended that arrangements should be made for the upper reach to have a variation of six feet—high water being assumed at ninety-two feet, and low water eighty-six feet over the datum line of Baillaireg's survey. The space between these heights in the prism of the canal, and certain adjoining lakes, is intended for the storage of water for the supply of navigation during periods of low tides.

This summit level is twelve-and-a-half miles long, and the reach between the third and fourth locks, $7\frac{7}{10}$ miles in length; the total distance between the respective outlet locks is $20\frac{1}{2}$ miles.

At the summit, 118 feet over datum, for a quarter of a mile in width, and a mile and a half in length, there is a spongy vegetable moss, from ten to fifteen feet in depth, under which was found from ten to fifteen feet of red clay, resting on red sandstone.

The bottom of the canal being seventy feet over datum, the solid excavation through the summit will be twenty-eight feet, besides twenty feet of moss; and the general depth of cutting through the marshes will be 22 feet.

Relative to the water supply, it is stated "the quantity that can be stored between the fluctuating surfaces of the upper reach, 6 feet deep, and $12\frac{1}{2}$ miles long, is 69,696,000 cubic feet; area of the adjoining lakes, 24,748,400 feet, which if all drawn down six feet to feed the canal, will afford a supply of 148,490,400 cubic feet; total, 218,186,400 cubic feet.

The water required for lockage, &c., daily, when the canal is worked to its full capacity, is estimated at 12,000,000 cubic feet, so that the storage capacity will be equal to the requirements of eighteen days.

When proceeding with the works, it is proposed first to excavate through the marsh lands on the summit level, a channel fifty four feet wide at surface, eighteen feet wide at bottom, and eighteen feet deep, and to use the material to form an embankment along the sides. Gulleys of similar dimensions are to be cut through the moss at the water-shed to drain and dry it, so that it can be burned; when this has been done, and a channel cut through the earth and rock underneath, temporary road bridges put up, and a suitable outfit provided, the water is to be admitted into the cut, and allowed to take its course freely to Baie Verte.

This, it is stated, will have the effect of scouring out the channel in the most expeditious and economical manner. The floating bog to be cut into convenient patches, and floated out to sea.

The greater part of the material, it is said, will be thrown into the shallows in Baie

Verte ; but it is not likely to injure the fishing ground, "as the more valuable Shad fisheries of Cumberland Basin have a bottom precisely similar to that which this material will supply."

Carrying out the works as proposed, including land damages, superintendence, &c., is estimated to cost \$5,317,000.

The Contractor for the works to take the risk, and have the benefit of the scouring operations.

It has been deemed proper to submit the foregoing outline of matters relating to the projected canal from the time a survey was ordered by the Department, up to the time when the documents were placed in my hands for examination and report. This course has been adopted in order to place in a comparatively short connected form the information embodied in papers, that from the nature of the subject are in some cases unavoidably long.

On carefully reading them over, and endeavouring to consider the different plans, charts, &c., it became evident that many of the questions involved, would be more readily and better understood by an examination of the locality, and especially of the routes that had been recommended for the canal.

To enable this to be done, it was thought best to have the salient points of the respective lines marked out on the ground.

On the La Planche and Tidnish line, recommended by Messrs. Keefer and Gzowski, this was done by Mr. David Stark, the gentleman who made the location survey under their direction. And Mr. G. F. Baillairgé marked out the Au-Lac and Tidnish route recommended by him as the best of all the trial lines run at the time the general survey of the isthmus was made.

I met these gentlemen at the place, and went over the respective routes with them, getting such verbal explanations in each case as was of great assistance to me in acquiring a more general knowledge of the locality in a much shorter time than could otherwise have been done.

In the course of this visit, whenever it was found or considered necessary that other or closer examinations were required, they were at once ordered, and for the most part have since been made.

The information thus obtained, and collected from all other known available sources, together with that conveyed in previous reports, will, it is believed, enable the engineering part of the subject to be placed fairly and fully before the Department.

It would, however, have been desirable to be able to state in a general report on a matter of this kind, the extent and nature of the trade likely to be benefitted by the projected works ; but although efforts have been made in various ways to get the information necessary to enable this to be done, very little success, so far, has been attained.

This may have arisen, either from not knowing the proper authorities to apply to, or from that part of the matter not having as yet assumed such a definite shape as would warrant other than a general opinion to be given in relation to it, even by those who, in other respects, have duly considered the subject.

It may at once be stated that the construction of a navigable channel between the Bay of Fundy and the Gulf of St Lawrence, on any line that can be selected, will be an undertaking attended with unusual difficulty, not only from the nature of the work to be done, but from the great difference in the elevation of the respective tides.

In Cumberland Basin, the tides rise from 35 to 46 feet over ordinary low water line ; those at the head of Baie Verte range from 5 to 9 feet. At times the water in Cumberland Basin is fully 18½ feet over that in Baie Verte ; whilst at ebb-tide the water in Baie Verte is fully 19½ feet higher than that in Cumberland Basin.

The tide waters of the respective bays approach to within 6¼ miles of each other, and the dividing ridge at the lowest place is only 9 feet higher than a tide observed on the 25th October, 1870, and only 5 feet over the *Saxby* tide of October, 1869.

The surface of this ridge is of a soft marshy nature, under which there is for the most part clay resting on red sandstone.

The waters of Baie Verte are at all times clear and transparent, except during heavy gales from the eastward, when sand at times is washed inwards, so that the water is now at some places represented to be of less depth than it was 30 years ago.

The waters of the Bay of Fundy are at all times heavily loaded with dark brown mud and sand, especially during the first half of the tide, but as the water continues to rise the quantity of mud held in suspension diminishes; nevertheless, even the surface water of ordinary tides carries with it sufficient sediment to perform the extensive and productive marshes found at numerous places along the shores and head of the Bay.

The channel through that part of the Bay of Fundy known as Cumberland Basin, is described as being about one mile and a half wide, with a depth varying from 30 to 14 feet at low water, up the Barnes' Reef, or to half a mile below the upper end of Wcody Point; and through this reef, Mr. Baillairgé in August last, found a channel 900 feet wide, and of sufficient depth at extreme low water to admit of a vessel drawing 15 feet to pass. (See his report appended.)

From Barnes' Reef to the mouth of the River Au-Lac, a distance of about 3 miles, the channel has a depth of from 30 to 15 feet, and the course is north-easterly. Thence, upward to the mouth of the River La Planche, a course S. by E. half E.; the distance is nearly $3\frac{1}{2}$ miles, and the depth diminishes to almost nothing at extreme low water, which is about $2\frac{1}{2}$ feet lower than ordinary low tides.

The course of prevailing winds on the Bay of Fundy is from the S. W. to W. S. W.—thus, a vessel with a fair wind up the Bay to near the mouth of the River Au-Lac, would there have to take a course within a few points of the wind, in order to reach the mouth of the River La Planche, and that too in a comparatively narrow channel, with dangerous patches of rocks and stumps at several places on the lee shore, and, it is said, quicksands at many places on the other side.

The objects proposed to be gained by the construction of the contemplated canal being to avoid the dangers of sailing round the Atlantic coast of Nova Scotia, and the shortening of the sea voyage to places situated in the Bay of Fundy, &c., &c., it is natural to suppose that an entrance easy of access and approach would have been selected, unless some formidable barrier in the way of its construction or cost was likely to be encountered.

Instead, however, of this being the case, Messrs. Keefer and Gzowski, the gentlemen entrusted with the first location survey, advise the Bay of Fundy terminus to be at the mouth of the River La Planche—a place, it is to be feared, that has little to recommend it as an entrance to a line of general navigation at any stage of the tide.

This will be evident by a glance at the chart of the Bay and observing the position of the river and channel to it, when no one willing to be convinced, can fail to foresee the difficulty that must be experienced by a sailing vessel in reaching the outlet of the River La Planche during south-westerly winds, which are said to prevail in that section nearly as steadily as trade winds, except during the summer months, when they become more southerly.

Adverse winds blowing across the channel, dangers near the shore, and fogs, are some of the perplexing difficulties certain to be experienced in making or leaving the proposed entrance. These facts, there is good reason to believe, are practically known to many who have had occasion to navigate that part of the coast.

Between Cumberland Creek and the mouth of the Missiguash, the stumps and roots of an underground forest extend for half a mile along the beach, for a width of fully 100 feet, adjoining which, for at least a like distance, and a width of 400 feet, the beach is thickly studded with stones; some are of large dimensions, and stand considerably over the surface. The elevation of the ground, in which the stumps are firmly rooted, is from 8 to 18 feet over the bottom of a half-tide canal, and many of the rocks also stand considerably over that line, so that in its present condition this would be a most dangerous place for vessels either leaving or making for a navigable channel on the north shore of the bay.

Between the outlets of the river Missiguash and La Planche there is also an underground forest for a distance of 1,900 feet along the beach, and a width of 200 feet; and

for a still greater distance the adjoining lower part of the beach is covered with large masses of stone for a width of from 600 to 1,000 feet.

Borings were made at several places in this vicinity, which indicated rock in position at the depth of 3 feet above the bottom assumed by Mr. Keefer for a half-tide canal terminus.

Cumberland Basin from Black Point to the mouths of the rivers La Planche and Au-Lac is of a triangular shape, the sides of which are about 7, 6 and $3\frac{1}{2}$ miles respectively, containing an area of about ten square miles; the channel previously described is on the north and easterly sides of it, and Minudie Flats occupy all other parts of it, or $6\frac{1}{2}$ square miles.

The northern part of the Flats for an area of $1\frac{1}{4}$ square miles, stands for a height of from $1\frac{1}{2}$ to $7\frac{1}{2}$ feet over low water line, and the other parts containing an area of $5\frac{1}{4}$ square miles, are from $7\frac{1}{2}$ to $25\frac{1}{2}$ feet over low water.

It will thus be evident that Minudie Point could afford little or no shelter whatever to works, or to the entrance of a canal situated at the mouth of the La Planche at any time between half-tide and high water.

None of these impediments to navigation, or to the works connected with the construction of a canal, are mentioned by Mr. Keefer in any of the numerous reports sent in by him between May, 1872 and May, 1873.

It is, therefore, only fair to conclude that he did not know of their existence, rather than that he knew and failed to communicate the information, especially as it is mentioned in the specification submitted by him, that berths for the crib-work of the pier (stated in his general report to be 2,500 feet long) are to be dredged out uniformly to the level of 54 feet, and close ranges of piles are represented on his plan to be driven 18 feet into the bottom, which, on the shoal that extends out on the north side of the river, is rock at the level of 57 feet over datum.

BAIE VERTE.

The terminal works recommended by Mr. Keefer for this outlet of the canal, as already stated, are chiefly "a sea embankment," $2\frac{1}{4}$ miles long, inside of which the water level is to be maintained at 5 feet above the surface of the spring tides—the construction of a lift lock 1,600 feet out in the bay, and connecting it with the shore by a bank, and building two parallel entrance piers 1,800 feet long.

This "sea embankment" it is stated in the specification submitted, is to be formed of material excavated from the prism of that part of the canal across Tidnish point; but the rock and boulder stone "found in this excavation, are to be reserved for filling the "cribs along this embankment, and for the rip-rap protection of the outer slope."

These banks are to be carried up to 4 feet over canal surface, and a puddle bank (not shewn on plans) is described to be carried up in the middle part of them.

Their outer slopes are to be protected by crib-work from 10 to 15 feet in width, filled with stone, and raised to high water in the Bay, over which a heavy rip-rap wall is to be formed.

"The site of the lock is to be enclosed by a suitable coffer-dam sufficiently large to "embrace the whole of the lock, including its wings, with proper allowance for slopes, and "high enough to be safe from inundation by the highest tides, and strongest prevailing "winds on this coast."

For the carrying out of this plan, the aggregate length of crib-work required will be about 18,000 feet, and the immediate entrance will be in a depth of 15 feet at low water, or within 400 feet of the length stated in Mr. Baillaigé's rough estimate of pier-work required, if carried to a depth of 16 feet at extreme low water; and which it may be observed was designated as "excessively lengthy and expensive."

On considering this part of the *scheme* there is reason to believe:—

- 1st. That the cost of the proposed works has been much under-estimated.
- 2nd. That to carry them out effectually in the manner intimated would be nearly, if not altogether, impracticable.

3rd. That even if they were executed, there is reason to fear they would not long continue to answer the purpose contemplated.

Relative to the estimated cost of carrying out the works at the Baie Verte terminus, it may be said that the crib-work for the protection of the banks alone would at the lowest rates of any work of a like kind that has been done under this Department for the past ten years, and that under the most favorable circumstances, amount to nearly, if not altogether, as much as Mr. Keefer has estimated for the entire work connected with the so-called "sea embankment."

In this connection, it may be observed, that the entrance piers proposed at the Baie Verte and Bay of Fundy would cost fully 33 per cent. more than his estimate. Moreover the outlet locks at the Baie Verte and Bay of Fundy alone, would, together with coffer-dams, &c., &c., cost at least two-thirds of the entire sum estimated by Mr. Keefer for the whole of the locks.

2nd. It is well-known that a properly made earth bank of sufficient dimensions, either with or without a puddle wall longitudinally through it, when resting on a good foundation is quite likely to be tight under a moderate head of water. To form such a bank in a tide-way would, however, in all probability be attended with a much greater degree of uncertainty than might be supposed from a cursory view of the matter, or any theoretical deductions from ordinary bank formation.

A moderate wind acting on water otherwise smooth would raise a surf less or more destructive to a bank of loose clay or earth; a little more force would act on hard material, and in time, even rock yields to the cutting effects of waves.

In making a bank at even a moderate distance out in a river, or any sheet of water, little progress can be made during a high wind from any direction within 45 degrees on either side of the point towards which the bank bears.

If such wastage takes place in ordinary cases, there is every probability that it would be experienced to a much greater degree in a tide-way.

The materials for this bank being intended to be taken from Tidnish Point, its formation must be commenced near that shore, and extend outwards in a direction that unavoidably would leave its outer end open to the attacks of the sea during construction.

It would at the same time be in a constant current acting either inwards or outwards at heights corresponding to the rise and fall of the tides, and its outer end would be exposed to the full action of the sea raised by easterly storms, that sweep all but directly into the Bay.

These various causes operating against its formation and stability, it is to be feared could not be guarded against, at anything like a moderate expense, as any protection put in immediately at its outer end that could not be wholly and readily removed would be certain to prevent its answering the purposes contemplated.

The bottom of the Bay along the line of the proposed extension being sand and gravel, at some places of considerable depth, it would have of course to be removed down to a surface that would admit of the bank forming with it a water-tight connection.

But as this clearing of the seat would be almost certain to be again filled up by the action of every incoming tide, it could only be kept a very short distance in advance of the other work; and any attempt to form the bank, or any part of it, without the bottom being cleared, would doubtless prove a complete failure.

In short, the great uncertainty and difficulties connected with making a suitable bank capable of withstanding a pressure of fifteen feet head of water, as it would be subjected to at spring tides, leads, in my opinion, to the conclusion, that to be successful in effecting the object in the manner, position, and to the extent proposed, would be all but, if not altogether, impracticable.

3rd. Admitting that the works at Baie Verte were carried out as recommended by Mr. Keefer, it seems questionable whether they would remain in good condition sufficiently long for navigation to derive much benefit from them.

It appears that the highest water observed during the time of Mr. Billiaige's survey was 77.37 feet over the assumed datum, but in August of the present year it rose to 79

feet over the same line; these heights, it may be stated, were taken at a place beyond the influence of the waves. It may also be mentioned, that at the breaking up of winter in 1872, it is said that large masses of ice were driven on to the banks, in the cove immediately above Weeks' Point, which are from 7 to 10 feet above the highest spring tides. At the time above alluded to (August last), high water was within 7 feet of the top line of the proposed "sea embankment," and heavy rolling waves were driven up the Bay, of a height and with such force as to leave no doubt whatever that an earth embankment must have yielded to their cutting effect.

It is not improbable that the waves would have passed over the banks to such an extent, as to raise the level inside, and that this, together with the wearing away of their top, must soon have resulted in their destruction.

Were even a small breach to take place at any time in one of the banks, whether caused by the sea, or defect in the bank itself, there would, doubtless, be great difficulty in stopping it, if it could be done at all, under a head of water varying from 5 to 15 feet in height.

An occurrence of this kind might result from various causes, such as the following:—the bottom, at places, might by mistake or otherwise, not have been properly cleared, or during the progress of the works the sea might have carried gravel or sand on to the end of the bank, that inadvertently might not have been removed—unsuitable material might, at places, be put in the bank itself—stone might have been put on the top for its protection, and afterwards a settlement occur at that place, until the stone were under the water surface, although the top by raising may have been kept at the regular height.

The great risk and outlay inevitably connected with the construction of a lock so far out in the Bay, irrespective of the question of future maintenance, give the impression that dangers have been invited, and unestimated expense recommended, that might, with advantage to the undertaking, have been avoided.

In short, the all but certainty of failure to make water-tight banks in the manner proposed, in a sea-way, and the risks connected with them, even if they were made, leads to the conclusion, that it would not be judicious to entertain a project so unlikely to be attended with success, and to which there are so many practical objections.

The foregoing matters relative to the entrances recommended by Messrs. Keefer and Gzowski, having been brought under notice, it is now proposed to draw attention to their location line between these points.

On the 27th August, 1872, Mr. Keefer reports that he had made an examination, alone, of the isthmus between the Gulf of St. Lawrence and the Bay of Fundy, as his "colleague, Mr. Gzowski, was unable to attend."

On this occasion he had a map of the survey previously authorized by the Department of Public Works and other documents connected with the projected canal.

He remarks that from Fort Cumberland and Fort Lawrence ridges, an "Engineer" "has a good opportunity, even without the advantage of a survey, of forming his judgement as to the proper location for the canal," and then arrives at the conclusion that the line recommended by Mr. Baillaigé is not the one, nature has pointed out.

He therefore advised a location survey to be made of the La Planche and Tidnish line *via* Long Lake and the Black Ash Swamp, &c.

This having been agreed to, in carrying it out, a spongy mass of vegetable growth "entirely free from any mixture of sand or soil," was discovered at the summit, to take advantage of which the line was carried more to the eastward than was at first intended.

It may be here stated that the fact of finding a mossy plain near the water-shed does not appear in the light of a discovery to any of the gentlemen engaged on the first survey, as they state that several were crossed by the trial lines then run.

The surface of the moss referred to, however, is, as already stated, 48 feet over the intended bottom of the canal, from 13 to 18 feet of which is said to be rock, and from 10 to 15 feet clay, the upper part being moss.

Through the marshes the general depth of cutting will be about 22 feet,

	Cubic yards.
Total quantity of earth excavation on the located line will be.....	9,160,000
Rock excavation	440,000
Moss (most of which can be removed by draining and burning)	1,000,000

A location line is generally understood to be one that has been decided upon, marked out on the ground, represented on the plan, and relative to which such details have been obtained as enable correct information to be supplied for both present and future reference.

How many of these characteristics are applicable to the line in question may be inferred from the following quotation :—

In a report dated 12th April, 1873, Mr. Baillairgé states that on the location plan submitted by Mr. Keefer, the River La Planche, as shewn, "is from 3,000 to 5,000 feet out of its true position at several points; La Planche Lake is represented on the north instead of the south side of the river; the River Tidnish and its tributaries are also incorrectly indicated; Tidnish Head, although a short distance from the location line, is placed 1,000 feet too far north into the waters of Baie Verte. Similar inaccuracies occur with respect to the roads, and the relative situation of the high and low land."

"The discrepancies are so great and so numerous that it is a question how far the profile on which the La Planche and Tidnish location line calculations are based can be relied on."

This gentleman, after having made a further examination of the respective places, repeats these statements in a recent report, in which other remarks of a like nature are also given.

The estimate of excavation above quoted having been examined in detail by Mr. Baillairgé, he points out conclusively that considerable omissions have been made in the calculations, a few of which may be stated in order to convey some idea of their extent.

1st. The estimate does not include any dredging at either of the entrances.

2nd. No provision has been made in the estimate for back ditches, or other means of draining the lands adjoining the canal.

3rd. The estimate does not embrace any quantities or sum for the mucking and clearing the seats of the banks, nor has any provision been made for getting rid of the floating bogs, other than that they may be cut up "into convenient patches and floated out to sea."

4th. No provision is made for slope walls along the sides of the canal, which on the summit-reach would require to be not less than 10 feet high in order to adapt them to a variable level of six feet as proposed; and on the reach between the third and fourth locks they would require to be at least four feet high; this will be evident as it is stated that "when the canal is in full operation it will always be necessary to have the modern appliances of steam tugs at each end, and others in the reaches for towing."

Other omissions might be enumerated, but as these alone would cost at least *four hundred and fifty thousand dollars*, it will be evident that no fair comparison can be made between any such so-called estimate and one that would give a nearly correct statement of the work to be done.

In short, to get a fair idea of the approximate cost of carrying out the work described in Mr. Keefer's report and specification, some of the items should be more than doubled, others have 15 per cent. added, or the whole should be increased an average of 25 per cent., viz. :—

The estimate of Messrs. Keefer and Gzowski of the 18th February, 1873, is.....	\$5,317,000
Add 25 per cent. for under value placed on works. &c....	1,329,250
For omissions.....	450,000
	<u>\$7,096,250</u>
Probable actual cost of work, say	\$7,100,000

In reference to "the method of proceeding with the work," it is proposed "to remove the principal part of the earthwork—it is impossible to say how much—by means of the tidal power of the Bay of Fundy."

First, a gullet is to be cut in the "axis of the canal," and the material used to form banks to serve as dykes to isolate the canal from the adjacent lands. One or more gullets "are to be cut through the moss at the summit to drain it and dry it up, so that it can be burned." Afterwards a channel is to be cut through the earth and rock at this place—certain bridges and other works constructed—an outfit, &c., provided; then, "the water of Cumberland Basin may be admitted into it (the channel) and allowed to take its course freely to Baie Verte."

The current is to be trained, guided and other arrangements made so as to scour out the canal to the proper depth and dimensions.

This scheme looks very much like one that originated with Captain H. O. Crawley in 1843, whose report, Mr. Keefer states, was in his hands when he made that reconnaissance from Fort Cumberland and Fort Lawrence ridges before mentioned.

In the report above alluded to, Captain Crawley, after discussing numerous questions connected with the subject of a channel of communication between the Bay of Fundy and the Gulf of St. Lawrence, remarks: "it may be worth while to consider what would be the effect of cutting a channel from water to water, leaving it to the waters themselves to complete the communication to render it navigable."

But in a subsequent letter, after describing the probable effects which the currents would have on the marshes and banks adjoining, and even on the channel itself, Captain Crawley states, "these circumstances, deduced from theory, appear to me to render in doubtful after all if a channel as proposed would be easily navigable; at all events so much uncertainty appears to exist, that the project would be very hazardous, &c., &c.; that it is not desirable to prosecute the enquiry further."

The abandonment of the scheme, however, scarcely leaves it open for another person thirty years afterwards to claim its paternity, even although all benefits arising from it are freely offered to the contractor, on his assuming all the risk and expenses connected with carrying it out.

It is, however, much to be regretted that the unusual degree of penetration which can force the ultimate success of a scheme carried out in this manner, and even indicate the places where, the material washed out, will be deposited by the sea, its suitability for certain fisheries, &c., should not also be able to fix with some degree of accuracy the quantity that would be removed, and the length of time that the operations would occupy.

The means of furnishing the supply of water for the proposed La Planche and Weeks' Point line of canal is to be obtained from two sources—first, from the high water of the Bay of Fundy; secondly, from the fresh water lakes at the sources of the La Planche.

Between low and high-water level of the canal, there will be a range of six feet, intended to form the storage for the water to be used for navigation, which for the twelve and a half miles of the summit level, is estimated at..... 69,696,000 cubic feet.

The area of Round Lake, Long Lake, and other smaller lakes, is 24,748,400 square feet, which if drawn down six feet, = 148,490,400 " "

Total..... 218,186,400 " "

The above estimate assumes that the lakes can be drawn down six feet, or to the level of eighty-six feet over datum; but, from Mr. Baillairgé's report, it appears that the average elevation of the bottom of these lakes is at least 88 feet. This being the case, there would only be 168,000,000 instead of 218,186,400 cubic feet of water in reserve, when the level is at ninety-two feet over datum.

It will readily be admitted that a canal on which the levels are maintained at an

uniform height, will be likely to meet the requirements of navigation to better advantage than one on which the reaches are subject to frequent variation.

In the first, there would be little or no perceptible current, and the surf raised by vessels in passing through, would act generally about the same line, thus admitting of the banks being protected by the least height of walling.

But when the supply is furnished at distant intervals, there must be a considerable range in the water levels, consequently strong currents will be met with at times, and to meet the case a greater height of protection walling must be built.

When the supply is intermittent, the more frequent it can be furnished, the less will be the current, and the range between high and low-water surfaces will also be of the least extent. It therefore seems natural, as the waters of the Bay of Fundy have to be used to feed the canal, that levels should be adopted that would allow the supply to be introduced as often as the tidal fluctuations would admit.

Instead, however, of this being case, Messrs. Keefer and Gzowski select for the low-water level a height to which the tides for part of the time barely rise, and such as, for long continuous portions of the time, would admit little or no supply, while for the high-water level, an elevation has been adopted that could only, when at its height, be at rare intervals supplied by the tide.

It may at once be stated that a daily record of the rise and fall of the tides in Cumberland Basin was kept from the 13th August to the last day of December, 1870, and during that time there were between the 13th and 31st August, four days; in September, two days; in October, three days; in November, one day; and none in December, that the tides did not rise to eighty-six feet.

Between the 13th and 31st of August there were ten days; in September, fourteen days; in October, sixteen days; in November, twenty days; and in December, twenty-two days, that the tides did not rise to over $88\frac{1}{2}$ feet.

Between the 13th and 31st August there were fifteen days; in September twenty-three days; in October, twenty-five days; in November, twenty-three days; in December, twenty-five days, that the tides did not rise to over $90\frac{1}{2}$ feet (height of Springs, full moon)

The new moon spring tides in August, 1870, rose for three days to from 92 to $92\frac{1}{2}$ feet, and in each of the following four months they were for five days from 92 to $94\frac{1}{2}$ feet above datum. *

It will be evident that tides that rise to 86 feet only, could have no influence on a canal, the low-water level of which is at the same elevation. In fact, unless the tide rises from eighteen inches to two feet over the surface line of the canal, it cannot within the comparatively short period of its rising, slack water, &c., produce much effect on the reach.

The same remarks apply to any level to which the water may have fallen, or be at, below the assumed high water line.

For the months of June, July, and August, there is reason to believe that the spring tides seldom rise as high as at other times; in August, 1870, there was only one day that the tide rose to 92.5 feet. This being the case it is barely possible that for once in each of these months the water of the summit level might reach a height of ninety feet over datum, by admitting as much as could flow through the prism of the canal, and allowing none to escape; but there is no reason whatever to believe that it could be raised higher than ninety feet, although questionable whether it could reach that height.

If this be correct, it will be evident that a further reduction must be made in the storage capacity of the lakes, and also of the canal.

In reality, the 168,000,000 cubic feet previously mentioned would, during the summer months, be reduced to 95,600,000 cubic feet, or barely eight days' supply at the estimated quantity of water required daily for the efficient working of the canal.

It may be said that the water can be introduced at a lower level at such times; this

*On the 25th October, 1870, an exceptionally high tide of 96 feet was observed; and on the 5th October, 1869, the "Saxby tide" rose to 100 feet over datum.

could of course be done, provided the tides rise higher than the surface of the canal ; but it should be borne in mind that this can only be the case on the rising tides after neaps, as the water in the canal would in all probability be as high as the range of the falling tides after springs.

In the face of these facts, it is strange to find the deliberate statement that " the volume of water in the canal and lakes between + 86 and - 92 on the summit level, will be sufficient to keep the canal in full operation with 110 lockages a day, for no less than eighteen days, without any addition from other sources. But the spring tides which occur about every fourteen days will be sure to render the supply continuous."—And a few paragraphs further on, it is stated, in relation to the high water level of ninety-two feet, that " it must be observed that there would be no means left of draining and improving the lands at the head of these marshes. By keeping the bottom down to + 70, and reducing the level of the lakes to + 90, sufficient drainage will be afforded for this object ; or they may be reduced to a still lower level with better effect," &c.

In fact, first claiming for the scheme a supply sufficient for 18 days, and immediately afterwards admitting the necessity of reducing it one third. In short the supply is represented to be one-third more than it is admitted the drainage of the lands in the vicinity would allow, and $2\frac{1}{4}$ times greater than it could possibly be at any time (except it might be when navigation first opened in the spring), and that, too, without having made any provision whatever for the protection of the banks to meet such a variation of level as it would involve.

In reference to the waters of Cumberland Basin, it is stated that while low water is exceedingly muddy " the high water is generally pretty clear, and quite as admissible for canal purposes, as that taken from the Grand River to feed the Welland Canal. No exception can therefore be taken to the admission of any tide water above the low water level of the summit "

This comparison is rather unfortunate, inasmuch as the Grand River water at Dunnville, is as clear as any river water in the Dominion, except the St. Lawrence ; in fact it could scarcely be otherwise, as the large area above the dam forms a settling pond, where the water remains in a great measure stationary for a considerable length of time. At many places along the feeder it is used for culinary purposes, but in passing through the canal, which has a descent of fully 330 feet, the currents, action of winds, cutting effects of the waves raised by steam vessels &c., together with the dredging operations that have for many years been in progress, render it quite turbid and muddy before reaching the foot of the mountain range of locks. In short, it enters the canal moderately clear but becomes extremely muddy before leaving it.

There is no doubt whatever that the waters of Cumberland Basin are generally clearer when at or near their full height than at other stages of the rising tide ; still the direction and force of the wind, at the time, affect the purity of the water to a smaller or greater extent.

In calm weather, the water carries with it less earthy matter than in rough weather, when the sea, stirred up by high winds, washes the shore and banks with such cutting effects as rapidly wear them away.

But the high water, although less muddy than the first half of the tide, is nevertheless that which supplies the deposit that eventually forms marsh lands such as can be rendered highly productive by dyking and draining.

Dr. Dawson, in his " Acadian Geology " states :—" The rising tide sweeps away the fine material from every exposed bank and cliff, and becomes loaded with mud and fine sand, which, as it stagnates at high water, it deposits in a thin layer on the surface of the flats, &c., &c.

" The falling tide has little effect on these deposits, and hence the gradual growth of the flats, until they reach such a height that they can be overflowed only by the high spring tides. They then become natural or salt marsh covered with coarse grasses, &c., &c."

This having been the case in the past, there seems no reason to believe that, so long as

the same condition of things continues to exist, it will be otherwise in the future.

If the water of the Bay of Fundy is let directly into the canal, and thence passes into the series of shoal lakes represented as suitable to form storage for the canal supply, there is good reason to believe that the lakes would in time be, as other low places have been, converted into marsh lands.

This, together with the certainty of not being able to maintain anything like the high-water level proposed, and the fact of the bottom of the lakes being at least two feet higher than the line on which the water calculations are based, clearly points out the undesirableness of adopting a scheme based on a theory that bears so little investigation.

The La Planche, Tidnish and Weeks' Point line, together with the arrangements connected with it, as recommended by Messrs. Keefer and Gzowski, being liable to so many positive objections that could, in no perceptible way, be neutralized by any future practical advantages, while none of the trial lines previously run seemed to indicate a route that could be looked upon as coming within the range of a reasonable outlay, it was therefore considered desirable, as already stated, that a further examination should be made, and that Mr. Baillairgé, from his knowledge of the locality, and who was then in the vicinity, should be entrusted with that duty.

He was requested to search for the lowest point of the water-shed that could be approached, and left by a line on which there would be the least depth and extent of rock cutting; and also to run such lines of levels as would enable it to be fully determined whether it would be better to continue the summit level on to near Baie Verte, or descend by a lock, on reaching the valley of the Tidnish River.

In order to obtain further information relative to a line leading towards the eastern entrance, he was directed to explore that part of the country more fully, especially a ravine that seemed to extend from a point about half a mile below Doyle's Mill on the Tidnish, to within half a mile of Weeks' Point, as a line in this direction appeared quite favorable at both ends; but towards the middle it was so closely wooded that no opinion could be given in relation to it, other than that, if the elevation was suitable, the line would not be open to the objection of the one that had been proposed along the shore of the bay.

It was, however, subsequently found that, where this line passes through, or in the vicinity of Squire Thompson's property to the valley of Oxley's Mill brook, the ground was even higher than the lower part of the dividing ridge between the Bay of Fundy and Baie Verte. This fact proved conclusively that it was unnecessary to proceed further with the examination of this part of the country.

The general map of the survey previously made shewing clearly the contour and elevation of the high and low lands, it was only necessary to direct attention to those places where more minute information was required, or a change of the line desirable to avoid rock or other heavy cutting.

This enabled a thorough examination to be made in a short time at those places, the result of which has been that a more favorable route has been obtained, the highest ground on which does not exceed $105\frac{1}{2}$ feet over datum line already mentioned, and with comparatively little rock excavation on it at any place.

The arrangements best suited to the circumstances, it is believed, will be to make the high-water line of the canal 88 feet, and the low-water line 85 feet over datum—to place detached locks in connection with Cumberland Basin, and two locks, also detached, at Baie Verte, and to continue the summit level the whole distance between these points.

In a preceding part of this report, an attempt has been made to describe the position of the channel and flats in Cumberland Basin, and the difficulties as well as dangers that a vessel would be certain to encounter in passing much to the eastward of the Au-Lac River during south-westerly winds, which, on this coast, prevail for a great portion of the season of navigation.

It may further be stated that a sailing vessel in the upper part of this bay can scarcely, at any time, make headway against the tide, whether ebbing or flowing, except with a strong favorable breeze—the current in the channel on the north side of the basin being from four to five knots an hour, and through which all vessels, bound upwards must pass.

There are no natural harbors in this vicinity, and few, if any, at other places on the upper part of the Bay of Fundy, consequently, at the turn of the tide, vessels come to anchor, if possible; but in certain winds, from the nature of the coast, no safe or sheltered anchorage can be found, they are therefore obliged to lie aground on the beach or mud-banks until a favourable opportunity occurs for proceeding towards their destination.

There being in reality no place that possesses any very striking advantages to recommend it for an entrance to a canal, either in the way of access, accommodation, or facilities of construction, the choice should of course be made of the place that is the least objectionable.

For this purpose there are three places, near the north angle of the basin, deserving of consideration, viz:—

- 1st. Inside of the mouth of the River Tintamarre.
- 2nd. At or near what is known in the locality as Cumberland Creek.
- 3rd. On the southerly side of Au-Lac Point.

It may be at once stated, that no matter where an entrance is made on Cumberland Basin, sailing vessels downward bound could not reasonably be expected to leave the canal earlier than within an hour of full tide, nor upward bound vessels reach the entrance over an hour after the tide has begun to ebb. Vessels provided with steam power, or those using tugs, could of course enter or leave the canal at any time when the height of the tide admitted.

In reference to the place *first* mentioned, it may be said that the lower part of the Tintamarre has a direction nearly north-east, and the current in it, is at times fully six miles an hour; the channel is about 450 feet wide at bottom; the banks have considerable slope, and are not less than 38 feet high over low water line.

By removing part of the slopes, the bottom might be made 750 feet, and the surface level 850 feet wide at half tide; but although widening could give more space, all that could be done in that way, could have no perceptible influence on the current. When the tide is ebbing, a strong south-west wind raises a heavy sea in this channel, such that a vessel from either direction would experience considerable difficulty in passing through. The current of the outgoing tide is stronger than when it is rising; the difference is, however, so little, that it is quite probable the only line of entrance to a canal that could be adopted in such a case would be nearly at right angles to the channel. In leaving, as well as entering it, vessels would have to veer round until they were all but broadside on to the current, an operation it is to be feared that, under the circumstances, would be both difficult, uncertain and extremely hazardous.

Taking all these matters into full consideration, must, it is believed, lead to the conclusion that it would be injudicious to select a place so situated for the entrance to a canal.

2nd. Immediately at and above Cumberland Creek the shoal already referred to as covered with rocks, &c., extends for a considerable distance along and out from the shore, so that even a cursory examination of the locality clearly shows that there is no place in this vicinity at all suitable for the entrance to a canal.

From this creek towards Au-Lac Point the shore line is nearly straight, and the beach generally has less inclination than elsewhere. At a place about the middle of this stretch the low water line is nearer to the shore than it can be found anywhere else on the easterly side of the basin. At this place, about 700 feet out from ordinary high-water mark, an elevation suited to the assumed bottom line for a half tide canal, or 54 feet over datum, can be obtained.

The shore has a direction nearly parallel to the current when the tide is making or ebbing, and winds from the south-west are all but at right angles to it; still it may be said that the entrance to a canal might be placed at such an angle to the shore that the currents would interfere as little as possible with the ingress or egress of vessels. This, it is true, could be attempted, but there is reason to fear with no greater prospect of success than there would be on any other straight coast on which the prevailing winds blow directly, and where the channel is comparatively narrow and the current from opposite directions alternately strong.

3rd. At Au-Lac Point, from the line of ordinary high water, outwards, the bottom has a descent from the surface of the marsh to 71 feet over datum in the first 500 feet; for the next 300 feet the inclination is only five feet, and 400 feet further, or 1,200 feet from the shore, the bottom elevation is 54 feet, or at the height assumed for a half-tide navigation. At this place an entrance to a canal could be made in a direction W. by S. $\frac{1}{2}$ W., or nearly in line of the deep water channel through the bay below, and fully three-and-half points to the westward of the course of south-west winds. Here the volume of water at the rising tide is divided into two parts; one takes a north-east direction up the River Tintamarre, and the other a southerly course towards Sharp's Creek, Rivers Hebert, Macan &c.

On the ebbing tide they again unite at or near the place where they separated, but the points of convergence as well as those of divergence are constantly changing with the fall and rise of the tides; nevertheless, there is invariably an eddy or large area of comparatively smooth water between the respective places and the shore, such as would enable vessels to enter at any time that the bay below could be navigated, and when the height of the water permitted.

It has been, nevertheless, stated that an entrance in such a position "would expose the lock gates to the direct assault of the sea and the full force of south-west winds," &c., &c., but as the line would be nearly east, and the range of the lock gates north-east, it will be evident that the circumstances are not as represented in the above quotation, apart from the result certain to be produced by the alternate meeting and separation of the waters of the two channels.

In short, any wind that would interfere with a vessel entering or leaving a canal so situated, would render it extremely hazardous, if not impossible, to proceed higher up, or towards the mouth of the River La Planche at any stage of the tide.

In the low water anchorage above Woody Point, known as the "Sackville anchorage," there is good holding ground, which vessels were frequently observed to take advantage of, when the survey was in progress.

Au-Lac Point has the advantage of being near this anchorage—is accessible in any wind that will carry a vessel up the bay, and could be left in any wind that a vessel might safely venture downwards. There are no foul or dangerous rock-covered banks in the vicinity; and in other respects there is probably no place on Cumberland Basin that has more advantages and fewer objectionable features than the southerly side of Au-Lac Point, for the western terminus of the contemplated canal.

To form an entrance at this place it is proposed to construct two parallel piers 250 feet apart, the northern one of which will be about 1,100 feet long, and that on the south side 1,500 feet long—the channel to be excavated to the level of 54 feet over the datum line, and the seat for the piers made one foot lower.

From the end of the piers inwards, the channel, for a distance of 1,850 feet, will sweep round until it has a south-easterly direction at about 950 feet below the end of the first lock, whence it is to be continued on a line nearly parallel to the shore. The sides of this part of the channel to be protected by a docking of timber, well tied back into the banks, or by a wall of rubble masonry.

It is believed that for even a half-tide navigation there should be three locks at this end of the canal; nevertheless, for the purpose of comparison it will for the present be assumed that two will answer the purpose, and that they should be placed 600 feet apart, and arranged as described for those proposed to be built at the mouth of the River La Planche.

The head of the second lock would be about 4,200 feet from the shore; thence the line follows a course which at six-sevenths of a mile farther on, crosses the Intercolonial Railway at an angle of 60 degrees.

It then continues along the valley of the Missiguash, crosses the post road between Amherst and Sackville at about $2\frac{1}{2}$ miles from the inner end of the piers, and at one mile and seven-eighths further on, it crosses the Mount Whatley Road.

For seven miles from the western terminus, the depth of cutting through the marsh

land, to make the bottom of the canal 69 feet over datum will be from 22 to 23 feet ; in this distance, the line at several places, crosses the upper and narrow part of the River Missiguash.

At the end of the seventh mile, it enters a floating bog that has a depth of from 6 to 10 feet or more, and extends fully $5\frac{1}{4}$ miles.

The surface of this bog is a species of live moss, from 10 to 15 inches deep, under which is a stratum one foot or more in depth of closely matted roots. When a pole is pushed into it, some resistance is felt at from two to three feet below the surface, after which it passes down quite freely, and when withdrawn is coated with black muck.

Levels taken at the same places, at different seasons of the year, seem to indicate that the elevation of the top crust of the bogs is variable, being higher in the spring and after a succession of heavy rains, than when dry weather has continued for any considerable time ; their height throughout will average about 96 feet over datum ; It is unsafe to venture across them without a guide, except when the surface is fully frozen over. It was ascertained by borings that at the depth above mentioned (6 to 10 feet) the material is chiefly clay, but towards the eastern end, rock was found at several places, varying from 2 to 11 feet over the contemplated bottom line of the canal.

From the end of the bogs eastward for three-quarters of a mile to the summit, or to about 13 miles from the entrance piers, the elevation is from 109 to $105\frac{1}{2}$ feet over datum. For this stretch the upper part consists of moss and black muck, from two to five feet deep, underneath which clay and sand were found for the full depth to canal bottom.

From the summit the line sweeps round to the south-east, and at a distance of about three-quarters of a mile crosses the North west branch of the Tidnish River at an elevation of 92 feet.

The muck on this part of the route varies from three to six feet in depth.

Thence a straight course is followed until near the Tyndal Road, where the line curves more to the eastward, and intersects the main trunk of the river at about one mile and a quarter from where it first crosses the North-west branch. Between these places the general surface of the ground has a height of from 95 to 83 feet.

The line then follows the river for a short distance, and after crossing the first bend near Lucius Chappell's, it takes a northerly course until after crossing the post road leading to Baie Verte Village, at a distance of about one mile and nine-tenths from the first intersection of the main river.

The elevation of the ground on this part of the route varies from 74 to 93 feet.

Continuing on from the point above mentioned, the line crosses Smelt Brook and three bends of the Tidnish in a course leading towards the south side of the river outlet, thence takes an easterly direction across Tidnish Head to the water line of the bay, a distance of $2\frac{1}{4}$ miles.

On this part of the route, the ground varies in height from 70 to 94 feet ; there are however, two small hillocks near the junction of the Tyndal and Baie Verte roads which rise to a height of 101 feet.

The course of the river at a few places is to be changed, and a culvert constructed near its mouth of sufficient capacity to carry the water through under the canal. On Tidnish Head, two lift locks are to be built in line with the eastern portion of the canal and the deep water channel through the bay.

From the inner end of the piers at Au-Lac Point, to the water line of Baie Verte, the total distance is $19\frac{1}{4}$ miles.

In considering the various questions connected with the Baie Verte entrance to the canal, it should be borne in mind that the soundings shown on the map have been reduced to an assumed low-water line of 65.57 feet over the same datum line to which the soundings at the western terminus and levels along the route have been referred. It appears that this line was arrived at from certain marks on the abutments of Tidnish Bridge; which were pointed out to Mr. Baillargé by an observant person who resides in the locality, During the $9\frac{1}{2}$ months, however, that the survey was in progress, the water was only once (30th September, 1870,) down to 66.86 feet, or to within 16 inches

of the assumed low-water line ; but taking the lowest tide each month for the whole time of the survey, the average is 67-85 feet or 27 inches over the assumed low-water mark.

These facts, together with the recorded observations of Admiral Bayfield, who gave much attention to the subject, lead to the conclusion that the available depth of water at low tide may fairly be taken at about 18 inches more than shewn on the map.

This, it is believed, might be done judiciously, even if it were fully established that at distant intervals the tide did fall to the line above stated, as it must be quite evident that such an occurrence could only be of so short duration as could not to any practicable or even appreciable extent interfere with navigation.

The course thus intimated, it is considered, will bear the fullest investigation, and it is therefore recommended for adoption. At the entrance to the canal it is proposed to form a triangular-shaped basin by means of two piers extending out from the shore, and embracing an area of fully eleven acres. The north pier to be 4,000 feet long, placed as to have an easterly direction in line with the locks on the shore and the deep water channel through the bay. The pier on the south side to be nearly at right angles to the shore, or have a north-easterly course, and to be about 4,000 feet long, and so situated as to partly overlap the channel leading to the canal ; but at a point on its inner line at right angles to the outer end of the north pier the distance will be 400 feet, and at its inner end, also at right angles to that on the north side, the distance between the respective piers will be 2,200 feet.

The seat of the north pier, and channel alongside of it for a width of 200 feet, are to be dredged to the level of 51 feet over datum.

The seat for the outer one-third of the south pier is also to be sunk to 51 feet over datum, and for the next 1,400 feet it may be dredged to 57 feet, thence to the shore the seat for the pier may be made 61 feet over datum.

When the trade, or for the purpose of sheltering vessels engaged in it, or those frequenting the port, renders it necessary, the area of deep water may be increased by dredging to such an extent as may be required.

By placing the south pier or breakwater in the oblique position described, and allowing it to overlap part of the channel, the heavy seas raised and driven in by easterly winds will be carried past, and vessels will be able to enter the harbor in any weather that they can safely approach.

The pier should be carried up to at least seven feet over high-water line, but a large part of the outer side of the south pier may possibly with advantage be made from four to five feet lower than the front.

This would to some extent prevent the shock of the waves from injuring the superstructure, and admit of the sea rolling over it during heavy storms which probably might have a tendency to make smoother water inside.

The outlet lock at this end of the canal may be placed near the shore line, and have a lift of from five to fourteen feet according to the height of the tide, and the next lock will be situated 600 feet further inland, and have a lift varying from seven to fourteen feet, as the summit level may be at high or low-water.

The distance between the second and third locks, following the line of the canal, will be about 18½ miles.

To secure a depth of 16 feet in the summit reach throughout, when the canal is down to the assumed low-water line of 85 feet, the bottom must of course be made uniformly 69 feet over datum. This taken from the general elevation of the ground at the points above mentioned will give an idea of the depth of the excavation at the respective places.

For a canal 100 feet wide at bottom, with slopes of two horizontal to one vertical in clay cutting, and in rock of 3 inches to the foot rise, Mr. Baillaigé estimates the quantity of materials to be removed as follows :—

	Cubic Yards.
Clay and earth excavation in prism of canal, lock pits, &c.	12,078,000
Rock excavation	44,800
Removal of muck from line of channel	726,600

The banks on both sides of the canal to be carried up to two feet over the highest known tide, or to the height of 102 feet over datum; seats of all embankments to be mucked for a space of from 12 to 15 feet in width, commencing at a line immediately under the top front edge of the slope, and extending outwards, or the mucking may be done under the slope itself as circumstances may require.

Where the line passes through boggy or mossy ground, whether soft or otherwise space 15 feet or more in width should be dug out along the front edge of the bank, and the place be afterwards made up with the best class of material that can be obtained in the excavation.

	Cubic Yards.
Mucking under seat of banks.....	83,000
Removing muck from front edge of banks through bogs	150,000
Cutting back ditches	60,000
Excavation and dredging at Baie Verte terminus of canal..	446,000
do do Western terminus.....	330,000
	1,069,000

It has been considered proper to draw attention to these matters separately from the prism excavation, not only for the reason that they in the aggregate form a large item of work, but from the fact that there may possibly be as much if not more work of a similar kind on the La Planche route, and for which no provision whatever appears to have been made in the estimate for that line.

The material of the marshes and at other parts along the route, is of a nature that there will be apparently no great difficulty experienced in excavating; even the bogs can all be drained by commencing operations at or near the north branch of the Tidnish, and continuing westward through the summit.

But from numerous borings made on the line it is found that at many places the material gets to be much harder as the depth below the surface increases.

In short, the examination, borings and trials made, lead forcibly to the conclusion that the channel, if intended for use in the present age, will have to be formed in what may be considered the ordinary uninteresting manner of doing so by means of manual labor or steam excavators, or both combined.

Captain Crawley's discarded idea of scouring out a channel, or any modified way of effecting the same object by using "the tidal power of the Bay of Fundy for that purpose, it is to be feared, would scarcely warrant the supposed startling enquiry—what "is to become of the five or six millions of cubic yards of stuff washed out of the canal if removed in this way? even although the prompt answer be ready that the shallows of Baie Verte are there to receive it, and the Bay of Fundy be open for—"an infinitesimal amount of the same material, which, in the ages that are past, its own waters have "thrown upon the land."

WATER'S SUPPLY.

The question of obtaining a sufficient supply of water suitable for a navigable canal through the isthmus between Cumberland Basin and Baie Verte, has led to many suggestions being made relative to the best way of effecting the object.

On the first inception of the project a canal of limited capacity was contemplated, which it was considered might be fed from fresh water lakes in the vicinity.

The scheme was however subsequently referred to Thomas Telford, Esq., who recommended a canal of larger dimensions, and advised that the highest spring tides in Cumberland Basin be adopted as the top water level of the canal.

Captain Crawley afterwards surveyed the locality, and in his report objected to the introduction of the muddy water of the Bay of Fundy into a canal, and as a sufficient supply of fresh water could not be found, he considered it unadvisable to prosecute the inquiry further.

The various reports having been referred to me, as already stated, I advised in May,

1869, that the main level should be made from 10 to 12 feet below the highest tides in Cumberland Basin.

In February, 1871, Mr. S. Keefer, Secretary to the Canal Commission, appointed by the Government, reported on the scheme for the information of that body, and suggested, as an alternative course, that an elevation might be adopted by which "the clear water of the Gulf would be the source of supply, and render the canal independent of the fresh water streams."

Mr. G. F. Baillairgé, to whom was entrusted the surveys and examinations authorized in 1870, recommended the adoption of a low-water level 11 feet under the highest tide he had observed during the time of his survey.

To admit the Bay of Fundy water freely into the canal, and to keep such a reserve in the canal itself as would not permanently interfere with the drainage of the marshes; this range he assumed at three feet. If these were found insufficient to meet the requirements, it was proposed that one or more of the rivers which have their outlet on Cumberland Basin should be converted into reservoirs.

Mr. Keefer, in his general report of February, 1873, recommended the adoption of a low-water level about 10 feet under the highest tide, with a variable level of six feet to afford "storage for the water to be used for working the canal," and that this, together with certain lakes, the waters of which could be drawn down when required, would be replenished by the tides "through the second lock, and through the supply gates at the bend of the La Planche."

All the surveys and examinations that have been made of the locality lead to the conclusion that the so-called lakes met with, are maintained chiefly by the rain-fall, melted snow, &c., &c. At all events, judging from the dimensions of such streams as flow out of them, and could be rendered available for any particular line, they would form only a very small item towards supplying a canal.

In fact, it is almost a certainty that if they, together with the bogs, were once drained or drawn down to the assumed low-water level of the proposed canal, they could not be replenished or again raised to the level of 92 feet over datum, by all the water that could pass through the full surface width of the canal at the time of the *high tides* during any one month in the year, *even if no water whatever was used for the purpose of navigation during that period.*

This statement, however sweeping it may appear, is fully sustained by the elevations of the tides to which attention has been previously directed, and especially when it is borne in mind that for the last hour of the flow, the tide rises from two and a half to three feet, and when at its height the slackwater, or "stand" does not continue more than from ten to twenty minutes before the water begins to fall, and then it goes down still more rapidly than it rose.

It is considered proper to remark here that the surface width of the proposed canal would be more than double that of both the "second lock" and "the supply gates at the bend of the La Planche," which have been erroneously represented as adequate not only to admit sufficient water for consumption but also to replenish the lakes, whereas they could do neither the one, nor the other.

These are facts that will be evident to any one who practically understands matters of the nature of those under consideration, or who can properly apply towards a theoretical solution of the question some of the information which was collected for that purpose during the first survey authorized by the Department, and which is duly on record in this Office.

There is good reason to believe that any channel for navigation that could possibly be made through this section of country, must draw its supply mainly from the Bay of Fundy, the waters of which are so highly charged with mud as to have been always looked upon by most people who have seen them, as an insuperable objection to their use for such a purpose.

It is quite true that towards high tide the water holds less earthy matter in suspension than at other periods of its flow, but it is to be feared that even when at the highest stages

there are serious objections to letting the water pass directly into a canal, as the adoption of this plan would be all but certain to result in the channel being eventually to some extent silted up; besides, the means of admitting the supply would be wholly inadequate to the requirements.

Both these questions having been at some length discussed in a preceding part of this report, it is now intended to describe the plan proposed to meet the objections.

It has been stated that slack water at full-tide does not continue longer than from ten to twenty minutes, and that during the hour previous to that time the tide rises from $2\frac{1}{2}$ to 3 feet, and falls even more rapidly. This shows that the time is comparatively short in which the tide is higher than the surface level of the canal, consequently it is desirable that the opening for admitting the water from the bay should be as wide as circumstances will permit, as the wider it is, the greater will be the quantity of water received. But if the supply be sent directly into the canal, no benefit could be derived from the opening being greater than the surface width of the channel; still, if it be less the inward flow will be restricted.

All the water, however, that could pass in this way, even through the largest serviceable openings, during the time that the tides were higher than the canal, would be barely adequate to meet the requirements of navigation, without providing for the low tides in any one month, but especially the summer months.

In considering this matter fully, one is led to conclude that the position of the reservoirs is at least equally as important as their extent, especially in view of the questionable benefits that could be derived from lakes situated near the middle of the route, such as could be readily emptied, and having to depend mainly on being replenished by the tide passing through the canal itself. The closer this part of the subject is examined in connection with tidal elevations, the greater appears the fallacy of predicating a theory of supply on such a basis.

There is first the error of supposing that the canal could pass such a volume of water over navigation height in the short time of high tides (a few of which only occur at distant intervals) as would fulfil, in even a remote degree, the conditions represented.

And, secondly, the objectionable currents that would be produced in the canal, besides the still more injurious results of silting up the channel.

To meet these various questions in a way and to an extent that it is believed cannot fail to effect the objects contemplated,—it is proposed to carry out “the original idea” in this respect, but under existing circumstances, in a somewhat different manner.

The River Au-Lac, from its mouth up to the Aboideau, over which the Intercolonial Railway crosses, is to be converted into a reservoir, which at a mean between the assumed high and low-water lines of 85 and 88 feet over datum, will have an area of about 6,000,000 of feet.

The River Missiguash, from near its mouth up to the line where the canal first crosses it, is also to be converted into a reservoir, and will, at the height above mentioned, have an area of 4,700,000 feet.

	Feet.
These two reservoirs would have an area of.....	10,700,000
Area of canal, say.....	16,300,000
	27,000,000

In the three feet between the low and high-water levels of 85 and 88 feet over datum, there would be 81,000,000 cubic feet of water when the whole is filled, or about $6\frac{1}{2}$ days' consumption.

This, it is believed, from the position of the reservoirs and other special conditions about to be described, will be fully as much as is likely to be required at any one time; besides, there is nothing except the drainage of the marshes that prevents the height of water being increased, if unusual circumstances should render it necessary.

In carrying out this plan, an earthen dam is proposed to be formed at the mouth

of the River Au-Lac, and another near the outlet of the River Missiguash; and at each place a channel, about 260 feet wide, is to be cut to a depth of about one foot or more below the low-water line of the canal in the most sheltered and advantageous position for connecting the basin with the respective reservoirs inside the dams. In each of these channels a bulk-head is to be constructed, with such a number of openings as will, in the aggregate in each case, make about 250 feet in width for the admission of the waters of the bay, when they rise to the level of 85 feet over datum, or to such other height as it may at the time be thought proper to admit them.

These reservoirs are to be connected with the canal by means of channels about 100 feet wide, and two feet lower than the assumed low-water line. Where they connect with the canal, a supply weir is to be constructed of such a capacity that the two, *i. e.*, the Au-Lac and the Missiguash Weirs, will be about equal to the surface width of the canal: otherwise, that each of them shall have a breast-wall with sluices in it of such dimensions that the aggregate area of those in both weirs shall allow, when open, as much water to enter the canal, as if it passed over a breast the same length as the canal is wide.

The objects proposed to be gained by adopting a low water line of 85 feet over datum, and by introducing the water into reservoirs instead of directly into the canal, may be briefly stated as follows:—

1st. For all the time that a record was kept of the rise and fall of the tides in Cumberland Basin, there were only four days in August, two days in September, three days in October, one in November and none in December, that full-tide did not rise to over 85 feet above datum, although there were two days in each of the three first-mentioned months that it was only from five to seven-tenths of a foot above 85 feet, and one day in November two-tenths, or 85.2 feet.

In August there were two days; in September, five days; in October, four days; in November, four days; in December, two days, that the tides rose to 86 and 86.9 feet.

In August, there were two days; in September, four days; in October, four days; in November, six days; in December, 10 days, that the tides rose to elevations varying from 87 to 87.9 feet. The foregoing statements show that there are only two days in each of the months mentioned in which no supply could enter the reservoirs at a level of 85 feet, although there would be other two days each month that but little would be received.

But the wide openings made to admit the water into the reservoirs would allow, between the levels of 86 and 86.9 feet, as much water to enter in two tides as would nearly supply the requirements of navigation for a day.

For other parts of the month there is no doubt whatever but the supply would be so abundant, that both the reservoirs and canal might be kept at any desired height.

The fresh water lakes along the route that could be rendered available, without any great outlay, might be of service in the summer months when the tides are lowest.

In short, the principal reason that has led to the low-water level of 85 feet over datum being recommended, is the fact that there is only a very short period in any one month that water for supply cannot be introduced from the sea; and it may be added, that it has also led to a variation of three feet in the summit level being considered sufficient when viewed in connection with the contemplated facilities for admitting the water.

2nd. Reservoirs are recommended for several reasons, some of which may be enumerated as follows:—

(1.) The beds of the Au-Lac and Missiguash Rivers are convenient to Cumberland Basin, and can be converted into reservoirs of considerable extent at comparatively little expense.

(2.) From their position, a connection between them and the sea can be made independently of the canal, thus securing the means of admitting a much larger quantity of water during the rising and "stand" of the tide than could be done any other way. The proposed arrangements will admit of fully *six times* as much water being stored at a tide as could be drawn directly "through the second lock" and through the supply gates

at the bend of the "La Planche," and *three times* as much as could enter directly through an opening the full width of the canal.

(3.) They will form settling ponds, in which the water, by being allowed to remain quiescent for a few hours, will be likely to deposit much of its impurity before being admitted into the canal, a matter that, under the peculiar circumstances, is of considerable importance, as it meets to some extent, the objection to the waters of the upper end of the Bay of Fundy being used to feed a canal.

(4.) Ordinary tides of about $86\frac{1}{2}$ feet, will furnish water for nearly three quarters of an hour, and high tides, an hour and three quarters; in both cases the time of rising and "stand" is included.

The water in the reservoirs may therefore be allowed to remain quiescent for at least three hours, and still have fully six hours each tide for it to pass slowly into the canal, and that too at places $2\frac{1}{2}$ miles apart.

Otherwise, it would give an average of nearly *five* times as long as there could possibly be, if the water entered the canal directly from the Bay of Fundy.

These statements obviously lead to the conclusion that reservoirs situated at or near the western terminus, would be in every respect better than on any other point on the route and as nature has already all but formed them, it would certainly be the reverse of judicious to overlook advantages that can be so easily rendered available.

In this connection it is deemed proper to draw attention to a statement prepared, at my request, by Mr. R. Steckel, a pains-taking and competent young man, who for several years has been employed by the Department. In it, are given the results of a careful theoretical computation of the quantity of water that would enter the reservoirs at each tide from near the full moon, until the tides are on the rise after the last quarter of the moon. This range of tides has been selected as one of the most unfavourable of any part of any month in the year, for supply at the elevation required; nevertheless, the results shew that sufficient water can be furnished at even these times by carrying out the plan recommended. (See Appendix).

The dam across the mouth of the Au-Lac River, and also that at the outlet of the Missiguash, may both, as already stated, be formed of clay; but the outer faces of them should be protected by means of brush-wood arranged in layers, or with stone, or both combined, as may be subsequently determined.

The construction of these dams, cutting channels to admit water into the reservoirs, and from thence into the canal, will, in the aggregate, amount to about 380,000 cubic yards.

For the Au-Lac reservoir and race-way there will be nearly 5,000 lineal feet of dyke to be built, about one-half of which should be of sufficient width on top to form a roadway for access to the dam.

At the Missiguash reservoir there will be fully 1,100 feet of dyke to be formed to connect with those already built.

At the eastern end of the line, near the outlet of the river Tidnish, a regulating weir should be constructed and so arranged that it can be used for emptying the canal when found necessary.

For the crossing of the Intercolonial Railway, a swing bridge, of wrought iron, with abutments and centre pier of masonry, must be constructed; and the openings made of sufficient capacity to admit of the water passing nearly as freely as at other parts of the canal.

A swing bridge will also have to be built for the post road between Sackville and Amherst, and another for the post road between Tidnish and Baie Verte; and means provided for carrying the traffic of other roads over the canal at such places as may be required.

To construct a canal suited to the levels, and on the line above described, with a bottom width of 100 feet, locks 40 feet wide, and 270 feet long between the gates, reservoirs for supply at the western entrance, &c., &c., would, there is reason to believe, cost as follows:—

Excavation in prism:—

	Cubic Yards.	
Earth, clay, &c.....	12,148,000	}
Rock.....	44,800	
Muck (liquid).....	726,600	
Entrance piers, Baie Verte and Bay Fundy.....		783,160
Railway and post road bridges, and other means for crossing canal.....		172,500
Four lift locks.....		951,600
Guard gates east of Missiguash reservoir, and weir and flume at mouth of Tidnish River.....		105,000
Land damages and superintendence.....		450,000
		\$6,875,432*
Dredging at both entrances, mucking seats of banks, removing muck from face of banks, through bogs; cutting back ditches and new channel for River Tidnish; slope walls, &c., &c.....		500,000
Constructing dams at mouth of the Au-Lac and Missiguash Rivers, cutting channels to and from reservoirs, constructing bulk-heads and regulating weirs, forming dykes, &c.....		260,000
Culvert for carrying Tidnish River under canal.....		55,000
		\$7,690,432
Say.....		\$7,700,000

This estimate, it will be seen, is about \$600,000 higher than that for the La Planche and Weeks' Point Line, which is in some measure due to the quantities of work to be done being fully represented and estimated at rates sufficient for their execution, as well as in some measure to the contemplated arrangements for the water supply.

It has been prepared, as above stated, for a canal 100 feet wide at bottom; but it may be observed that a channel 80 feet wide would allow vessels the full width of the locks to pass each other freely, under ordinary circumstances, in the reaches.

By making the bottom, of the latter width, the quantity of excavation in the prism would be reduced one-seventh, without causing any serious apprehension that the diminished sectional area, would to any great extent, interfere with the navigation.

At all events, there is good reason to believe that it would be of fully as much benefit to the trade to increase the depth one foot or more throughout, as it could possibly be to have a canal of the greater width.

As directed by the Order of the Honorable the Privy Council, my attention has been chiefly given to matters connected with the construction of a canal accessible at the western or Bay of Fundy entrance at about half-tide, and at the Baie Verte end at all stages of the tide.

It may, however, be stated that the western entrance recommended, is so situated that it can be made serviceable at low-water, or at any other elevation of the sea.

To render this entrance available, say for 18 hours out of every 24, or three-fourths of the time daily, would probably cost in addition to the above estimate about \$400,000.

To adapt the western entrance to low-water navigation would cost about \$800,000 more than the estimate for a half-tide canal.

Having thus endeavoured to discuss the various leading questions bearing on the subject without entering into the details of construction, it is now proposed to give a

*This estimate is based on rates and prices varying from *decem* to one hundred and fifty per cent, or an average throughout of 25 per cent. higher than those of Mr Keefe's estimate, *i.e.* if from \$6,875,432 twenty per cent. is deducted, the sum will be \$5,500,346, or what the work would amount to at that gentleman's valuation.

brief *résumé* of the objections, already stated, to the formation of a canal from the mouth of the River La Planche, *via* Long Lake and Tidnish, to Week's Point; and to repeat some of the chief reasons why, in my opinion, the Au-Lac and Tidnish line *via* the valley of the Missiguash, should be adopted.

1st. The mouth of the La Planche, from its position, is unfavorable for the entrance to a line of general navigation, adverse winds rendering it difficult of approach for a great part of the season. Dangers exist at its outlet and along the shores of the comparatively narrow channel that leads to it, and there is no safe anchorage in that vicinity.

2nd. The eastern end of the canal would depend upon the stability of a bank upwards of 2½ miles long, such as it is to be feared could neither be satisfactorily formed to resist a pressure of from five to 15 feet head of water, nor be protected in the manner proposed to permanently answer the purpose contemplated; and although the risk and expense were incurred of constructing a lock 1,600 feet out in the bay, the entrance would still be near a dangerous rocky shore.

3rd. The line of canal through the valley of the Tidnish is extremely crooked, and the damming of the river would flood the low lands for several miles.

By keeping the water in the summit level at the elevation proposed, the drainage of the marsh lands between Long Lake and Cumberland Basin would be obstructed.

4th. To introduce the waters of the Bay of Fundy directly into the canal for the purpose of supplying a series of lakes situated at least seven miles in the interior, intended to feed the canal itself, would have a tendency not only to silt up the channel, but there would be a certainty of failure to either fill the lakes or furnish the supply required for navigation by the means proposed.

5th. The omission of numerous essential items of work, and the insufficiency of the estimate to meet the expenditure on the works enumerated, has a tendency to mislead as to the probable cost.

The Au-Lac and Tidnish line, as proposed, is free from all these objections and in its favor it may be said:—

1st. That its western terminus would be in a position that could be safely approached or left by vessels in any wind or weather that the Bay of Fundy could be navigated; there are no dangers in the vicinity; while it presents facilities for being made available at any stage of the tide, and it would be near what is known to be and is described in the "Sailing directions" as good anchorage.

2nd. A capacious harbor will be formed at the eastern terminus, the immediate entrance to which is in deep water remote from shoals, reefs, or other dangers; no questionable expedients are resorted to, or unnecessary risks invited in its construction; all the works connected with it being intended to be made secure when the operations are in progress.

3rd. The elevation of the water level in such as will admit of the marshes being properly drained, and the arrangements proposed will guard against private property being inundated in the valley of the Tidnish.

4th. The adoption of a low-water level of 85 feet over datum admits of drawing a supply from the Bay of Fundy, when little or no water could be received at the level of 86. By means of reservoirs at the western entrance, three times as much water can be stored at a tide, as could enter the canal directly during the rise and stand of the tide, and six times as much as could enter in the manner proposed for the La Planche and Week's Point line.

They would also form settling ponds, and would allow at least five times as long for the water to pass into the canal, as there would be, if it entered the canal directly.

5th. The estimates of quantities is full for all classes of work that are likely to be required, and is extended at rates believed to be the full value of the respective items.

I am, therefore, of opinion that the Au-Lac and Tidnish line, *via* the valley of the Missiguash, is the best that can be selected for the formation of a navigable channel between the Bay of Fundy and Baie Verte, or the Gulf of St. Lawrence.

I have the honor to be, Sir,

Your obedient servant,

(Signed) JOHN PAGE.

Chief Engineer, Public Works.

APPENDIX No. i.

REPORT OF G. F. BAILLAIRGÉ, ON S. KEEFER'S HALF-TIDE PROJECT FOR THE BAIE VERTE CANAL, AND ESTIMATE OF PROBABLE COST.

(In No. 29,889.)

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 12th, April, 1873.

F. BRAUN, Esq.,
Secretary of Public Works,
Canada.

SIR,

I have the honor to return you herewith the map and profiles of my survey for the Baie Verte Canal, together with Mr. Keefer's report on the projected work, and his plan and profile of the La Planche, Tidnish and Weeks' Point line, as located for the construction of the half-tide canal recommended by him.

These documents were submitted to me, for the purpose of enabling me to prepare an estimate of a similar canal on one of the routes I have examined, as set forth in your instructions of the 9th instant, and respecting which the following report is now furnished.

In comparing the official plan of Mr. Keefer's location survey with the map of my survey, the accuracy of which is admitted at page 18th of the printed report of Messrs. Keefer and Gzowski, of 18th February, 1873, I was struck by the singular disparity between the two plans, although both are drawn on the same scale.—The River La Planche, on the location plan, is from 3,000 to 5,000 feet out of its true position at several points; La Planche lake is represented on the north instead of the south side of that river; the river Tidnish and its tributaries are also incorrectly indicated; Tidnish Head, although a short distance only from the location line, is placed 1,000 feet too far north into the waters of Baie Verte. Similar inaccuracies occur with respect to the roads and to the relative situation of the high and low land.

The discrepancies are so great and so numerous, that it is a question how far the profile on which the La Planche and Weeks' Point location line calculations are based, can be relied on.

It has been already shown in my report of the 8th of April, 1872, (pages 159-166 of Public Works Report for 1872), that the supply which can, under any circumstances, be derived from the fresh water of the rivers and lakes on the isthmus between Baie Verte and Cumberland Basin, is altogether inadequate for the requirements of a ship canal; that it must necessarily be taken from the tide-water of the Bay of Fundy; that the rivers emptying into this bay can be converted into reservoirs together with the canal, in order to ensure a full supply of water during all stages of the tide, and that the "Au-Lac and Tidnish route" should be adopted in preference to any other, for a full-tide canal.

Messrs. Keefer and Gzowski, to whom my report and plans were submitted prior to their location survey, have adopted the same source and partly the same mode of supply, but they have recommended the construction of a half-tide canal on the La Planche and

Weeks' Point route through Long Lake, based on the following scheme, proposed by Mr. Keefer :—

1st. To admit the Bay of Fundy water into the canal and lakes at the head of the La Planche marsh, through the entrance lock and the stop-gate at the bend of the La Planche river, near the Intercolonial Railway, from the time the tide has attained an elevation of 86 feet over datum until it reaches 92 feet, and to utilize the fresh water from those lakes.

2nd. To keep a surplus depth of six feet of water between the elevations of 86 and 92 in the upper reach of the canal and in the lakes, in order to provide against any deficiency that might occur during a long succession of low neap tides.

3rd. To use the main channel of the Tidnish, and to raise the water five feet above high or fifteen feet above low water of Baie Verte, from its mouthward to Lock No. 3, above Doyle's mill, and downward to Lock No. 4 at Weeks' Point, a distance of eight miles.

The first proposition is applicable alike to the La Planche and the Au-Lac line, if the lakes of the Missiguash are connected with the latter, their bottom elevation being no greater than that of the La Planche lakes, and if a stop-gate is placed on the river Au-Lac near the railway or elsewhere.

The second proposition is incompatible with the first, and is inapplicable to either of these lines ; and the third proposition, although it applies to both lines, is highly objectionable—for the following reasons :—

1st. Supposing that the available volume of tide-water will be sufficient to raise the level of the canal and lakes to an elevation of 92, the storage capacity of the latter would be only 99 millions of cubic feet instead of 148½ millions as estimated by Mr. Keefer, who bases his calculation on a depth of six feet, whereas his own profile, together with the observations and soundings made during my survey, show conclusively that the average elevation of the bed of these lakes is no less than 88 feet above datum, which reduces the depth to be used for calculation to four feet.

2nd. The average quantity of water which can be admitted through the prism of the canal, between the elevations of 86 and 92 or even more, together with the small supply of fresh water that can be obtained, will barely suffice to meet a daily expenditure of about one half of the quantity required for the total expenditure of 12 millions of cubic feet as estimated by Mr. Keefer, during an average monthly range of tides such as will occur during the months of May, June, July and August.

3rd. If the high-water level of the canal and reservoirs is maintained at an elevation of 92 in the upper reach, it will be nearly on the same level as the top surface of the marshes and bogs eastward of Cumberland Basin, up to and beyond La Planche Lake, and will thus obstruct the drainage and prevent the improvement of the same.

4th. A portion of the low lands along the River Tidnish will be permanently flooded, if the surface of the lower reach is placed at the elevation of 82, proposed by Mr. Keefer, because the river would thus be raised from 5 to 15 feet above its ordinary tidal level.

5th. The navigation through the River Tidnish will be unavoidably impeded by sharp curves of from five to eight degrees.

6th. Although Mr. Keefer contemplates the construction of a wagon road on each side of the canal from material excavated, (which, of course, can be easily accomplished between Cumberland Basin and the Tidnish) he appears to have made no provision for continuing the same along the River Tidnish, the intention being no doubt that tug steamers are to be used exclusively for towing on the canal. [See page 15-21 of his Report.]

Taking the foregoing into consideration, it is evident that Mr. Keefer's scheme is not practicable so far as regards the water supply, and not applicable in other respects to either of the lines under consideration. I have nevertheless prepared an estimate for a half-tide canal on the Au-Lac line, based on the adoption of his scheme, as regards the use of the River Tidnish line down to Weeks' Point, the mode of supply recommended by

him, and his prices - for the purpose of showing that the difference of cost between the two routes is too trifling to be used as an argument in favor of the La Planche lines, when compared with the paramount advantages of the Au-Lac line, which can be converted into a full-tide canal, at any time hereafter, at a comparatively small additional cost.

This estimate "No. 1" is as follows:—

BAIE VERTE CANAL.

Estimate of a Half-tide Canal by the Au-Lac and Tidnish route, based on Mr. Keefer's project for the La Planche route, using the River Tidnish, and placing the Baie Verte entrance lock in the sea opposite Week's Point or Roach's Head, as proposed by him:—

9,320,000 cubic yards, excavation in earth, at 30cts...	\$2,796,000 00
640,000 " " in fluid muck, at 10cts.	64,000 00
660,000 " " in rock, at \$1 50cts ...	990,000 00
For embankments, Baie Verte	268,000 00
" four locks..	793,000 00
" one railway and four common road bridges.,.....	69,000 00
" entrance piers at Bay of Fundy and Baie Verte....	365,000 00
" Tidnish Dam, and waste weirs and stop-gates	105,000 00
" land, land damages, damages to property, engineering and superintendence	200,000 00
	\$5,650,000 00

It has been shown, however, that Mr. Keefer's scheme cannot be adopted for the reasons given; I have found it necessary, therefore, to submit another estimate (No. 2) subjoined hereto, showing the probable cost of a practicable canal, with a tow-path, accessible during all stages of the tide in Baie Verte, and for 16 hours out of 24 in the Bay of Fundy, where its terminus can be extended for access at low water hereafter, by the addition of one lock, and by dredging the channel to a depth of 16 feet, which can be accomplished by a further expenditure of \$375,000.

At the eastern end, the full-tide terminus is retained, because a vessel entering the canal from the Bay of Fundy at half-tide, and proceeding through it at the rate of four miles an hour, would reach Baie Verte at the time of low water, and would have to wait there three hours longer before going to sea, the time of high and low water being from 2½ to three hours earlier at Baie Verte than at Cumberland Basin, under ordinary circumstances.

The same delay would occur for vessels proceeding from the Gulf of St. Lawrence to the Bay of Fundy.

Estimate "No. 2" is as follows:—

BAIE VERTE CANAL.

Estimate of a Half-tide Canal by the Au-Lac and Tidnish route, recommended by Mr. Baillairgé—accessible 16 hours out of 24:—

12,100,000 cubic yards, excavation in loam and clay and dredging in sand, &c., at 30cts.....	\$3,630,000 00
1,500,000 cubic yards, excavation in sand, at 20cts ...	300,000 00
1,000,000 " " in fluid muck, at 10cts.	100,000 00
970,500 " " in rock and shale, at \$1.50cts	1,455,250 00
4 locks, 2 at each end of canal.....	760,00 00
1 permanent railway bridge across River Au-Lac.....	} 215,100 00
1 " road " "	
1 railway swing bridge, across canal.....	
4 road " "	
2 " " across locks.....	

Small bridges across feeders and drains, and ferry scows	12,240 00
Dam and stop-gates, River Au-Lac and main feeder.....	47,160 00
Waste weir at Chappell's Brook, below Tidnish Bridge.	29,430 00
Culvert, River Tidnish	47,880 00
Tide-gates and culverts for drainage.....	14,860 00
New dykes.....	41,000 00
Land and water damages	68,000 00
Piers at Baie Verte terminus	600,000 00
Piers at Bay Fundy terminus.....	247,000 00
Slope wall lining inner face of canal banks.....	120,000 00
Superintendent's, lockmaster's, laborer's and bridge keepers' houses.....	14,000 00
	\$7,701,920 00
Add for superintendence and contingencies, 5 per cent on cost of excavation, and 10 per cent. on cost of other works	515,929 00
	\$8,217,849 00

The quantities stated in my first report have been reduced in the above estimates.

- 1st. By making the calculations for a half-tide instead of a full-tide canal.
- 2nd. By increasing the number of curves, thereby shifting the line to lower ground, and avoiding a portion of the rock excavation.
- 3rd. By reducing the dimensions of the channels to be dredged at each terminus.
- 4th. By altering the slopes of the rock cuttings from two in one to a quarter in one.
- 5th. By changing the location of locks No. 3 and 4, from Tidnish Bridge to Tidnish Head, or originally shown by the dotted lines on the map of my survey.
- 6th. By diminishing the number of basins from six to two.
- 7th. By increasing the grade of the tow-path across the high ground.
- 8th. By shortening the length of the piers at Baie Verte from 9,000 to 4,000 feet each, and by altering the position of the south pier, so as to form an extensive basin.
- 9th. By shortening the entrance piers on the Bay of Fundy from 2,000 to 1,250 feet each.

A sketch showing the relative position of the Au-Lac and La Planche lines is attached hereto.

I have the honor to be, Sir,

Your most obedient servant,

G. F. BAILLAIRGÉ,

Assistant Chief Engineer, Public Works.

APPENDIX No. 2.

REPORT OF G. F. BAILLAIRGÉ, ON THE BAIE VERTE CANAL "FINAL LOCATION SURVEY OF 1873."

(In No. 38.591)

JOHN PAGE, Esq.,

Chief Engineer of Public Works.
Dominion of Canada.

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, 17th November, 1873.

SIR,—The following supplementary Report on the final location of the Baie Verte Canal, is herewith submitted as requested by you.

Shortly after receiving your instructions, I left Montreal for Shediac on the 27th of last June, and reached Baie Verte on the 4th of July.

Pending your arrival, I marked out the Au-Lac and Tidnish line as instructed; I afterwards established the exact relative elevations of Round Lake and Long Lake, at the head of the La Planche, which I found to be 94.06 and 92.16, on the 17th of July, above the datum originally adopted.

The waters of Round Lake rise to about 95.29 in the spring of the year, and probably fall to 93.25 towards autumn; those of Long Lake, according to actual observation, rise to 95.14, and are said to fall to 90.66.

These levels and the soundings taken in the spring of 1871, show that the average elevation of the bottom of these lakes is about eighty-eight feet, as stated in my second report of the 12th of last April, respecting the half-tide canal scheme proposed by Mr. Keefer.

I endeavored also to ascertain the difference of level between the Missiguash Lakes, near the upper end of Cumberland Ridge and Round Lake, but could only do so approximately, owing to the impossibility of taking correct levels during summer across the bogs. These bogs, as before described in my original report of the 8th of April, 1872 consist of decayed vegetable matter saturated with water and covered with moss and coarse grasses; they rise or fall with the water upon which they float; some of the lakes which are found in the midst of these bogs, appear at first sight to have neither an inlet nor an outlet, when looking at the surface of the ground around them, but they communicate with other lakes by underground streams beneath the top crust of the bogs. According to levels taken on the 13th of last August, I found the elevation of Dwyer's Lake, Patten and Hachmatack Lakes, to be about $95\frac{1}{2}$ feet, or one foot and a half above the surface of Round Lake, as established on the 17th of the preceding month.

From the 18th to the 25th of July, the field work was discontinued, in order that I might point out to you the various lines previously surveyed, and their termini in the Bay of Fundy and Baie Verte; and draw your attention to the obstructions impeding the navigation of the channels leading thereto, as stated in my first report, at page 166 of Appendix to Public Works' Report of 1872.

The instructions you gave me before your departure for Ottawa were carried out as speedily as practicable.

1st. By running a line of levels from Tidnish Head Marsh, along the south shore of Baie Verte to Weeks' Point or Roach's Head, a distance of 2.35 miles.

2nd. By cross-sectioning and boring the stony and rocky portions of the beach at the mouth of the La Planche and below the outlets of the Missiguash and Cumberland Creek.

3rd. By levelling and sounding another line on the crest of the lower reef of Woods Point, opposite Barnes' ship yard.

4th. By running a new line of levels through the forest from Week's Point, *via* Squire Oxley's mill brook, Squire Thompson's meadow, J. R. Chappell's mill brook, and across the River Tidnish, to the junction with the Au-Lac and Tidnish line, a distance of over five and a half miles.

In addition to the foregoing, I made the rough location survey and additional test-borings authorized by your telegram of the 29th of July; and after the time first fixed for the completion of the field work on the 27th of August had been extended to the 7th of September, I determined the position of the lowest ground between Hackmatack and Round Lakes, and also between the latter and the valley of the Little West branch of the River Tidnish.

The result of the examinations made may be briefly described as follows, viz,—

I.—AS REGARDS THE SHORE LINE.

This line, which extends from Tidnish Head Marsh to 16 feet depth of water at extreme low tide, opposite Weeks' Point, is about 7,000 feet longer than the line terminating in the same depth of water opposite Tidnish Head.

The quantity of excavation roughly calculated, on the former, is about 1,500,000 cubic yards greater than on the latter; some 230,000 cubic yards of this quantity appear to be a solid sandstone rock, according to the borings made, and the indications of the rock surface near the high water line on the shore.

The length of cribwork required at Weeks' Point from the shore, on the shortest line to deep water, is about 8,000 feet for the east and west piers, equal say to 320,000 cubic yards, for structures of the minimum dimensions consistent with safety.

The length of cribwork which will probably be found sufficient for the protection of the Tidnish Head terminus, is 8,600 feet for the North West and South East piers, equal say to 308,000 cubic yards; the length of these piers was originally supposed to be the same as that of the dredged channel; this, however does not appear to be indispensable. In order to reduce the cost of the work, it is now proposed to construct the piers in the position shown on the map of the original survey by the full blue lines, so as to form an extensive basin for the accommodation of coasting and fishing vessels, and susceptible of being deepened at any time for vessels of 15 feet draught.

The width of the dredged channel along the North West pier is limited to 100 feet at bottom, but may be hereafter increased to several hundred feet when required. From the end of the piers, which terminate in a depth of about 14 feet at extreme low water, it is proposed to increase the width of the channel to 300 feet, as far as a depth of 16 feet at extreme low water.

The extreme low water here referred to, is the same as that which is represented by the soundings on the original map, viz., 65.57 above datum, and it is based, as formerly stated, on local information. The lowest water observed during the time of the former survey, which lasted about 9½ months, or from 11th August, 1870, to 1st June 1871, was 66.87, or 1.30 above the assumed extreme low-water line; this occurred only once during the time stated, viz., on the 30th of September, 1870. The average minimum range of low water, taking the lowest tide of each month between the 11th August, 1870, and the 1st June, 1871, was 67.85 above datum, or 2.28 feet above the supposed line of extreme low water. The average mean range of low water, taking the average low water of each month between the same dates, was 69.28, or 3.71 above the assumed low water line. [See Note A.]

The depth of water, therefore, that will be generally available for navigation in Baie Verte at low tide, will be from 17.30 to 18.28 and 19.71, instead of 16 feet; the depth of water that would be found at the end of the piers would be from 15.30 to 16.28 and 17.71, instead of 14 feet.

The highest water observed up to the present year was 77.37 on the 29th December, 1870, but on the night of the 27th of last August, it rose to 79 feet above datum, during a storm caused by a strong north-easterly gale of wind which lasted from the 23rd to the 25th, destroying several of the dykes, post-road bridges, fences and buildings around the bay.

Any embankment that might be constructed, such as that proposed by Mr. Keefer, from Tidnish Head to Weeks' Point, would probably be destroyed by such a storm, and would be exposed to considerable danger from the shoving and piling of ice, such as occurred, I was informed, during the spring of 1872, in the cove immediately above Weeks' Point, where the ice piled in large masses upon the highest portion of the shore, some eight or 10 feet above high water.

The deep water approach to Weeks' Point is more dangerous than towards Tidnish Head, on account of the proximity of the rocky shore from Jackson's Point upwards to the former, as may be seen on the map.

NOTE A.—At bottom of page 160 of Appendix to Public Works' Report, the following corrections should be made in accordance with the manuscript of my original report:—

Instead of "Average mean range of low water, taking the lowest tide of each month....."	67.85.'
Read "Average mean range of low water, taking the average low water of each month....."	69.28"
Read "Average minimum range of low water, taking the lowest tide of each month....."	67.85."

Under all the circumstances, the terminus I first recommended, on Baie Verte appears to be the most suitable both as regards the safety of vessels, the preservation of the works, and the cost of their construction.

II.—CROSS SECTIONS AND BORINGS OF BEACH BETWEEN THE OUTLETS OF THE RIVERS LA PLANCHE AND MISSIGUASH.

The borings of this beach shew that it consists of a bed of clay, hard pan and gravel, most covered with loose stones and stumps of the underground forest referred to in my first report; this stratum varies from about 10 feet in depth at half-tide, to four feet at low water, the understratum being solid rock.

The elevation of the base line running north and south through the mound at station five of the original survey, near the ordinary high water margin of the shore between the La Planche and the Missiguash, varies from 84 feet above datum near the outlet of the latter, to 92 at the mound, and thence to 52 in the channel of the former.

The first visible range of stumps of the underground forest cropping out beyond the shore is 500 to 1,000 feet westward from the base line, the elevation of the soil in which they are deeply rooted varying from 64 to 80 feet.

The surface elevation of the half-tide line is about 70½ above datum, and extends from 750 to 800 feet westward from the base line.

The elevation of the line 1,900 feet southward from the base varies from 47 to 51.

The margin of extreme low water is 47.20 above datum, its distance from the base line being from 1,800 to 2,200.

The extent of beach covered with fragments of rock, boulders and stumps is nearly one half a mile in length by one-third of a mile in breadth from the low water channel towards the shore, the remainder being composed of a coating of soft red mud on adhesive stiff blue clay.

The stumps and loose rock or boulders, the size of which varies from one cubic foot to 2½ cubic yards, more or less, may no doubt be partly removed, at great expense; but it must not be forgotten that the understratum is solid sandstone rock according to all the indications from the borings. The surface of this rock at various points is about two to five feet above the elevation of the bed of the channel required for a half-tide canal terminus, the bottom of which for a draft of 15 feet and one foot extra for keel-way should not exceed 54.71 feet over datum, for the mean rise and fall of the tides.

The level proposed by Mr. Keefer for the bottom of his La Planch half-tide canal terminus is 54 feet above datum, or 2½ to 5½ feet below the surface of the rock just described.

The obstructions immediately above the outlet of the La Planche, in Cumberland Basin, are worse than those above noted, because the loose rock and boulders are larger and more numerous.

CROSS SECTIONS AND BORINGS OF BEACH BETWEEN THE MISSIGUASH AND CUMBERLAND CREEK.

The upper stratum of this beach is similar to that of the beach previously described, excepting that the number of stumps and fallen trunks of branchless trees from five to 24 inches in diameter, of the underground forest, are more numerous, and the stones, although of a smaller size, are so closely packed and imbedded in the soil that the beach may be said to be paved with them.

The depth of the borings made, varies from five feet at a distance of 1,600 feet from the shore, westward, to 10 feet at a distance of 800 feet; these borings which are chiefly through red clay, stones and gravel, could not be sunk any deeper than indicated owing to the compact stony nature of the subsoil.

The elevation of the base line which runs south 19° 52' east, near the margin of ordinary high water, and through a point of 4½ feet westward from Station 12 on the mound built during the former survey, varies from 88 to 93 feet above datum.

The first visible range of stumps of the underground forest cropping out beyond the

shore is 400 to 700 feet westward from the base line, the elevation of the ground in which they are still firmly rooted, varying from 63.17 to 73.80 above datum.

The half-tide line of which the surface elevation is about $70\frac{1}{2}$ over datum, extends 450 to 500 feet outward from the base line.

At 1,500 feet from the latter, the elevation is about 54 feet, the level of the bottom of Mr. Keefer's proposed half-tide entrance channel.

The margin of extreme low water is 47.20 above datum, its distance from the base line being from 2,000 to 3,000 feet.

The extent of beach covered with stumps, stones and half buried trunks of trees, is more than half a mile from north to south, and as much, at least, from the low water channel to eastward, the remainder from the stump range to the shore being stiff adhesive blue clay with a coating of red mud.

The low water channel from opposite Cumberland Creek to where it terminates above the outlet of the La Planche is also obstructed by loose rock and boulders at various points, as well as by quicksands near the upper end and along the Minudie Flats upon the western shore.

The beach opposite Cumberland Creek and that near the mouth of the La Planche are shown on the general map and on the detailed accompanying diagrams A and B; their situation, as will be seen, is such that vessels attempting to ascend Cumberland Basin from the Au-Lac to the La Planche, or to descend along the same route during half-tide, must necessarily pass near them or over them, and run the risk of striking some one of the numerous obstructions in their path, especially as they would sometimes have a stiff current of from five to six miles an hour to contend against, and the prevailing south-westerly winds to drive them ashore.

The stumps and trunks of trees observed on the beach near the outlets of the above named streams consist of fir, spruce, beech, pine, tamarac and hardwood, which are yet in a perfect state of preservation, being nearly as sound as if the trees of which they once formed part, were still growing, as may be seen from some specimens I collected on the spot. The bark on some of them still adheres to the timber, and their roots are imbedded in hard white sand beneath a black peaty substance at the surface, some of which is still apparent, although washed over by the water of the sea at every tide with a swift current of from five to six miles an hour, and although they are submerged twice a day during each succeeding high tide by a depth of water varying from 12 and 16 feet at lowest neap tides, to 23 and 33 feet at spring tides.

In the original survey the elevation and position of the beaches along Cumberland Basin, from the Lower end of Woody Point up to Sharp's Creek and beyond it, on both sides of the channel, were ascertained by means of soundings on a series of lines which formed the radii of a circular arc embracing the entire bay, the centre of the arc being at a mast planted for the purpose on the summit of Fort Cumberland; this year they have been partly verified, as you requested, by means of levels taken when the tide was out, as shown by the diagrams and profiles before referred to.

III.—BARNES' REEF, AT LOWER END OF WOODY POINT, BAY OF FUNDY.

The levels and soundings taken on the crest of this reef, on the 11th of August, 1873, show contrary to the general belief that it does not extend far enough to obstruct the channel leading to the canal entrance at Au-Lac Point; the breadth available for vessels drawing fifteen feet, at extreme low water, is 900 feet, the greatest depth of which is $28\frac{1}{2}$ feet; and as the difference between extreme low and ordinary low water spring tides is 2.80 feet, this additional depth of water will be generally found in the channel from Woody Point upwards, besides what is represented by the extreme low water soundings shown on the map.

But the depth of the low water channel, for nearly three-quarters of a mile below Barnes' Reef, is only from $13\frac{1}{2}$ to $16\frac{1}{2}$ feet, according to the Admiralty Chart of 1861; the deepening of this portion of the channel to an uniform depth of 16 feet during low water, does not appear to be advisable, as it is probable that it would fill up again; the

best course therefore to adopt, in the event of a whole-tide canal being required, will be for vessels of 15 feet draught to wait from $\frac{3}{4}$ of an hour to 1 hour before passing through, as the tide rises from nearly 4 to 8 feet during the first hour.

Barnes' Reef, as will be seen by reference to the survey map, is 2,650 feet below the upper projection of Woody Point; the beach for that extent, and some 2,000 feet further up stream towards Snowden's Creek, consists of solid sand stone rock, from which blocks are quarried for railway structures and mill stones.

The remainder of the beach above and below Woody Point consists of soft and stiff mud and quick sand.

The usual anchorage for large vessels frequenting the high water ports near Cumber- and Basin is below Barnes' Point. Schooners generally anchor further up, in what is called the Five Fathom Hole, about mid-way towards Au-Lac and Tintamarre.

IV.—SQUIRE THOMPSON LINE.

This line was examined between the 4th and 6th, 14th and 16th of August. The distance from its intersection with the shore line near Oxley's Mill Brook, to where it intersects the located line, is 292.93 chains of 100 feet, or 5.55 miles, most of which had to be cut through the forest.

The comparison of this route with the located line prolonged downwards to Weeks' Point, is as follows :—

Located line via North-West Valley of the Tidnish and Shore Line, or from Au-Lac to Weeks' Point.

	Miles.
Shore to shore.....	21.38
" to 16ft. at extreme low water, Bay of Fundy.....	0.85
" to 16ft. " Baie Verte	0.90
	23.13

Triad line via Located Line, through North-West Valley and the Squire Thompson Line to Weeks' Point.

	Miles.
Shore to shore.....	20.68
" to 16ft. at extreme low-water, Bay of Fundy.....	0.85
" to 16ft. " " Baie Verte	0.90
Total	22.43

The above comparison shows that if the canal route was traced from the Au-Lac Terminus through the Valley of the Missiguash and along the Squire Thompson Line to Weeks' Point, it would be seven-tenths of a mile shorter by the Valley of the North-West, than the located line through the same valley and along the shore line, to the deep water terminus at Weeks' Point, or to a depth of sixteen feet at extreme low water in Baie Verte.

If the shortest route by the Squire Thompson Line to Weeks' Point is compared with the shortest route of the located line terminating near Tidnish Head, the difference in favor of the latter is nearly six tenths of a mile.

The elevations of the land on the Squire Thompson route from Weeks' Point to its intersection with the located line, are approximately as follows, viz :—

Locality.	Feet above Datum.		Depth of Cutting in feet.
	Elevation.	Average Elevation.	
First Mile, from Weeks' Point	75 to 90	84	15
Second Mile, in valley of Squire Oxley's mill brook.....	85 to 126	106	37
Third Mile, across Squire Thompson's meadow, &c.....	111 to 162½	130	61
Fourth Mile do do do	94 to 163¼	125	56
Fifth Mile, in valley of R. Chappell's mill brook.....	75 to 94	83	14
Sixth Mile, across the Tidnish to Junction.....	70 to 97	85	16

The depth of cutting on the first six miles of this line is so much greater than on the corresponding six miles of the located line terminating near Tidnish Head, as may be seen by the elevations marked on the map, that it was not considered advisable to test the nature of the material to be excavated on it; but there is no doubt, judging from the formation of the ground, that the quantity of rock excavation would be considerable.

V.—ROUGH LOCATION LINE ESTABLISHED DURING THE SUMMER OF 1873.

When the preliminary survey was made in 1870-71, no correct map of any portion of the isthmus could be procured; the extent of country, the number of bays, streams and lakes that had to be surveyed, levelled or sounded, and bored, were so great, covering more than 200 square miles,—and the difficulties attending the sounding and field work on the Bay of Fundy, and on the bogs, were of such an unusual character, that it was impossible during the 9½ months of the survey in question to do all that would have been required for a location survey, especially as the field operations were ordered to be discontinued before they were fully completed.

Sufficient information, however, was obtained and furnished to enable any engineer of practical skill, ability, and judgment, to determine whether or not the projected work is practicable, whether it can be supplied in the manner proposed, or otherwise, and in what direction a location line might be sought for.

Mr. Keefer, in discussing the merits of the original survey, appears to have lost sight of the foregoing considerations, and to have ignored that it was the Chief Engineer, and not his Assistant, who had been instructed to furnish the Government with a report on the work, and the cost of its construction.

His criticism of the survey has not prevented him, however, from adopting the source of supply recommended, and nearly the same elevation for the bottom of the upper reach of the canal, although no acknowledgment of the same has been made in his report.

With the aid of the map, profiles, and report I originally furnished, the location survey and other examinations made this year, were comparatively an easy task, and were accomplished in the course of two-and-a-half months.

The rough location line established during the past summer, passes over the lowest ground, and avoids nearly the whole of the rock excavation of the preliminary line, and the objectionable termini and curves of the *La Planche* location route. It is the best that can possibly be obtained, unless greater curvature be resorted to for motives of economy. Its position is shown on the map by the *full blue line*.

The western portion of the line originally recommended from the mouth of the Au Lac to Goose Lake, has been shifted from the north to the south side of Cumberland Ridge, or from the valley of the Au Lac to that of the Missisquoi, chiefly for the purpose of diminishing the quantity of rock excavation, and of otherwise reducing the cost of the projected work to a minimum.

The terminus, however, of the Au-Lac line on the Bay of Fundy, has been retained; any other terminus for a whole or a half-tide canal, whether at the mouth of the Missiguash or at the outlet of the La Planche, being dangerous on account of the loose rocks, boulders, stumps, and quicksands, laying in the path of vessels to those streams, and not susceptible of being rendered available for navigation during low water when the requirements of trade demand it.

The objection made to it on account of the south-west wind blowing directly into the mouth of the canal is groundless, inasmuch that such is not the case, because the south-west wind traverses the entrance piers at an angle of 45 degrees; but admitting that any danger to the entrance lock is to be apprehended on that account, it can easily be protected by slightly altering its position, or that of the piers as shown by the full blue lines.

The central portion of the located line, from Goose Lake to Lucius Chappell's marsh on the Tidnish, passes slightly to the south-west of the original line, through the valley of the North-West; it traverses the crest of the watershed between the valleys of the Missiguash and Tidnish, the lowest elevation of which is 105½ feet, being respectively 10½ and 6¼ feet lower than the summits of the north and south sections of the original line, and 12½ feet lower than the summit of the La Planche and Weeks' Point Line, recommended by Mr. Keefer.

The line through the North-West valley is about 3,300 feet shorter than the corresponding part of the *blue line* through the Little-West valley. In order to remove all doubts respecting the relative advantages of the North-West and Little-West valleys, a line through each of them was traced on the lowest ground that could be found; their respective lengths, elevations and borings, show that the North-West located line is superior to the Little-West line, as regards distance, the probable quantity of rock excavation, and the construction of an expensive culvert which will be avoided by its selection. [See Note B.]

The eastern portion of the located line from Lucius Chappell's to Tidnish Head marsh, passes generally to the northward of the original line, portions of it being in the valley of the main trunk of the Tidnish, which it is proposed, should be diverted at a few projecting points, from its present circuitous channel into a straighter one, so as to not interfere with the drainage of the country along that stream, as would be the case by adopting Mr. Keefer's scheme of raising the surface of the river to a level of about five feet above the high water of Baie Verte, or to an elevation of 82 feet.

For the reasons given in my first report, it was formerly proposed to terminate the upper reach of the canal near the Tidnish post-road bridge; it is now proposed to extend it as far as the shore near Tidnish Head, and to cross the Tidnish near its outlet, where it will be necessary to construct a culvert under the canal for the escape of the river water.

The eastern terminus, which is the same as that originally proposed, with the exception of the basin afterwards recommended in my subsequent report of the 12th April, 1873, on the half-tide canal scheme, has been already described.

COMPARISON OF THE AU-LAC AND TIDNISH LOCATION LINE THROUGH THE VALLEY OF THE MISSIGUASH, WITH THE LA PLANCHE LOCATION LINE.

During the location of the central and eastern portions of the former line, measurements were taken at various points in order to ascertain the exact relative position of the corresponding portions of Mr. Keefer's location line, so as to indicate it correctly on the map of the original survey. The necessity of doing this arose from the fact that the located line shown on his own plan, does not correspond with his location line on the ground; the discrepancies between them are too numerous to be explained in detail; it may be sufficient to state that the intersections of his line with the various bends of the Tidnish and with the post-roads are not shewn in their true position in scarcely any instance, the points shewn to be on dry ground, being frequently in the river; the lower

NOTE B.—The borings on the section of the line through the North West valley were made under the supervision of Alex. Munro, P. L. S., of Port Elgin, N.B.

portion of his line towards Tidnish Head is some 300 feet shorter than represented on his plan.

These discrepancies, however, which have been verified on the field, are not so striking as those before referred to in my second report of the 12th of last April, wherein I stated, amongst other things,—that the river La Planche on his location plan is from 3,000 to 5,000 feet out of its true position at several points,—that La Planche Lake is represented on the north instead of the south side of the river,—that Tidnish Head is placed 1,000 feet too far north into the waters of Baie Verte,—and that similar inaccuracies occur with respect to the roads and the relative situation of the high and low land.

The length of the La Planche location line as given by Mr. Keefer, is $20\frac{1}{2}$ miles between his entrance locks, but he has not drawn attention to the fact that the total sailing distance from a point opposite the mouth of Au-Lac to the deep water entrance of his Baie Verte terminus near Weeks' Point would be 24·93 miles.

The length of the Au-Lac and Tidnish rough location line established during the past summer is 18·67 miles between the entrance locks; the total sailing distance over this route from the same starting point taken for the La Planche, or from 16 feet depth of water at extreme low water, in the Bay of Fundy, to the same depth of water opposite the Weeks' Point entrance, is 22·32 miles, instead of the 24·93 miles, on the La Planche located line.

This shows a difference of 1·83 miles between the entrance locks, and 2·61 miles of sailing distance in favour of the located route of the Au-Lac and Tidnish through the North-West valley.

The tables of distances appended to this report show the comparative lengths of the location line determined during the past summer, and of the La Planche location line recommended by Mr. Keefer.

WATER SUPPLY.

The line now recommended for adoption through the valley of the Missiguash, is not so favourable with respect to the water supply as that through the valley of the Au-Lac, because the surface area of the latter, which, it was proposed, should be converted into a reservoir for feeding the canal, is thrice greater than that of the Missiguash, (see page 165 of Appendix to Public Works Report, 1872) nor is it so favourable as regards the river system of the two valleys; the river Au-Lac being no longer used for the formation of new marsh land, whilst the Missiguash is still used for that purpose.

The difficulty, however, with respect to the water supply, may be obviated by using only the outlet of the Au Lac from its mouth to the railway Aboideau as a reservoir, in which case the construction of one expensive railway bridge and one post-road bridge, will be avoided,—and by constructing a dam with proper stop-gates across the outlet of the Missiguash, in order to obtain an equivalent storage capacity for the water required, including what will be furnished by the increased volume in the upper reach of the canal, owing to its additional length from the Tidnish post-road crossing to Tidnish Head.

With respect to the stoppage of the marsh land formation on the Missiguash, which will be affected by the canal according to the water level that may be adopted, and the distribution of the supply, the compensation that may be demanded on that account, will probably be no greater, and may possibly be less, than what it would cost to purchase the land in the valley of the Au-Lac, where its value is greater than in the valley of the Missiguash.

With the above exceptions, the mode of providing water for feeding the canal, and the elevations at which the water should be kept in the reservoirs and canal, as well as the elevation of the bottom of the upper reach of the latter, are the same as those previously recommended, but the supply will be more difficult to distribute and to regulate than in the valley of the Au-Lac, on account of the additional dam at the mouth of the Missiguash, and the greater disconnection of the canal from the feeding reservoir; in the former case, the permanent working expenses will be materially increased, and in the latter case, the simultaneous distribution of the water held in reserve cannot be effected by means

of several weirs on a long extent of the upper reach, as could be accomplished in the valley of the Au-Lac, where the tide can be conducted to a greater distance eastward, or for about eight miles from the shore, than through the Missiguash, the supply from which can only be introduced conveniently at the first intersection of the canal with the river, some $3\frac{1}{2}$ miles from the Bay of Fundy terminus, and 4.20 miles from the site of the proposed dam across the outlet of the river. The supply from the lower portion of the Au-Lac, before referred to, will enter the canal through the King's Creek feeder, which connects with it about a quarter of a mile above the upper lock, and $2\frac{4}{10}$ miles below the head of the Missiguash Feeder.

As the practicability of the canal depends chiefly on the adequacy of the water supply; and if the mode suggested for obtaining it, is not considered sufficient to meet any emergency that might arise from leakage, evaporation and absorption, or otherwise, the deficiency can be provided for, in various ways, viz:—

1st. By connecting the lakes at the head of the Missiguash with the canal, which can be easily accomplished, as they are in its vicinity; and by uniting the canal with Round Lake and Long Lake, at the head of the La Planche—to effect which, it will be necessary to construct a dam at the foot of Long Lake, so as to raise it to the same elevation as Round Lake, or from ninety-two to ninety-four feet over datum, as may be required,—and to cut a race-way from Round Lake across the bog, a distance of 5,000 feet, to its intersection with the canal, opposite the western or lower end of Hackmatack Lake, as shown on the map by the *red dotted line*.

In such case, supply weirs would have to be constructed at or near the junction of each race-way with the canal, in order to supplement the tidal supply if needed, by means of the fresh water held in reserve in one or more of the above named lakes.

The supply can be still further augmented, if necessary, by creating reservoirs in the valley of the Little-West or of the North-West; this can be done by flooding the lowest portions of the land between the canal and the water-shed, where it is unfit for agricultural purposes, owing to its swampy nature and the great difficulty in draining it, so long as the Tidnish is dammed at Doyle's mill.

In the latter case, the minimum elevation of the water surface in the upper reach of the canal and in the reservoirs, should be eighty-five, and the maximum elevation not more than eighty-eight feet above datum, as previously proposed.

The same elevations are also proposed for the canal, in the event of converting one or more of the above named lakes into fresh water reservoirs.

The lakes at the head of the Missiguash are fed by many small springs, and by the drainage water from the surrounding uplands; they furnish a minimum supply of 11.30 cubic feet per second. Those at the head of the La Planche are fed chiefly by the drainage water from the uplands around them; Round Lake and Long Lake, together with all the lakes at the head of the La Planche, north and south of the Tyndal Road, furnish a minimum supply of 11.54 cubic feet per second, of which, probably not more than one third is supplied by the two former lakes.

Whenever any deficiency would occur in the fresh water supply of the lakes, it could be remedied to a certain extent, by introducing such surplus tidal water as would not be required for the maintenance of the upper reach of the canal throughout, at an elevation of eighty-eight feet above datum, providing the water can be raised in the latter to a sufficient height for the purpose, without detriment to the drainage or otherwise.

As the drainage and improvement of the bogs around the lakes depend on the elevation of the water in the latter, their surface should be maintained as much as practicable at an uniform elevation of less than ninety-four.

If the question is asked,—why not connect the lakes directly with the canal, reduce them to the same elevation proposed for the latter, or to eighty-eight, and thereby dispense with dams and weirs?—the answer is, that in such case the lakes would be almost emptied, their bottom elevation being about eighty-eight feet over datum, as already stated.

Either one or the other of the previously proposed modes of supply, viz: by using only the fresh water of the lakes, or by establishing reservoirs in the North-West or in the

Little West valley, to be filled with salt water,—can be adopted, without affecting the present facilities for the drainage of the marshes, which would be increased instead of being diminished, providing the proposed elevations are adhered to.

2nd. The La Planche, or a portion of the Tintamarre, as stated in my original report, might be converted into reservoirs at any time, if required.

3rd. The supply might be increased during high spring tides by raising the surface elevation of the canal to ninety, or even to ninety-two, the high water level recommended by Mr. Keefer, providing suitable feeders and stop-gates are constructed; but in such case the drainage of the marshes and bogs through the canal would be prevented; the construction of expensive tidal race-ways outside of the canal banks, with tide-gates or aboideaux and dyking at their outlets, would be rendered unavoidable, and the maintenance and working expenses of the canal would be greatly and unnecessarily increased.

In order to maintain the surface elevation of the upper reach of the canal as much as possible at an uniform elevation between eighty-five and eighty-eight, the water might be retained, if found requisite at the elevation of ordinary spring tides, for one or two days every fortnight, by means of stop-logs or otherwise, at the mouths of the feeders and over the crests of the dams, because their elevation will seldom exceed eighty-nine and a half, or one and a half feet above the variable top-water surface of the canal. When the spring tides rise to a greater height than ninety-two or ninety-three above datum, they can be shut out from the canal by the same means; in this case, vessels entering from the Bay of Fundy, would have to lock down into the canal.

In my first report, I stated that the Bay of Fundy water is only admissible for the supply of the canal towards the time of high water, or after it has attained an elevation of 85, because it is then comparatively clear or free from sediment.

The correctness of this statement may be disputed, because the formation of new marshes takes place during the time of high water; although this cannot be denied, it may probably be accounted for by the fact that when the tidal water ascends the winding streams leading to the bogs, it washes off a considerable portion of the sediment, with which it becomes more densely charged, from the soft muddy banks of those streams in its upward course.

Whether this hypothesis be true or not, there is no doubt, however, that more or less sediment will be deposited in the canal; but as the latter is to be fed from reservoirs, sufficient time may be generally allowed for the deposit of the sediment on the bottom of the reservoirs, before the water is introduced into the canal, so that any obstruction to the navigation that might be apprehended from that source, is not likely to be serious, especially as it can easily be removed by dredging.

Further details respecting the water supply will be found in the appended table under that heading.

LOCKS AND BASINS.

Their number will of course depend on the decision that will be made, whether the canal is to be a whole-tide one or not, and on the extent of the accommodation to be given to vessels. The number and lifts of the locks required for a whole tide canal are shown in my original report.

Their relative position and arrangement on the located line are nearly the same as originally represented by the full *red lines* at the western terminus and the *red dotted lines* at the eastern terminus. By this disposition of the locks, the upper reach of the canal, as before stated, will extend almost from shore to shore; this arrangement of the locks was originally intended and would have been adhered to, if an error had not been committed in the calculation of the quantity of excavation for placing the locks otherwise near the River Tidnish post-road bridge, for obtaining a rock foundation. This error, to which Mr. Keefer makes special reference in his memorandum, dated 27th August, 1872, was only discovered after my report had been printed for the use of the House of Commons, and your attention has been called to it by me since then; I can, however, be

scarcely held responsible for it, as the calculation was made at a time when my life was despaired of; my original report was prepared and written before I had completely recovered, and it was not possible for me under the circumstances to verify the accuracy of all the calculations.

The error in question, coupled with the fact that the original calculations were for a whole-tide canal of the same sectional area through earth and rock, and for locks of 18 feet draught of water, with extensive basins between them, together with dredged channels at each terminus, 300 feet in width and 16 feet in depth at extreme low water, swelled the quantities considerably above what was actually required, and greatly to the advantage of the half-tide canal scheme on the La Planche and Weeks' Point location line especially as the calculations for the latter make no provision for ditching, dredging, and mucking under the seats of the canal banks, nor any for the rock excavation at the Weeks' Head and La Planche termini.

Judging from the appearance of the beach at Tidnish Head, where solid rock appears near high water surface, it is highly probable that a suitable foundation will be found for the entrance locks at Baie Verte, on the line as now located.

EXCAVATION.

The probable quantity of excavation required to be done for the construction of a canal, including the cuts or new river channels across the bends of the Tidnish, also the feeders and ditches, on the line through the North-West valley, will be nearly as follows, viz:—

For a Half-Tide Canal, not intended for extension to full-tide in the Bay of Fundy, but accessible during extreme low water in Baie Verte, for vessels of 15 feet draught, and an allowance of one foot extra for keel-way throughout :

	Cubic yards.
Earth excavation.....	14,319,753
Rock "	44,736
Total.....	14,364,489

For a Half-Tide Canal, designed for extension to full-tide at the Bay of Fundy terminus, and accessible during extreme low water in Baie Verte, for vessels of 15 feet draught, and an allowance of one foot extra for keel-way throughout :

	Cubic yards.
Earth excavation.....	14,595,898
Rock , "	44,736
Total.....	14,640,634

In the preceding estimates of quantities, the canal prism is calculated for a depth of 16 feet of water, with a bottom width of 100 feet, the slopes being two horizontal to one vertical through earth, and $\frac{1}{2}$ horizontal to one vertical in rock cuttings.

Allowance has been made for the mucking required under the embankments, not merely for the purpose of rendering them water-tight, but also for the prevention of slides in the trunk of the canal, especially through the bogs.

The latter, as before stated, consist generally of a crust of moss at the surface, and of semi-fluid vegetable matter beneath, forming a stratum which rises and falls with the water whereon, it may be said, they float, as can be tested by any one who will venture over them in summer, during the driest season.

When the canal is constructed, the drainage of the bogs to be traversed can be accomplished by commencing the excavation through the water shed of the Missiguash and Tidnish, or from the valley of the former into the North-West or Little-West, which are considerably lower, as may be seen by referring to the elevations indicated on the map.

Once this drainage is effected, as suggested or otherwise, there is no doubt that the semi-fluid matter will be greatly reduced, probably to $\frac{1}{4}$ or less of its present thickness, which varies from six to ten feet or more.

This applies not only to the boggy material under the seats of the banks, but also to the surface of the canal prism, for a considerable distance; a corresponding reduction should therefore be made, either in the quantity or in the cost of the excavation.

Again, as regards mucking under the banks across the bogs, it should be borne in mind that the permanent surface elevation of high water in the canal, is limited to 88 feet, whereas the surface of the bogs rises to 96 and 103 more or less, or from eight to fifteen feet above the proposed water level. It will be needless, therefore, to do any more mucking than what is necessary to provide against the loss of water through the boggy stratum, and to prevent the soft material from sliding into the trunk of the canal, whether through bogs, swamps or otherwise, unless their surface elevation is less than 88, in which case the seats of the embankments must, of course, be mucked more thoroughly—a contingency which has also been provided for.

Round Lake Line.

After the rough location line from Au-Lac to Tidnish Head was sufficiently established, I explored a line through the valley of the Missiguash and Round Lake towards that of the Little West, and took such levels as were necessary to determine the lowest ground across the water-shed, between the valley of Round Lake and that of the Little West,—the elevations of which are indicated on the map, along the *blue dotted line*.

No borings were made, as the exploration was only finished on the 7th September, the day fixed for the close of the survey; judging, however, from the formation of the ridges along the line, it is very probable that the quantity of rock is much greater than on the located line.

The Round Lake line is 2,300 feet = 0.44 miles shorter than the trial line through the valley of the little West, but it is about 1,000 feet = 0.20 miles longer than the located line through the valley of the North West.

In the estimate furnished with my last report, the locks, weirs and bridges are supposed to be carried up to the same height as the towing path, or to an elevation of 102 feet over datum; the culvert and waste-weir near the mouth of the Tidnish,—the piers and abutments of the railway bridge,—the locks at Baie Verte and those at the Bay of Fundy terminus, excepting the upper portion of the lower locks, are calculated as being of masonry; the railway bridges are estimated as being of iron;—the other structures were intended to be constructed of timber or cribwork and earthwork.

In addition to the diagrams and profiles before referred to, various statements are appended hereto, showing—the length of the several lines examined—the relative quantities of excavation and pier work on the located lines—the surface area, and water-storage capacity of the reservoirs,—and the daily elevation of high water in the Bay of Fundy and Baie Verte,—the whole of which, together with the foregoing and previous reports, will, it is believed, enable you to determine the relative merits of the different routes and schemes in connection with the projected work.

I have the honor to be,

Sir,

Your most obedient Servant,

G. F. BAILLAIRGÉ,

Assistant Chief Engineer, P. W.

APPENDIX No. 3.

BAIE VERTE CANAL.

THEORETICAL COMPUTATION OF THE BAY OF FUNDY TIDE-WATER SUPPLY, OVER THE BREASTS OF WEIRS, BASED ON THE TIDAL VARIATIONS OBSERVED.

Assuming that the canal surface is not to be raised above elevation 88, and that the volume of water necessary to maintain this fluctuating level constantly at an intermediate height, between elevations 85 and 88, is to be introduced over the breasts of supply weirs into the canal prism from the Au-Lac and Missiguash reservoirs, where the muddy tide-water is to remain at rest for a short time, in order that the greater part of the sediment with which it is charged may be deposited therein—the most unfavorable time in each month for obtaining the supply required to meet the simultaneous expenditure of water for locking and other purposes, is, according to the tidal observations, the interval elapsing from about two or three days, after full moon to within a day or two of the succeeding new moon.

If it is demonstrated that during the lapse of time just described, the available supply is abundant to meet all demands, it is clear that any doubts which may be entertained as to the adequacy of the tidal supply of the reservoirs, and at the levels proposed by Mr. Baillaigé, will be effectually removed.

- Let g represent the acceleration of gravity in feet per second,
 h the height of the water in Cumberland Basin above the reservoir-surface at any stage of the tidal influx,
 t the time required by the tide to rise h feet above reservoir-surface,
 H the total height in feet which the tide rises above the reservoir-surface at the time of high water in Cumberland Basin,
 T the length of time in seconds required by the tide to rise H feet above the reservoir-surface,
 r the rate of rise of the tide in feet per hour, at the commencement of its influx into the reservoir,
 t_s the duration of slack water in seconds at high water,
 b the breadth in feet, of the opening through which the water is admitted into the reservoir—equal to 250 feet for the Au-Lac, and 200 feet for the Missiguash reservoir,
 a the mean area of the reservoir equal to 5,915,000 square feet for the Au-Lac, and 4,775,000 square feet for the Missiguash service.
 L the length of the reservoir = 9,200 feet for Au-Lac, and 21,800 for Missiguash,
 c a co-efficient, denoting the ratio between the average breadth of the elongated reservoir and the breadth of the opening through which the water finds ingress, with approximate correction for friction, enlargements, &c., applied as found necessary: value for Au-Lac = 2.20, for Missiguash = 0.93,
0.54 a factor, denoting the product of the mean rate of vertical rise of the Bay of Fundy tides in feet per hour, by the mean horizontal surface velocity of the current in feet per second,

then we have the following relations:—

1st. When the rise of the tide above the reservoir-surface and the current are such that the water cannot reach the upper end of the elongated reservoir before the gates are

closed at its mouth, the total volume of water supplied up to the time the influx is stopped, is : (neglecting the comparatively insignificant correction for friction, &c.)—

$$Q = v = \left\{ \frac{1}{2} \sqrt[4]{.474573} \sqrt[2]{2g} b \right\} \left\{ h^{\frac{5}{2}} \frac{2T}{5H} + H^{\frac{3}{2}} t_s \right\} + \left[\frac{0.54 r b T}{H} \right] \left[\frac{h^2}{2} \frac{h^3}{6H} \right] \quad (1)$$

This formula is applicable only so long as h does not exceed the numerical value of the positive root of the equation :

$$h^{\frac{5}{2}} \left[\frac{T}{H^{\frac{1}{2}}} \sqrt[4]{.474573} \sqrt[2]{2g} \right] + h \left[\frac{0.54 r T}{H} \right] = Lc \quad (2)$$

2nd. When the duration and velocity of the tidal influx are barely sufficient for it to reach the head of the reservoir during the time of slack water, and to raise the equilibrium water level of the reservoir a height w above its surface-elevation prior to the ingress of the tide ; the numerical value of w is determined by equation :

$$\left\{ \frac{3}{2} t_s (H-w)^{\frac{1}{2}} + \frac{T}{H} (H-w)^{\frac{3}{2}} \right\} \left\{ \frac{1}{2} \sqrt[4]{.474573} \sqrt[2]{2g} \right\} + (H-w) \left[\frac{0.54 r t_s}{H} \right] + (H-w)^2 \left[\frac{0.54 r T}{H^2} \right] = Lc \quad (3)$$

and the volume of stationary water in the reservoir above the elevation just mentioned, is :

$$v_2 = a w \quad (4)$$

The additional volume v_3 of flowing water stored up in the reservoir when the gates are closed at the turn of the tide, is :

$$v_3 = b c \left\{ \frac{2}{3} \left[H-w \right]^{\frac{5}{2}} \left[\frac{T}{H^{\frac{1}{2}}} \sqrt[4]{.474573} \sqrt[2]{2g} \right] + \left[H-w \right]^3 \left[\frac{0.54 r T}{3H^2} \right] \right\}; \quad (5)$$

and the total volume of water supplied up to the time that the influx is stopped, is :

$$Q = v_2 + v_3 \quad (6)$$

3rd. When the inward tidal current reaches the head of the reservoir before the time of slack water—

The height z of the water in equilibrium, which has accumulated in the reservoir prior to the occurrence of slack water in Cumberland Basin, is determined by equation :

$$\left(H - z^{\frac{3}{2}} \left[\frac{T}{H^{\frac{1}{2}}} \sqrt[4]{.474573} \sqrt[2]{2g} \right] + (H-z)^2 \left[\frac{0.54 r T}{H^2} \right] \right) = Lc; \quad (7)$$

and the volume of stationary water in the reservoir above its surface elevation, prior to the influx of the tide, is :

$$v_1 = a z \quad (8)$$

The height u of a similar sheet of water accumulated in the reservoir during the time of slack water is determined by equation :

$$\left\{ \frac{3}{2} t_s (H-z-u)^{\frac{1}{2}} + \frac{T}{H} (H-z-u)^{\frac{3}{2}} \right\} \left\{ \frac{1}{2} \sqrt[4]{.474573} \sqrt[2]{2g} \right\} + \left\{ H-z-u \right\} \left\{ \frac{0.54 r t_s}{H} \right\} + \left\{ H-z-u \right\}^2 \left\{ \frac{0.54 r T}{H^2} \right\} = Lc; \quad (9)$$

and the corresponding volume of stationary water in the reservoir is :

$$v_2 = a u \quad (10)$$

The additional volume of flowing water stored up in the reservoir when the gates are closed at the turn of the tide, is :

$$v_3 = bc \left\{ \frac{2}{5} (H - z - u)^{\frac{5}{2}} \left[\frac{T}{H^{\frac{1}{2}}} \sqrt[4]{.474573} \sqrt[2]{2g} \right] + (H - z - u)^3 \left[\frac{0.54rT}{3H^2} \right] \right\} \quad (11)$$

and the total volume supplied up to the time the influx is stopped, is :

$$Q = v_1 + v_2 + v_3 = a(z + u) + v_3 \quad (12)$$

If adequate means are devised, enabling us to equalize, at all times, the depth of the storage water in the reservoirs and the canal during the interval elapsing between one tidal influx and the next, three tides of ninety will suffice, according to the above formulas, to raise the low water level three feet, from eighty-five to eighty-eight, over their entire surface of 27,000,000 square feet.

This fact proves conclusively that the canal, together with the reservoirs, can be filled from elevation eighty-five to eighty-eight, during any one of the lower ranges of spring tides, which occur every month towards the time of full moon.

Proceeding therefore on the basis that the canal and reservoirs are full up to their maximum permanent elevation of eight eight, on the 12th of October, 1870, at 1.35 p.m., when the volume of water consumed in one half day is yet less than the quantity furnished by the corresponding tidal influx, and that the surface of both the reservoirs and the canal is invariably brought to an uniform level during the time elapsing between one tidal influx and the next, when the canal is worked steadily up to its full capacity, viz., at the rate of a daily consumption of 12,000,090 cubic feet, we obtain the following :

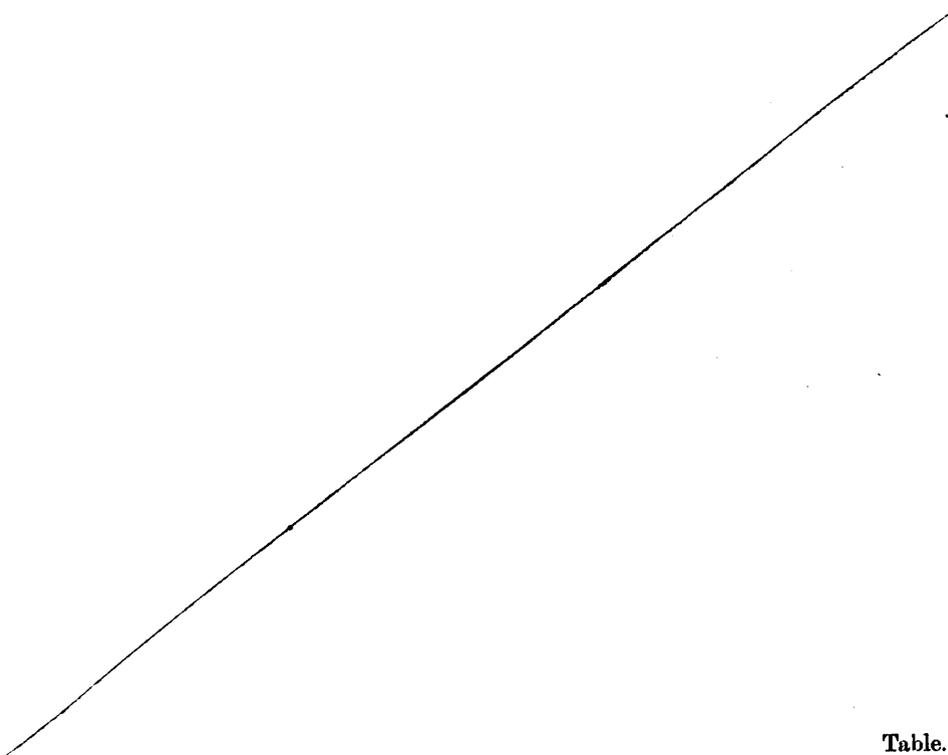


Table.

TABLE OF FLUCTUATIONS OF THE BAY OF FUNDY TIDE WATER SUPPLY AT THE LOW-WATER LEVEL OF 85 ABOVE DATUM, BASED ON THE ABOVE FORMULAS.

Date	Elevation of High Water Surface in Cumberland Basin.	Elevation of Reservoir Surface at beginning of each Tidal Influx.	H, Total Rise of the Tide above Reservoir Surface.	r, Rate of Rise per Hour at the beginning of the Tidal Influx.	T, Time occupied by the Tide in rising H feet above Reservoir Surface.	t, Duration of Slack Water, or stand at High Water.	v	v ₁	v ₂	v ₃	Q, Total Volume of Water supplied at each Tide of Influx.	Mean Volume of Surplus Water remaining in Canal and Reservoirs above 85 at beginning of each Influx assuming the mean semi-tidal consumption to be 6,000,000 Cubic Feet.	Cubic Feet.	Total Volume of Surplus and Reservoir at end of each Influx.
Oct. 12	89.95	88.00	1.95	4.10	2784	600	3,241,000	2,673,000	7,106,000	9,889,000	9,889,000	80,880,000	80,880,000	
13	88.95	87.78	1.17	3.25	1980	600	2,610,000	2,610,000	6,004,000	3,241,000	3,241,000	74,880,000	78,121,000	
14	88.65	87.67	0.98	3.00	1560	600	1,761,000	1,761,000	6,004,000	2,610,000	2,610,000	74,731,000	74,731,000	
14	88.40	87.55	0.85	3.00	1385	600	1,253,000	1,253,000	6,004,000	1,761,000	1,761,000	68,731,000	70,492,000	
15	87.40	87.22	0.18	2.75	5:0	600	105,000	105,000	6,004,000	1,253,000	1,253,000	59,745,000	65,745,000	
15	86.70	87.00	.....	1.30	.....	900	.....	.....	6,004,000	105,000	105,000	53,850,000	53,850,000
16	86.00	86.77	.....	.....	.....	600	.....	.....	6,004,000	.....	.....	47,850,000	47,850,000
16	85.50	86.55	.....	.....	.....	600	.....	.....	6,004,000	.....	.....	41,850,000	41,850,000
17	85.00	86.33	.....	.....	.....	600	.....	.....	6,004,000	.....	.....	35,850,000	35,850,000
17	85.00	86.11	.....	.....	.....	600	.....	.....	6,004,000	.....	.....	29,850,000	29,850,000
18	85.30	85.89	.....	.....	.....	600	.....	.....	6,004,000	.....	.....	23,850,000	23,850,000
18	85.70	85.66	0.04	0.60	110	600	8,000	8,000	6,004,000	8,000	8,000	17,850,000	17,850,000	
19	86.00	85.44	0.56	2.30	1380	600	870,000	870,000	6,004,000	8,000	8,000	11,858,000	12,728,000	
19	86.20	85.25	0.95	3.00	1500	600	2,013,000	2,013,000	6,004,000	2,013,000	2,013,000	11,858,000	12,728,000	
20	86.40	85.10	1.30	3.60	1880	600	3,714,000	3,714,000	6,004,000	2,013,000	2,013,000	6,728,000	8,741,000	
20	87.10	85.02	2.08	4.20	3440	600	.....	.....	6,854,000	12,199,000	12,199,000	2,455,000	2,455,000
21	87.80	85.25	2.55	4.40	3620	900	2,352,000	2,352,000	5,099,000	15,946,000	15,946,000	6,654,000	12,654,000	
21	88.80	86.62	3.18	5.40	3780	900	4,841,000	4,841,000	6,004,000	15,946,000	15,946,000	16,660,000	22,660,000	
22	89.90	86.19	3.71	5.70	3920	900	8,873,000	8,873,000	6,393,000	21,391,000	21,391,000	16,660,000	37,991,000	
22	90.50	86.93	3.57	5.70	3900	900	12,187,000	12,187,000	7,190,000	26,108,000	26,108,000	31,991,000	58,999,000	
22	91.50	87.63	3.87	6.10	4020	600	11,438,000	11,438,000	6,625,000	24,798,000	24,798,000	52,099,000	76,897,000	
23	91.50	87.63	3.87	6.10	4020	600	13,790,000	13,790,000	6,574,000	7,149,000	27,513,000	70,897,000	98,410,000	

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, December, 1873.

R. STECKEL,
Civil Engineer.

APPENDIX No. 23.

NORTH-WEST COMMUNICATION.

FORT FRANCES, 5th July, 1874.

SIR,—In reporting, at the close of another fiscal year, on the works and the line of route under my charge, I beg leave to draw attention to the general progress made in opening communication with the North-West Territories.

The scheme as first recommended, had for its object a gradual system of improvement, intended to result in a railway from Lake Superior to the navigable waters of the interior with a navigation rendered continuous by means of lock and dam, from its terminus on Lake Shebandowan to the North-West Angle of the Lake of the Woods; a railway communication to be made from the latter point to Fort Garry. But, in the first instance, a preliminary line, sufficient for the transportation of men and material for the greater works proposed, was to be opened.

This preliminary line had been scarcely commenced, when the necessity of providing for the transportation of troops entailed an entire change in the plan of proceeding.

Boats and appliances for the carriage of large bodies of men, through four hundred and fifty miles of an untracked wilderness, had to be suddenly provided, and, in the summer of 1870, a large military force was successfully carried to and from Fort Garry. In the ensuing year, the troops were followed by emigrants, and from that time to the present, the opening of the route and the conveyance of passengers, have gone on simultaneously.

It will be readily understood that it was somewhat difficult to carry on two services so different in their character with the same force, more especially as the transportation of passengers had to be provided for, before the opening of the route had made much progress, or plant to any considerable amount been obtained.

The work of improvement was, nevertheless, pressed forward as fast as circumstances would permit, and the navigable waters of the interior have been for some time accessible on the eastern side from Lake Superior, and on the western from Fort Garry by good waggon roads, on which buildings have been constructed at convenient intervals, for the accommodation of travellers.

Dams have been built, and other improvements so far effected that steam is now used as the propelling power, on all the lakes and rivers of the route.

The line, indeed, is in such condition, that with further improvement, such as tramways on the portages and some additional plant, to be referred to hereafter, it would admit of the rapid conveyance of large numbers of passengers and a considerable quantity of freight, that is, with a sufficient number of teams on the land roads, and a well organised transportation service in operation throughout.

I may further, before proceeding to details, draw notice to the fact, that at the time the works were commenced, there could scarcely be said to be a rival line of any consequence in operation, for the United States Railways had not been extended beyond St. Paul, a point six hundred miles from Fort Garry, and there was only one small steamer plying on the Red River. Subsequently to that time, however, the railways in Minnesota were pushed on with such extraordinary activity, that in the summer of 1872, as I am informed, there were no less than eight thousand men employed on their construction in the valley of the Red River, and although there has been a subsequent reduction of the force, there is now easy railway communication both from Duluth and St. Paul to Moorhead at the head of the high water navigation on the Red River.

This activity, on the more circuitous lines of the United States, shews the necessity of more comprehensive improvement on the Canadian route, if it is to be maintained as a

line of communication to command the share of traffic which its natural advantages should give it.

With these prefatory remarks, which I trust will not be considered out of place, I proceed to report on the operations of the past year, and will endeavor to give such information as may be useful regarding the still imperfectly known region traversed by the route.

TRANSPORTATION SERVICE.

In a Supplementary Report, dated 1st November last, I took occasion in noticing the improvements effected during the season of navigation, then drawing to a close, to refer to the increased facilities for transportation, afforded by the additions made to the plant in different sections of the route. The two large steamers, built at Fort Frances, together with three steam tugs taken forward from Collingwood, and four decked barges built on the line, were all put in operation by the middle of August; and from that time up to the middle of October, when the stormy weather and the shorter days led to some interruptions, passengers were sent in six days from Thunder Bay to the north-west angle of the Lake of the Woods, as follows :—

1st day,	from	Thunder Bay to Shebandowan.
2nd	do	Shebandowan to Brulé.
3rd	do	Brulé to Maligne.
4th	do	Maligne to Kettle Falls.
5th	do	Kettle Falls to Long Sault.
6th	do	Long Sault to North-West Angle.

A great improvement on the time previously made, but still far short of what may be accomplished with a fuller outfit of plant, with tramways on the portages, and other comparatively limited improvements specified in previous reports.

In my report of last year, I had the honor to suggest that, in working such a line as the Red River Route, a well organized Company, with sufficient capital, would have many advantages, not within the reach of the Officers of the Department of Public Works; and I submitted at the same time an approximate estimate, in which I named the annual cost of working the line so as to meet the requirements of the service, and attract a remunerative traffic at \$190,000 per annum.

During the past winter, the Department called for tenders, and before the opening of navigation, a contract was awarded to Messrs. W. H. Carpenter & Co., the conditions of which were as follows :—

1st. Contractors during season of navigation (1874) to maintain the line on a scale, sufficient to carry passengers and freight from Thunder Bay, and *vice versa* without delay.

2nd. Contractors shall have experienced Engineers, and crews on steamers and boats, and have use of plant of buildings belonging to the Department, and shall hand back the same in the fall, reasonable allowance being made for wear and tear.

3rd. Contractors shall not run steamers off the line of route.

4th. Passengers and freight to leave Thunder Bay three times per week, or daily if necessary, also three times per week from Fort Garry.

5th. Passengers to be conveyed through, at farthest, in ten or twelve days, freight in fifteen or twenty days.

6th. Contractors to make provision against delay arising from accidents to plant.

7th. Competent Engineers shall be placed on steamers and tugs.

8th. Boats to be sufficiently well manned, and fuel provided to prevent delays in running.

9th. To have houses and tents in good order for emigrants, and furnish meals at 30 cents.

10th. Intoxicating liquors strictly prohibited.

11th. Contractors or employees shall not trade or deal in furs.

12th. Contractors will make their own arrangements with Indian Agent, for transportation of Indians.

13th. Should employees behave badly to Indians and others, they are to be dismissed.

14th. To arrange so as to have passengers as comfortable as possible on Sundays.

15th. Department not bound to complete works within any given time, and contractors have no claim if works are not completed.

16th. Contractors to make casual repairs to roads or property in use for bulk sum of \$1,000.

17th. Contractors to convey six boilers, now under repair at Dundas, from Thunder Bay to interior, and place them in position at their own expense.

18th. To provide proper covers for stages and waggons, also the necessary blankets.

19th. Contractors to issue and post up approved notices in English and French, stating rates, regulation, &c.

20th. Rates not to exceed the following from Thunder Bay and *vice versa* :—Each passenger \$10 ; each passenger under fourteen years of age \$5.00. Children under three, free. Freight (not including household furniture or machinery) \$2.00 per 100 lbs. ; household furniture, at owner's risk, \$3.00 per 100 lbs. All machinery at special rates to be approved by the officer in charge. Cattle, horses, sheep, &c., at special rates to be approved as above. Way passengers and freight on land 5 cents per mile for passage. Freight $1\frac{1}{2}$ cents per 100 lbs. per mile. Water and portages 2 cents per mile for passage. Freight $\frac{1}{2}$ cent per 100 lbs. per mile. Passage from Thunder Bay to Fort Frances or *vice versa* \$7.00.

21st. Distances as herein stated to be taken as number of miles, for which above rates for way passengers and freight may be charged. (Table of distances follows.)

22nd. Contract may be cancelled on good cause, in which case *bona fide* losses to be paid, or if disputed to be referred to Dominion Arbitrators.

23rd. Boats, machinery, &c., subject to inspection ; and if dangerous or unsafe, contractors to provide other suitable means of carrying on the service.

24th. All papers relating to this contract, previous to date of same, wholly superseded by these presents. All arrangements on road as to maintenance of boats, steamers, waggons, &c., all other plant to be delivered over to be subject to oversight by a Government Engineer or Inspector, whose orders shall be obeyed.

Bonus, or sum of \$75,000 to be paid in six equal instalments of \$12,500 each, on 1st June, July, August, September, and October, and 2nd day of November of present year 1874.

The estimate, to which I have already referred, was contained in a report published with the Departmental Blue Book, long before the contract was signed, so that the contractors undertook their work with the fullest information as to the probable cost of carrying it out.

I shall from time to time, as the season advances, inform the Department of the proceedings of the contractors in regard to the conveyance of passengers and freight. In the meantime I may say that they do not seem from their arrangements so far, to have realized the magnitude of the undertaking on which they have entered.

THE MOUNTED POLICE.

Last fall, when the line was being closed for the season, intelligence was received of the approach of a Police force for the North West Territories, numbering, with a small detachment of troops for the garrison at Fort Garry which accompanied it, 197 men.

By the time the last detachment of this force reached the North-West Angle, winter had set in with great severity and although the Police force got safely and expeditiously through, the working force of the route was frozen in.

It will be readily understood that at the close of the season, the working force can only be withdrawn after the last passengers going westward have reached their destination. The dismantling the line, placing the steamers in winter quarters, and storing the plant have then to be commenced in the Western sections and the crews moved eastward from

station to station to Prince Arthur's Landing. To close the line in its present condition with proper care, usually occupies a period of eight days.

On the occasion under consideration, the smaller lakes at the Height of Land were frozen over on the night of the 25th of October; in this emergency, every effort was made to keep open the communication by sheeting the tugs with iron and strengthening the framework of their bows, so that they could be forced through the ice, but on the night of the 2nd November, the thermometer fell to 6° (Fahrenheit) completely stopping the tugs.

There were at this time on the line of route, two hundred workmen, exclusive of the engineers of the steamers and tugs, forty teams of horses, with teamsters, and twelve yoke of oxen, with drivers.

By continued exertions that part of the force, to the eastward of Kettle Falls, was extricated in time to take passage by the last steamboat leaving Thunder Bay; but the crews of the large steamers, row boats and tugs, to the westward, did not arrive until after the steamers referred to had left; some of the latter, however, found their way to Fort Garry, and were sent home by way of St. Paul.

The engineers, being at high rates of pay, were as soon as the ice permitted, sent home by way of Duluth, a route which involved, in the first place, a winter march of three hundred miles, by way of White Wood Lake and the Vermillion, and then a railway journey of thirteen hundred miles. But a number of the men had to be retained for the winter, as it would have been too expensive to send them home after the steamers had ceased running.

I have drawn attention to this matter in order to show the inexpediency of sending large detachments at a very late period of the season.

In the case to which I have reference, the unusually early closing of the navigation could not, of course, have been anticipated; winter had indeed set in earlier than ever before known in the short experience of the white man, or even in the knowledge of the Indians, but the sudden freezing up of the route on this occasion should, in future, be taken as a guide in fixing the dates on which it would be safe to reckon.

I may add that keeping the line open after the time appointed for closing it for the accommodation of the Police, and the consequent freezing in of the working force, occasioned a large and unforeseen expenditure.

OPERATIONS—WINTER OF 1873, '74.

The force, left on the route from the causes above set forth, was usefully employed during the past winter, in carrying out improvements to the navigation, putting up buildings in different sections, and preparing fuel for the tug for the operations of the present summer. It was also the means of giving aid, much needed, to the Pacific Railway Survey; for with the last steamers of the season there arrived at Prince Arthur a large party attached to that survey, and as the route was closed it would have been difficult, or even impossible to have gone inland, or when in the interior, to have obtained supplies, without the assistance of the men and the use of the teams left behind under the circumstances to which I have referred.

It will thus be seen that the freezing in of a number of workmen and teams attached to the route in the fall of 1873, on account of the late passage of the Mounted Police, was not wholly an evil, but that the force so left became available both on the works and in advancing the operations of another branch of the public service.

DAMS AT ISLAND PORTAGE.

At Island Portage there are three channels of about equal size, two of which are at the old camping place, and one about half a mile higher up, breaking off on the north side. The two first have been completely dammed across, and in the latter there is a vertical dam with a flood gate arranged with bulk-heads and stop-logs. This flood gate is of sufficient size to give command of the water. In order to flood the rapids at the Maligne to a sufficient depth for a steam tug, it was of great importance to raise the water at Island Portage to the extent of twelve feet over its lowest level; and the dams referred to

have been constructed with a view to that end, but the banks, although everywhere of rock, are at two places low, and time did not permit of their being closed last spring, so that nine feet only over low water can be obtained. The tug, however, has had no difficulty, so far, in running from Island Portage to the Maligne, but when the water falls it can only be run to the head of Tanners Lake. When the traffic shall have ceased in the fall, it will be necessary to let off the water, and leave a few men to perform the requisite work in the places referred to, during the succeeding winter. The effect of these dams has been to overcome the obstructions on one of the most difficult sections of the route. Tanners Rapids, where a transshipment was formerly necessary, have been flooded. The shallow sections above Tanners Lake will likewise be flooded, when the additions referred to shall have been completed.

PRINCE ARTHUR HARBOR.

Thunder Bay is so completely land locked as to be exposed to no surf except what arises within the comparatively limited area of the bay itself. It is never closed by ice before the middle of December, and has the advantage of opening early in spring. From the experience so far gained, Prince Arthur Harbor is always accessible as soon as vessels can arrive from any direction.

The harbor is easy of access to sailing vessels as well as steamers; the anchorage good outside, and the natural facilities for extending wharves, all that can be desired.

As stated in my report of last year, a wharf has been built extending six hundred feet from the shore, with a wing of two hundred feet. This wing is too short to afford sufficient shelter, and, in the estimates submitted last winter, I took occasion to draw attention to the expediency of constructing a breakwater, which would have the effect of rendering the harbour secure from easterly winds, while it would, at the same time, serve as a guard against ice shelves. Its probable cost was set at \$12,375.00, and this sum was included in the appropriations of last session.

THUNDER BAY ROAD.

This road was kept in good order during the past season, and a considerable extent of it gravelled and otherwise improved. The heavy summer rains, which prevail in the region through which it passes, rendered it difficult to keep in order the more clayey sections, and still further improvement is necessary to meet the increasing traffic.

NAVIGABLE SECTIONS.

These waters have an aggregate length of three hundred and ten miles, and are separated at intervals of greater or less distance by twelve short portages or carrying places. Steam is now the propelling power on all the navigable sections, and on ten of the portages horses or oxen are used, the two remaining being mere lifts over which articles are passed by hand.

Eastward of Rainy Lake there are small tugs with boats and barges. On Rainy Lake, a side wheel steamer runs regularly. Between Fort Frances and the Long Sault a tug with boats is used, and from thence to the North-West Angle, a side wheel steamer is in operation.

The Shebandowan, Kashabowie, Lac des Mille Lacs, and Lake Baril, (the first four lakes on the route) are provided with decked barges, one on each lake, and two vessels of the same description are being built at French Portage, one for the Windegoos Lakes, and one for Lake Kaogassikok. There will still be required a barge for each of the following navigable sections, viz:—Lake Sturgeon, River Maligne, Lake Nequaquon, and Lake Mameukan, and in all, four additional barges. Included in the appropriation of last session was a sum of \$12,000, for the construction of six new steam launches or tugs, of a class similar to the best on the line. These are much needed, for with the plant now at command, it is difficult to maintain connections even in one direction, and it is not possible to make regular communication both ways. These launches should be screw propellers, of 38 or 40 feet in length of keel, 9 feet 6 inches beam, 4 feet 2 inches in depth of hold amid-ships, and 5 feet aft, to admit of immersion of screw; half decked forward, light

hurricane deck (so arranged as to be easily removed) over engine and boiler, and round counter over stern. The boilers and engines should be of the dimensions and power indicated, by a cylinder of ten inches stroke of piston and ten inches in diameter.

Transportation on the navigable sections would be greatly facilitated by the construction of tramways on the portages intervening between them. It is at present very difficult and costly to maintain horses or oxen on these portages, seeing that the provender necessary for their maintenance has to be taken from Collingwood or Sarnia.

HOUSES AND WHARVES.

Additional buildings are required for the accommodation of passengers, more especially at the North-west Angle of the Lake of the Woods, Fort Frances, Kettle Falls, Nequaquon, the Maligne and French Portage, and wharves for the large steamers are needed at the North-west Angle and Fort Frances.

IMPROVEMENTS ON RAINY RIVER.

During the past winter, progress was made in blasting and removing boulders from the channel of the river at the Long Sault; but further work is required, and it can be best accomplished towards the end of the winter season, when the water is at its lowest stage. Stores of provisions, drills, blasting powder, and all material necessary for this work will be collected at Fort Frances before the close of navigation, and at the same time provision will be made for the improvement of the two little rapids above the falls at that place.

I may mention that the river between Fort Frances and the Long Sault, as is often the case with streams issuing from the large ice covered lakes, closes in the fall and opens again, soon after Rainy Lake is completely frozen over; and the navigation in the comparatively short stretch referred to, becomes practicable to row boats during the latter part of the winter, so that in placing the stores at Fort Frances they will be within easy reach of the point where they are required.

THE LAKE OF THE WOODS ROAD.

This road is ninety-five miles in length, and extends from the North-west Angle of the Lake of the Woods to Fort Garry. The first sixty-five miles, proceeding from the Lake of the Woods westward, is through a low swampy country, covered, except in some of the marshes, with forest trees of small dimensions. The remaining distance of thirty miles is over prairie, part of which is dry and part swampy.

During the summer of 1873, the road was kept in fair order, but the floods of last spring did some damage at the east end of the Cariboo Muskeg. The great swamp in the prairie, near Oak Point, was for a time flooded, so that a considerable *détour* had to be made. Two years ago embankments were run across the low grounds east of St. Boniface, and it would be an advantage if similar embankments were constructed in the swamp referred to. The distance across it, however, is nearly three miles, and the cost would be considerable.

The North-west Angle Bay, at its western extremity, is so shallow that it cannot be approached by the large steamer, and a small tug has to be kept up to bring passengers and freight to the landing.

It would, therefore, be an advantage as stated in former reports, to run the road past the Angle to a point about five miles further down the bay, or otherwise to extend it to Monument Bay, where there is an excellent land-locked harbour and deep water close to the shore.

In view of the probable early construction of a railway across the country, intervening between Fort Garry and the Lake of the Woods, it is a matter for consideration how far it may be advisable to extend the present road, or to improve it beyond the keeping it in repair.

SURVEYS.

Surveys were continued from time to time as opportunity permitted, and during the past winter the lakes and rivers traversed by or contiguous to the route, were mapped out.

Last year it was proposed to extend the Fort Garry road to Monument Bay, an arm of the Lake of the Woods, which was considered to be a better and more convenient place for steamers to approach than the present landing at the North-west Angle. In order to be prepared for this extension of the road, soundings were taken at the narrows of the Lake of the Woods, and a survey made with the view of ascertaining which channel would be the best.

The result of this survey, while it showed that there were good channels for vessels, also established the fact that a railway bridge could, if necessary, be run across at the narrows at no extraordinary cost. The average depth of water is but sixteen feet, the channels are of no great width, and so sheltered and land-locked by islands, that there could be no danger of serious ice-shoves in winter, or of a surge arising in summer. Timber and stones, suitable for work of this kind, are in unlimited abundance on some of the islands and parts of the adjoining shores.

I may further remark, that the surveys made and the information gained in connection with operations on the Red River route, have gone far to establish the fact, that the ground is practicable for a railroad from Thunder Bay to Fort Garry, in a generally direct course; and among the advantages that may be claimed for this route are the following:—

It would be by about fifty miles the shortest that could be adopted, and it might be easily and expeditiously constructed, in as much as the present line of communication would afford the means of carrying men, material and supplies to numerous points, at all of which the work could be simultaneously carried on.

It would pass through a wide region in which timber suitable for commercial purposes is abundant; it would touch navigable waters not otherwise accessible, thus rendering a great extent of country tributary to its traffic, and lead to the development of the fine agricultural district on Rainy River, into which settlement is already beginning to enter.

Each Section could be brought into operation as soon as made; the present cost of maintaining the Red River route would be done away with, step by step, as the work advanced; and, moreover, by its adoption as a portion of the Pacific route, the necessity for a branch line involving many miles of railway, would be overcome. Nor would this location add to the ultimate length of the Pacific Road, but rather shorten it, for by continuing the line under consideration, from Fort William along the coasts of Thunder and Black Bays to Red Rock, it would be the shortest that could be adopted between Nepigon Bay and Fort Garry.

The line would run much further south on a generally lower level, and consequently in a better climate than any line so far explored between the same points.

There are still other considerations with regard to a railway by this route, too important to be lost sight of. It would place at command an unfailling supply of timber for railways, to be constructed on the great prairies of the West, and furnish lumber for the settlements which are anticipated soon to grow up in those treeless regions; and in this respect I beg leave to submit such information as I am in possession of:—

PINE FORESTS OF THE RAINY RIVER BASIN.

The Lake of the Woods receives the drainage of an area which may be approximately estimated at thirty-three thousand six hundred square miles; or, in other words, twenty-one millions five hundred and four thousand acres.

In this vast district there are of course considerable varieties of soil, climate and natural productions, but I desire especially to draw attention to the fact, that it reaches nearly to the northern and north-western limits of the growth of pine woods, of the class known in Ontario and Quebec as red and white pine; that is, in the regions eastward of the great prairies.

Within this district (which is wholly to the westward of the Height of Land), on the streams tributary to Rainy Lake, there are in many places extensive groves both of red

and white pine, of a size and quality well adapted to all the purposes for which such timber is usually applied. On the alluvial belt of Rainy River white pine of a large size is to be seen interspersed with other descriptions of forest trees, and on the islands of the Lake of the Woods, and main-land to the north and east, there are occasionally pine groves of moderate extent; but, on proceeding to the north by way of the Winnipeg, it gradually becomes more rare, until, on reaching Lake Winnipeg, it finally disappears.

A short distance westward of the Lake of the Woods, there are isolated clumps of pine on the Rivers Roseau and White Mouth, but from thence, westward to the slopes of the Rocky Mountains, a distance of about a thousand miles, there is not a pine tree to be seen. I allude to red and white pine in contradistinction to spruce and other ever-green woods, to which the people of the North-west also apply the name of pine.

Throwing the smaller groves of pine, which are too limited in extent and too widely separated to be of more than local value, out of consideration the Lake of the Woods must be regarded as being practically the source of supply both for the future settlements of the great prairies and the construction of railroads.

The best pine region, however, lies to the eastward of the Lake of the Woods, into which lake the streams which drain it pour their waters.

I have drawn attention to this matter, to shew that the Lake of the Woods is a point demanding grave consideration in projecting lines of communication to the prairies of the West.

FERTILE LANDS ON THE RED RIVER ROUTE.

I have referred to the Rainy River district in previous reports, as being well adapted to settlement, both from the fertility of its soil and the advantages of its situation. Alluvial land of the best description extends along the banks of Rainy River, in an unbroken stretch of seventy-five or eighty miles from Rainy Lake to the Lake of the Woods. In this tract where it borders on the river there is not an acre unsusceptible to cultivation. At intervals, there are old park-like Indian clearings, partly overspread with oak and elm, which, although they have naturally sprung up have the appearance of ornamental plantations. From the mouth of Rainy River, this fine tract continues along the southern coast of the Lake of the Woods, eastward to the Sebaskin (or Labyrinth), a district so called from the intricacies of the channels among innumerable islands. In this stretch of forty miles, two rivers, called respectively the Big Wild Rice, and the Little Wild Rice, enter the Lake, and on the banks of these rivers for some distance inland, the soil is equal to that on the borders of Rainy River.

Having reference generally, to the tract under consideration, it may be described as bounded to the east by the lower arm of Rainy Lake, which runs thirty miles into the country, in a northerly direction, to the south by Rainy River, to the west by the Lake of the Woods, and to the north by the Laurentian Hills. Its area is of sufficient extent to afford room for fifty townships, and although it may not be all of equal fertility, it is known for a certainty, that on the banks of Rainy River, on the south coast of the Lake of the Woods, and on the borders of the two streams which I have mentioned, it cannot be surpassed. Among the advantages which this tract possesses may be noticed the extent of water frontage, affording easy access to settlers.---First, Rainy River connecting the two largest lakes on the route, in itself a navigable stretch of eighty miles. The south coast of the Lake of the Woods, succeeds with forty miles of navigation, and we then meet the Little and Big Wild Rice Rivers, which intersect the district midway, each with probably fifteen or twenty miles of navigable waters. Here, then, is a connected water frontage of at least one hundred and fifty miles, bordered by land adapted for continuous settlement. The advantages of such a means of communication in a new district are strikingly evident. A settler needs but a boat to enable him to go to the mill with his grain, or to procure boards for his buildings, and thus finds himself for a long time independent of roads, which, under the most favorable circumstances in new countries, can only be gradually introduced.

The whole district is covered with forests, and Canadian settlers would find themselves

in a country, similar in many respects, to the places of their nativity; nor does the climate differ essentially from that of the most favored parts of Ontario or Quebec. Wheat was successfully grown for many years at Fort Frances, both by the old North-west Company and their successors—the Hudson's Bay Company. The Indians still cultivate maize on little farms on Rainy River, and on the islands of the Lake of the Woods. In many places the wild grape grows in extraordinary profusion, yielding fruit which comes to perfection in the fall. Wild rice, which requires a high summer temperature is abundant, and indeed the flora taken generally, indicates a climate in every way well adapted to the growth of cereals.

This fertile belt, comparatively small is in the heart of a district, which in other places is not well adapted to agriculture. But this circumstance, regarded in connection with the other natural resources of the country, would be rather advantageous to the settler than the reverse. To the North and East are forests of pine which it is anticipated will, in no long period be worked and hence, afford the settler a market for his produce at his door. Independently of the lumber trade, which must spring up from the demand for boards and timber generally in the unwooded prairies to the West, there are evidences that other industrial occupations will arise. The Indians, both of Rainy Lake and the Lake of the Woods, have among them specimens of native gold and silver ore which they affirm is to be found in places known to them in abundance, and the rock formation is such as to corroborate their statement. Iron ore is plentiful in many sections, and charcoal for smelting easily obtainable. Granite which experts say is equal in texture and fineness to the best imported specimens, is to be found at the Lake of the Woods, and the steatite of which the Indians make pipes, a very valuable article for the construction of furnaces, is abundant at Rainy Lake and Sabaskin. These, together with stone for building which is quite unlimited in quantity, may yet find a market on the prairies, where there is neither stone nor tree. It is important to settlers to know that in establishing themselves in such a district they need not be limited to one occupation, that they can have work in prospect for the winter months, and various branches of industry open to them, in which they may engage.

What has been said of the Rainy River district, is in many respects applicable to the more limited areas of good land on other parts of the highway to the North-west. On the Thunder Bay Road, the Government of Ontario has recently laid off free grant lands which will doubtless prove attractive to emigrants on account of the ready market which they are sure to find for agricultural produce. At many other places along the route, there are tracts of greater or less extent fit for settlement, in proximity to groves of pine, or lands likely to yield valuable minerals. In this region of rivers and lakes it is hardly necessary to say that fish is to be procured in great variety and abundance.

The Rainy River tract is the only one fitted for a large and continuous settlement in the vast region intervening between Lake Superior and the prairies. It is surrounded by districts in which various branches of industry connected with the lumber trade and mining, must in time create a demand for agricultural produce. It is thus valuable from its geographical situation and calls for serious consideration as to the manner in which it may best be dealt with. If surveyed and sold in the usual way, the lands would at once, be taken up on speculation and settlement retarded. Probably the free grant system, now in operation in some parts of Ontario, is most deserving of attention. The sums that could be realized for sales would be of little importance to the country at large, as compared to the advantage of getting thriving settlements established in this most promising district, midway between Lake Superior and the prairies.

The whole respectfully submitted.

I have the honour to be, Sir,

Your obedient servant.

(Signed)

S. J. DAWSON.

F. BRAUN, Esq.,
Secretary Department of
Public Works, Ottawa.

APPENDIX No. 24.

PACIFIC RAILWAY SURVEY.

CANADIAN PACIFIC RAILWAY,
OFFICE OF THE ENGINEER IN CHIEF.
OTTAWA, 30th June, 1874.

SIR,—I have the honor to submit my report of the operations of the Pacific Railway Survey, up to the end of the fiscal year, 1874.

The special report of progress dated January 26th, 1874, which I had the honor to address to the Honorable the Minister, and which, with appendices, covers in all 294 pages, contained all the general information in my possession up to that date. It was produced, as shortly as possible, after the destruction by fire of the offices at Ottawa, and the loss of nearly all the records and plans connected with the line. In consequence of which it became of the utmost importance to place the known results on record, while they were still fresh in the memory.

The survey of the Pacific Railway may be said to extend from the City of Ottawa to the Pacific Ocean. For purposes of organization, and in accordance with the natural divisions, the territory has been divided into three sections.

1. The Eastern or Woodland Region.

Although undulating, and in many portions rough and broken, this section is no way mountainous. The highest points of the irregular ground are on the shores of Lakes Huron and Superior, and will not exceed 2,000 feet above the level of the sea. It extends from Ottawa to the Province of Manitoba, and is generally covered with timber, differing in quality. The eastern and southern portions of this region drain by the St. Lawrence into the Atlantic, while the western and northern portions drain by different channels into Hudson's Bay.

The surveys in this district were carried on in 1871-72, primarily with the view to touch Lake Superior, so that access could be had to its waters. The effort to trace a continuous line was not successful, the *contour* of the ground throwing the line to the north of Lake Nepigon. With this result it became necessary to make a connection with Lake Superior, and two lines were surveyed: the one to Nepigon Bay, the other to Prince Arthur's Landing. As the location was not considered satisfactory the surveys were renewed in 1873, to obtain a more eligible route. Six surveying parties were engaged in this work during the open season, and two of them continued in the field during the winter of 1873-74.

Three routes have now been reported as practicable.

	Miles.
1a. Passing to the north of Lake Nepigon, from the southeast angle of Lake Nipissing to Manitoba.....	1047
Branch to Prince Arthur's Landing	150
Total.....	1197
1b. Passing to the north of Lake Nepigon.....	1047
Branch to Red Rock or Nepigon Bay, a point accessible to steamboats.....	105
Total.....	1152

2. Passing to the south of Lake Nepigon.....	1038
Branch to Red Rock.....	10
	1048
	Total.....
	1048
3. Passing to the south of Lake Nepigon and touching navigation on Lake Superior, at Prince Arthur's Landing, without a branch.....	1102
	1102

The engineering features of these routes are generally similar. At the east, the elevation of Lake Nipissing is 730 feet above the level of the sea; in the middle, Lake Superior is 598 feet; at the west Lake, Winnipeg is 710 feet above the sea. Two summits are crossed between Lakes Nipissing and Superior; one, 110 miles to the north-west of Lake Nipissing, 1,420 feet; the other, 70 miles to the east of Lake Nepigon, 1,400 feet above the sea. Between these heights there is a basin generally level, with few inequalities, averaging from 1,000 feet to 1,200 feet above the sea, although at one point it descends as low as 830 feet. A third summit is crossed west of Lake Superior, where an elevation of 1,580 feet is attained.

The lines, as traced, run behind the rugged country which is seen from the shores of Lake Superior, except between the second and third summits referred to, in which locality the importance of touching navigation on the great lakes is recognised. In this quarter the broken belt is crossed, and accordingly, for a short distance, heavy work may be looked for.

The country between Lake Nipissing and Ottawa is reported favorable.

2. The Central or Prairie Region.

The country from Manitoba to the eastern flank of the Rocky Mountains is embraced within the Prairie region. Continuous surveys have not been made in this District. A general *reconnaissance* has however been effected, from which it would appear that there will be little difficulty in obtaining a good line from Manitoba to the Yellow Head Pass, a favorable entrance to the Rocky Mountain range. The difficulty which presents itself is the crossing of the rivers, which run in deep and wide valleys and which will in each case require careful examination. Viewing the Prairie region in its general features, it may safely be asserted that it will admit of the line being taken to any of the other openings through the Rocky Mountain chain, should it be deemed advisable to abandon the Yellow Head Pass for one more favorable.

In my more lengthened report, I have discussed the possibility of using the rivers flowing through this region by light draught steamers, for the purposes of settlement. The importance of this subject calls for its serious consideration.

The Western or Mountain Region.

It is in this region that great difficulties must be looked for. It is traversed by two great ranges of mountains, the Rocky Mountains proper, which are first met in journeying from the east, and what is known as the Cascade Range extending along the Pacific coast. Between these mountain ranges an elevated plateau occurs, averaging from 3,000 to 4,000 feet and upward above the sea, within the limits of which are many subsidiary mountain masses.

The Rocky Mountains are pierced by several passes, ranging from 7,000 to 2,000 feet above sea level. The Cascade Range presents a bold and defiant aspect. Here the main difficulties are found.

Surveys were carried on in the Mountain Region during 1871-72-73 and are now in progress. A route has been traced from the north River Saskatchewan crossing the Rivers Pembina and McLeod, and ascending the Jasper and Caledonian valleys to the Yellow Head Pass. From this point it followed one of the branches of the River Fraser to Tête Jaune Cache, thence it crossed by Lake Cranberry to River Canoe and farther on

passed over a low water shed by Lake Albreda to River North Thompson, and by the valley of this river ultimately reached Kamloops. From this point it runs to Lake Nicola to pass up the Coquihalla Valley to Fort Hope, whence it follows the Lower Fraser to Burrard's Inlet near New Westminster.

The difficulties on this route occur between Hope and Kamloops, where gradients of 172 feet per mile will be necessary, and where a great length of tunnelling and other heavy work at different points will be exacted.

A deviation from this route has been examined, following from Kamloops, the Rivers Thompson and Fraser, to tide water. By this divergence, a distance of 165 miles, no high summits are passed over, but the ground is not favorable. The canyons of the two rivers extend over half the distance and would call for unusually heavy work.

A third line was run from Howe Sound, across the Cascade Mountains, through a series of openings to Lillooet on the Fraser, and thence over the plateau of Central British Columbia, by the Marble Canyon and the Buonaparte Valley to the River North Thompson, where it connects with the original line. The distance is 284 miles, and in this distance the line passes over four summits, in elevation from 1,610 to 3,847 feet above the sea, the intermediate ground falling to 700 and 847 feet.

Another line was surveyed from Waddington Harbor, at the head of Bute Inlet, ascending the valley of the Homathco through the Cascade Mountains to Lake Tatla, passing thence across the Chilicotin Plains to the River Fraser, which it crosses about 16 miles above Soda Creek. Passing by Lac la Hache and Lake Canim, it would reach the Thompson Valley, near the mouth of the River Clearwater, and by that valley proceed to the Tête Jaune Cache. Three summits are passed over on this line 3,117 feet, 3,700 feet and 3,104 feet above the sea. In some sections the work would be heavy.

The great difficulty on this line will occur in ascending from tide water to the head of the great Canyon, where 2,285 feet vertical must be ascended in 34 miles, the height of 1,650 feet having to be faced in 15 miles. The descent from Lake Canim to the Thompson Valley is also very difficult. It was supposed that this line might be improved by following River Blue to the River Thompson, but recent advices from an exploring party sent out during the winter to test the matter renders any great improvement doubtful.

In my larger report I directed attention to a line projected from Bute Inlet across the Chilicotin Plains to Fort George, and thence the possibility of obtaining a line either by the Tête Jaune Cache or the Smoky River Pass.

Likewise I submitted the possibility of passing by the valley of the River Peace.

A survey was made between Waddington Harbour and Seymour Narrows, with the view of ascertaining how far it is practicable to extend the railway line from the main line to Vancouver Island. On Vancouver Island explorations were made between Seymour Narrows and Esquimaux with satisfactory results.

With respect to the whole survey, I have the honour here to repeat the conclusions which I set forth in my report of January last.

" 1st. That, although the information respecting the Rocky Mountain Zone is not yet sufficiently complete to establish the line to the Pacific, several routes have, however, been found on which the obstacles met with, although formidable, are not insuperable.

" 2nd. That there are reasonable grounds for the belief that the explorations in progress in British Columbia will result in the discovery of a line through the Rocky Mountain region which, taking everything into consideration, will be more eligible than any yet surveyed.

" 3rd. That it is now established beyond doubt that a favourable and comparatively easy route, considering the line as a whole, has been found from Ottawa to the northerly side of Lake Superior. This result is the more satisfactory, as unfavourable impressions have been created regarding this portion of the country, many having considered it even impracticable for railway construction.

" 4th. That it will be possible to locate the line direct from the northerly side of Lake Superior to the prairie region without unusually expensive works of construction,

“ at the same time with remarkably light gradients in the direction of the heavy traffic.

“ 5th. That the main line from Ottawa to Manitoba can be located in such a way as to render unnecessary the construction of a branch to reach the navigable waters of Lake Superior.

“ 6th. That there will be no difficulty in finding a comparatively easy route across the prairie region; that the bridging of the large rivers, with proper care in location, will form no large proportion of the cost of the whole extent of the railways.

“ 7th. That the lakes and rivers of the prairie region may be advantageously used in the introduction of settlers and in the construction of the railway.

“ 8th. That with respect to operating the railway in winter, the chief difficulties will be found on the western slopes of the two great mountain chains in British Columbia; but except in these localities the Canadian Pacific Railway will have, on an average, considerably less snow than existing railways have to contend with.

“ 9th. That the practicability of establishing railway communication across the continent, wholly within the limits of the Dominion, is no longer a matter of doubt. It may, indeed, be now accepted as a certainty that a route has been found generally possessing favourable engineering features, with the exception of a short section approaching the Pacific coast, which route, taking its entire length, including the exceptional section alluded to, will, on the average, show lighter work and require less costly structures than have been necessary on many of the railways now in operation in the Dominion.”

Since the report of January was published, an efficient Engineering staff has been organized for the purpose of continuing the surveys between the Rocky Mountains and the Pacific coast, with instructions to make examinations in the following sections:—

1st. From the North Thompson, *via* River Blue, to River Clearwater, thence to Lac la Hache and River Fraser.

2nd. From Tête Jaune Cache, across the mountain chain to Lake Clearwater and thence westerly.

3rd. From Tête Jaune Cache, down the valley of the River Fraser, to Fort George.

4th. From Fort George across the Chilicotin Counties to Tatla Lake and the Homatco Pass.

5th. From Yale northerly through the Canyons of the Lower Fraser.

6th. From Yale to Burrard Inlet.

7th. From Dean and Gardner Inlets, across the Cascade Mountains, to the interior of the country.

8th. From Fort George westerly, through the unexplored region to the chain of mountains along the coast.

9th. From the North River Fraser across the Rocky Mountains chain by the Smoky River Pass.

In the prairie and woodland regions the following survey-work has been inaugurated:—

1st. The location of the railway from the waters of Lake Superior at Thunder Bay to Lake Shebandowan.

2nd. The location of the railway from Rat Portage, Lake of the Woods, to Red River.

3rd. A trial location from Rat Portage easterly.

4th. Examinations at various points in the lake region between Lake Superior and Lake of the Woods.

5th. Exploration from River Pic, along the coast of Lake Superior, westerly to Nepigon Bay.

6th. Explorations from River Pic easterly towards the eastern terminus.

7th. Examinations and instrumental surveys, with a view of improving the portages between the navigable waters of Lakes Winnipeg, Manitoba and Winnipegosis and the River Saskatchewan.

8th. Survey and trial location for the railway between the crossing of Red River and Fort Pelly.

9th. Examination of the country between Georgian Bay, at River French, and the valley of the River Ottawa at Pembroke and Renfrew.

10th. Examination of the country between the Georgian Bay, at Parry Sound, and the City of Ottawa.

The several parties have been sent to the field of their operations, and the work of exploration will be pursued with vigor until the close of the season.

No new results can yet be announced from their examinations.

I have the honour to be, Sir,

Your obedient servant,
(Signed,) SANDFORD FLEMING,
Engineer-in-Chief.

F. BRAUN, Esq.,
Secretary Public Works Department,
Ottawa.

APPENDIX No. 25.

PUBLIC WORKS DEPARTMENT,
VICTORIA, BRITISH COLUMBIA, 16th July, 1874.

SIR,—I have the honor to submit, for the information of the Honorable the Minister of Public Works, the following Report of the works undertaken by the Department in this Province during the year ending 30th June, 1874, showing the progress made in each, cost, &c.

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

(Signed) B. W. PEARSE,
Resident Engineer.

F. BRAUN, Esq.,
Secretary, Public Works Department,
Ottawa,

BRITISH COLUMBIA.

Government Buildings—Post Office, Savings Bank, &c.

This edifice, built of stone, containing the Post Office; Postmaster's room; Inspector's two rooms; Savings' Bank and Manager's room; Indian Commissioner's two rooms; Auditor's Office; Public Works' Office, two rooms; and Messenger's room, which he occupies at night, is now complete, so far as the original contract and design are concerned.

Most of the officers have established themselves in their new quarters.

The total cost of the building has been \$29,449, of which \$6,620.37 were paid in 1872-73, and the balance of \$22,828.63 this year.

Marine Hospital, Victoria.

This building, consisting of upper and lower wards with accommodation for 40 patients, with the necessary offices, including physician's house, kitchens, woodhouse, dissecting room, bath rooms, &c., is now completed, and is in charge of a temporary caretaker, who sleeps on the premises, with a view to prevent depredations or damage by the Indians.

The total cost of the building has been:—

Purchase of land from the Indians.....	\$500 00
Miscellaneous expenses, surveys, copying plans, specifications, advertising, &c.....	226 00
Salary of the Clerk of Works.....	1,170 00
Cost of erection.....	15,418 70

Total..... \$17,314 70

Of which were paid in 1872-73 \$182; in 1873-74, \$12,095.89. The balance now due, and payable in 1874-75, is \$5,036.81.

Removal of Port Sister Rock, River Fraser.

This work, undertaken with the view of improving the navigation of the river during the summer freshets, consisted of the blasting and removal of 4,254 cubic yards of hard igneous rock. It was commenced in December, 1872, and continued until the rising of the river on 20th April, 1873. Work on it was resumed in March, 1874, and was continued till 6th April, on which day I inspected the work and made a careful survey of it. I found that the contract had not been fully carried out, and that the

mean surface of the rock was only 25·27 feet below the B.M., instead of being 29·40 feet as specified.

The amount to be removed under contract was	4,254 cubic yards.
The amount actually removed was.....	3,447 "
<hr/>	
Leaving unremoved.....	807 "
The contract price was.....	\$5,500 00.
The value of work done at contract price	4,446 63*
Amount paid on account of contract	2,875 10
<hr/>	
Amount in hand by the Government.....	\$1,571 53

The owners and pilots of the steamers have assured me most positively that all has been done which is necessary to improve the navigation of the river. Owing to the narrowness of the passage the danger was, that at high water when the current was very rapid a steamer was liable, if she failed in stemming the stream, to be carried against the rock. Now there will be at high water from ten to twelve feet over the place where the rock once stood. The contractor has expended or become liable for about \$8,000 on account of this work. As the end and object in undertaking it have been accomplished, I would again venture to recommend that the work be accepted as complete, and the amount due on acceptance, amounting to \$1,571·63, paid to the contractor. This amount would require to be revoted in 1874-75.

Saw Mill, Rifle Rock, near Yale, on River Fraser.

This rock has been removed at a cost of \$700, and is an improvement to the navigation of the river.

Cape Beale Lighthouse.

This lighthouse is situated on the Pacific Ocean, at the entrance to Barclay Sound.

The following is an abstract of the cost :—

Preliminary surveys, transport, advertising, insurance, &c...	\$575 12
Salary of Clerk of works.....	550 00
Erection of tower, dwelling, offices and cutting trail, 10 feet wide by 3¼ miles long.....	6,989 05
Fitting of lantern	499 36
Inspection	140 00
<hr/>	
	\$8,753 53

After the contract was completed, and the work accepted, it was discovered that there was certain unseen defects in the building, such as leaks. These were examined by an agent sent by me for the purpose, and he reported them as being due to departures from the specification. On receipt of this report, I wrote to the Clerk of the Works, Mr. Richard Lewis, calling upon him for an explanation, and pointing out that the specification had not been complied with. To this letter I have received no reply. I then called upon the contractors, Messrs. Haynard and Jenkinson, to remedy these defects for their own reputation's sake, to which they consented: and as there was a carpenter at that time employed on the rock by the agent of the Marine and Fisheries Department, they instructed him to make the defects good. This he did at a cost to them of \$32, which I have since called upon them to pay.

The light has been visible since 1st July.

Improvement of Victoria Harbour by Dredging.

Total expenditure for July	\$2,073 84
Number of cubic yards removed.....	5,236
Cost per cubic yard	0 39½
Number of cubic yards removed per diem.....	291 nearly.

Total expenditure for August.....	\$2,067 24
Number of cubic yards removed.....	5,552
Cost per cubic yard.....	0 37 $\frac{1}{2}$
Number of cubic yards removed per diem.....	264 nearly.
Total expenditure for September.....	\$2,602 21
Number of cubic yards removed to 23rd.....	2,924
Cost per cubic yard.....	0 89
Number of cubic yards removed per diem.....	279

Heavy repairs to machinery and punts, and stoppage of the works on the 23rd, will account for the bad results of this month.

The following table shews the cost of dredging from the commencement of the works :—

Month	Removed per diem.	Cost per Cubic Yard.
		\$ cts.
March	109 cubic yards.....	1 36
April.....	130	1 08
May	196	0 57
June.....	239	0 52
July	291	0 39 $\frac{3}{5}$
August.....	264	0 37 $\frac{1}{5}$
September	279	0 89
Average.	2,154	\$0 74 $\frac{1}{7}$

On the 23rd September, the men were put to work at ungearing the machinery and preparing the vessels to be laid up at their moorings. The operations were entirely confined to the removal of the northerly point of the spit at the entrance to the harbor, the object being to give additional width at that point, and to straighten the entrance.

Large vessels frequently find great difficulty, even in a light breeze, in making the abrupt turn necessary at this spot.

In judging of the results of the works and of their cost, it must be observed that owing to the heavy price paid for a tug steamer, it actually cost \$379 per mensem more to tow the mud outside, 1 $\frac{1}{2}$ miles, than it did to excavate it and place it in the punts alongside.

Telegraph Maintenance.

The past year has been an exceptionally favorable one, so far as the maintenance of the submerged cables is concerned, no casualty of any kind having occurred to any of them ; the land portion of the line is generally in a fair state of repair, although it is found that new insulators, of a more modern and approved pattern than those now in use in the neighbourhood of Swinomish, are required. Orders have been given for these, and the total cost of the work will not exceed \$750. No repairs to the land line other than those necessitated by breaks, have been made this year. The total expenditure from 1st July, 1873, to 30th June, 1874, has been \$26,972.11. This sum includes the sum of \$5,232.11 due for May and June of the previous fiscal year, but does not include the amounts due for May and June, 1874, the former of which is \$2,238.58, and the latter of which may be estimated at about the same amount. It is not possible to get all the accounts in along the line, and have them examined and abstracted by the superintendents in any shorter period of time than about five or six weeks.

The following is a statement of the revenue received each month :—

1873.	
July.....	\$930 12
August.....	911 89
September.....	842 12
October.....	969 29
November.....	986 73
December.....	773 26
1874.	
January.....	658 61
February.....	790 62
March.....	578 62
April.....	822 19
	8,263 45
May (not yet brought to account)	1,125 62
June (estimated).....	1,000 00
	\$10,389 07

The total revenue received for the year ending 30th June, 1873, was \$8,608.87, showing an increase this year of \$1,780.20.

The disbursements will exceed the receipts by about \$20,583.04.

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

(Signed,) B. W. PEARSE.

APPENDIX No. 26.

PRINCE EDWARD ISLAND.

HARBORS, RAILWAY, AND GENERAL DESCRIPTION.

CHARLOTTETOWN, P. E. I.,
29th October, 1874.

SIR,—I have the honor to submit the following general report on Prince Edward Island and the Public Works now in progress in the Province.

The outline of the Island which is separated from Nova Scotia and New Brunswick, by the Straits of Northumberland takes the form of an irregular crescent concave towards the North. Its length measured from North to East Cape through the centre of the Crescent is nearly 150 miles. The Island is deeply indented at many points by large bays and inlets and varies in width from four to thirty miles.

HARBORS.

As an opinion prevails, which from a superficial examination of the map might appear to be a correct one, that no part of Prince Edward Island is more than eight or ten miles from navigable water, it may be well, by a short sketch of the various harbors to show, what facilities they really do furnish for the shipment of produce and the requirements of ordinary trade.

The great bay lying between North Cape and East Point is about 105 miles wide and 25 miles deep. The tides set in strongly towards the shore from both ends of the Island, meeting off the North of St. Peter's Bay. This peculiar set of the current has possibly worn the coast into its present shape. The bottom is rock and there is no anchorage except off the mouths of those harbors where the sand furnishes a precarious holding ground. All the harbors opening into this bay are similar in character; they have narrow entrances between banks of sand, while dangerous sand bars are found outside, on which the sea breaks heavily in bad weather leaving no visible channel. Vessels caught inside a line between North and East points by a North-easterly storm must therefore almost inevitably be driven ashore, and as these storms sometimes arise suddenly and prevail generally in the fall, the time the shipments of produce are being made, the harbors on the North coast, though valuable as fishing stations, are not to any extent to be depended upon as outlets for the trade of the Island.

With the exception of Cascumpec and Richmond Bay, they are not navigable for any of the larger classes of vessels. Cascumpec has a depth of from 9 to 10 feet on the bar at low water, with between two and three feet rise of tide. The harbor affords good shelter and is much frequented by fishing vessels. Richmond Bay is separated from the Gulf by ranges of sand hills. It is from three to six miles wide and extends inland nearly twelve miles; its South-eastern extremity being within four miles of Bedeque Harbor. It has many creeks and inlets, some of which are navigable for large vessels, all of them can be entered by fishing boats and small schooners. Malpege Harbor at the Eastern entrance of Richmond Bay, has sixteen feet water on its bar at low water, with depth and space inside for any description of vessels.

Tignish, New London, Rustico, Covehead, Tracadie, Savage Harbor and St. Peter's are navigable only for coasting schooners. Tignish has been much improved by the construction of a breakwater. Previously to the construction, the northerly storms deposited a bar of sand across the mouth of the river, leaving only about one foot of water, where

there is now a uniform depth of eight feet. West of St. Peter's there are, besides those mentioned, numerous smaller inlets which afford shelter to fishing boats, but between St. Peter's and East Point a distance of nearly 40 miles, no harbor of any description is found.

The principal ports on the Eastern coast are Georgetown and Murray Harbor. Georgetown situated at the confluence of the Rivers Montague and Brudenell, is one of the finest harbors in the Gulf of St. Lawrence. It is of considerable size and well sheltered and has depth of water sufficient for the largest vessels. It is clear of ice for several weeks later in the fall and generally opens earlier in the spring than the other Gulf Harbors and hence it has become an important port for late shipments. One of the objects aimed at in the construction of the railway of which Georgetown is one of the termini is to give all parts of the Island access to open water as long as possible. River Montague is navigable for large vessels for a distance of four miles, and River Brudenell of two miles above Georgetown. River Cardigan, which falls into Cardigan Bay near Georgetown, is navigable for vessels of any ordinary size as far as the bridge, 6 miles above its mouth.

Murray Harbor is of large extent and has good depth of water inside. Its entrance is obstructed by a bar of sand having a depth of only ten feet over it at low water and which is rendered impassable by the heavy sea which breaks on it during easterly storms.

Souris, Rollo Bay, Bay Fortune, Little River and Grand River are available only for coasting schooners, though large vessels are built at all of them and floated out light. Grand River has plenty of room and is deep inside, and were it not for the shallow sand bar at its mouth, would be a fine harbor. Souris is of importance as a fishing depot, as being the Eastern terminus of the railway, and the principal place of shipment for the products of the more easterly section of the Island. The harbor is formed by a long breakwater of brush and stone at the mouth of the River Souris. Some expenditure is necessary to adapt the place for any increased trade, but the proper location and extent of the works cannot be determined without a survey of the whole of Colville Bay.

The West Coast from North Cape to West Point is an unbroken range of sandstone cliffs with a few sandy beaches and some small shallow ponds where open boats can be secured. Small coasting vessels lie off the shore and take in cargoes in fine weather but there is no harbor worthy of notice on the coast for a distance of 100 miles from Cas-cumpec to Summerside.

Summerside, situated on the South Coast, has a good harbor. There is a low water depth of 16 feet at the entrance, and a rise of tide of from 5 to 7 feet, giving ample depth for large vessels. During the open season, steamers run three times a week between Charlottetown, Summerside and Point du Chêne, N. B., at which place they connect with the Intercolonial Railway. Ship-building is carried on to a considerable extent, and in general trade and importance Summerside ranks next to Charlottetown, which it threatens some day to rival. It has a population of about 2,000. Charlottetown the capital of the Island, a city with about 7,000 inhabitants, is situated at the confluence of three rivers, the Hillsborough, York and Elliot. The harbor is large, deep, well sheltered, and said by Admiral Bayfield to be in every respect one of the finest harbors in the world. River Elliot can be ascended 4 or 5 miles by large vessels, and 9 or 10 miles by small vessels. River York is navigable for schooners as far as Poplar Island Bridge, about 3 miles. The Hillsborough is navigable for ships of any class for nearly 9 miles, and for small vessels as far as Mount Stewart Bridge, a distance of 16 miles. Steamers run regularly between Charlottetown and the latter place, where a considerable amount of ship-building is done. During the summer a connection with the Intercolonial Railway at Pictou, N. S., and Point du Chêne, N. B., is made by steamers three times a week. A line of steam packets runs to Boston once a week touching at Halifax. The boats of the Gulf Ports Line from Quebec and Montreal call once a fortnight.

Tryon, Crapaud, Pinette and Wood Islands are small harbors on the south coast. Orwell, opening into Hillsborough Bay, is a good harbor though the channel is narrow. There is 14 feet of water on the bar with a rise of about 8 feet and good shelter and

anchorage in 5 fathoms at the confluence of the Rivers Orwell and Vernon. Orwell and Pinette are the principal shipping places for a large and fertile section of country which will in no way be accommodated by any of the railway lines under construction. Small steamers run between Charlottetown and Orwell and Crapaud thrice a week. From the foregoing sketch it will be seen that the only harbors navigable for vessels of the tonnage ordinarily employed for foreign trade, are Charlottetown and Summerside on the south; Georgetown on the east; and Cascumpec and Richmond Bay on the north coast.

The navigation of some of the small harbors may be improved. The Provincial Government is building a steam dredge, which on its completion and the re-imbusement of its cost, \$22,000, will become the property of Canada. The engine is of the most powerful class combining the latest improvements, and every care has been taken to produce a good and efficient machine.

The following return shows the number and tonnage of vessels which entered and cleared at the various ports during 1871 :—

Names of Ports.	Entered.		Cleared.	
	No.	Tonnage.	No.	Tonnage.
Cascumpec	47	2,251	45	2,899
Malpeque	15	1,713	15	2,348
New London	25	757	44	1,500
Rustico	15	741	11	601
St. Peter	6	224	7	459
Colville Bay (Souris)	43	1,796	47	2,332
Grand River	28	917	27	842
Georgetown	247	31,504	251	33,319
Murray Harbor	20	1,239	35	1,611
Pinette	25	613	26	600
Orwell Bay	25	958	27	1,167
Charlottetown	1,088	218,912	1,036	214,972
Crapaud	56	1,727	57	1,790
Bedeque (Summerside)	197	8,949	218	10,665
Total	1,837	272,301	1,846	275,105

GENERAL FEATURES.

The Island is divided by bays and rivers, into three peninsulas.

The western peninsula, lying west of Summerside and St. Eleanor's, is slightly undulating, the greatest elevation not exceeding 200 feet above the sea. A good deal of the land in the interior is poor and thinly settled and interspersed with swamps and barren plains, but all round the coasts the land is good and well settled, some of the farms on the western side being as fine as any on the Island.

The central peninsula, lying between Summerside and the River Hillsborough, is the most populous, and taken as a whole, the most fertile portion of the Island. The surface is much broken, some of the heights attaining an elevation of 400 and 500 feet above the sea, while the intervening depressions sink to within between 50 and 100 feet. There are no regular chains of hills, but the country is intersected in all directions by glens and valleys. The land is all fit for farming; a great portion of it is cleared and some of it in a high state of cultivation.

The country forming the eastern peninsula is less broken. The land is generally good with small areas of inferior quality and a few barren spots. A good deal of the land in the northern and eastern parts of this division is still in a state of wilderness. Some sections, however, especially the central high land, east of the head of St. Peter's Bay, are of the most fertile description.

The roads in the vicinity of Charlottetown for about three miles in each direction, have been macadamized at great expense, the stone being imported and crushed by steam. The roads in the country districts, though very good in summer, when softened by the fall rains are soon cut into deep ruts and holes owing to the nature of the soil and the absence of any material fit for metalling. For some time in the spring they are almost impassable. In consequence of the bad state of the roads in the fall and the remoteness of many parts of the Island from any good shipping port, the labor of getting the produce of some districts to market has hitherto been very great.

RAILWAY.

With a view to mitigating these evils, an Act providing for the construction of a railway from Cascumpec to Georgetown was passed by the Legislature of the Island during the session of 1871. Tenders were advertised for on 23rd May, and a contract for the construction and equipment of the line at the rate of \$13,845 $\frac{96}{100}$ per mile was entered into by Mr. Collingwood Schreiber, on the 8th September of the same year.

The work was let in bulk without surveys, plans or any other information to contractors, further than such a general definition of the route as was possible from a hurried exploration, and in accordance with the known wishes of the Government as regarded the passage through certain objective points. The general specification was, however, made as full as possible.

The right of apportioning the bulk sum to the various items in the schedule was vested in the Government Engineer, and such other powers were reserved to the Government as would remove, as far as possible, any objections incident to this mode of letting.

The Act provided that the average cost per mile should not exceed £5,000, Prince Edward Island currency, (\$16,222), and such preliminary surveys were made by engineers in the service of the Government as would enable them to define the general route on a line to pass through such points as would best accommodate the traffic of the country, and yet not exceed, in average cost, the limit of expenditure contemplated by the law. The details of location were left to the contractor, but with the reservation that no curve should have a radius less than 600 feet, that no gradient should be steeper than 60 feet per mile, and that the final location should be approved by the Lieut.-Governor in Council before the grading was commenced. By these precautions any undue lengthening of the line to avoid reasonably heavy work was prevented, a route which, in the opinion of the Government, would give the most general accommodation to the public was secured, and the bulk sum of the contract so apportioned as to keep in reserve an amount ample or the completion of the work last required. The railway beginning at Cascumpec, runs west into the centre of the Island, and keeps nearly midway between the waters as far as Miscouche, striking the south coast at Summerside.

This part of the location presents no features requiring particular notice. The line is generally straight, there being but little curvature beyond what is requisite to effect the necessary changes in direction. The total distance is 55.4 miles, of which 46.3 miles are straight and 9.1 miles curved line.

From Summerside the line runs east 8 $\frac{1}{2}$ miles to Kensington, and then south 5 $\frac{1}{2}$ miles to Freetown, these points being fixed by the Government. From Freetown the general course is south-east to a point 5 miles north of Charlottetown, whence a branch runs south to that city, the main line continuing eastward to Mount Stewart, the head of navigation on the River Hillsborough. The location of this central division involved many difficulties. Owing to the soft nature of the formation, all the rivers and brooks, soon after leaving their sources, have cut their way down nearly to the sea level, thus forming wide and deep valleys which branch off in all directions with the numerous tributary streams. Thence there are no regular hill sides which can be followed, but the railway in order to avoid works which would be looked upon as exceptionally heavy on any line has to wind round the heads of these valleys, and at the same time overcome considerable elevations in crossing the principal ridges. From Summerside the line rises 165 feet to the Kensington summit, and then falls 116 feet in 1 $\frac{1}{2}$ miles into the valley of

the River Wilmot. Thence it rises 250 feet in nine miles, attaining an elevation of 301 feet above the sea on the summit between the head waters of the Rivers Dunk and Hunter. It then falls 236 feet in $4\frac{1}{2}$ miles, into the valley of the River Hunter, and in the next $7\frac{1}{2}$ miles again rises to an elevation of 307 feet above the sea at North Wiltshire Station on the height of land, whence the Rivers Wheatly and West or Elliot have their sources. Other routes were surveyed by order of the Government, and the country sufficiently explored to prove that no other practicable line could be found between Freetown and North Wiltshire. From the latter place the line descends by a somewhat circuitous route, 292 feet to the valley of the North River, which it crosses at 15 feet above high water, rising again at the junction with the Charlottetown Branch to 151 feet above the sea. The location then necessarily follows the high land lying between the streams flowing north into the gulf and the tributaries of the Hillsborough until past the head of the Tracadie Bay whence it descends to the crossing of the Hillsborough, at Mount Stewart, where it is nine feet above high water. Notwithstanding the care taken with the location, the work in the central division is so heavy, that were it not that the lighter work in the eastern and western sections reduces the general average, it is doubtful if any contractor could have taken the line at a price within the limit fixed by the Act.

From Mount Stewart the line runs south-east in a generally direct course, 22.8 miles to Georgetown. This division runs through an ordinary rolling country, the principal difficulty being the crossing of the summit between the rivers Morrell and Cardigan. The greatest elevation reached is 190 feet above the sea.

In December, 1872, the extensions of the line from Alberton to Tignish, and from Mount Stewart to Souris were put under contract.

The western extension 13 miles in length, runs north-west from Alberton into the centre of the Island, and then north-east in a direct line to Tignish. The eastern extension beginning at Mount Stewart, runs in an easterly direction till it strikes the shore of St. Peter's Bay at the mouth of the River Morrell. Skirting the south shore of the Bay for about $6\frac{1}{2}$ miles to its head, it then rises 180 feet to the high land in the centre of the Island, and runs eastward to a point four miles north of Souris where it is 225 feet above the sea, and whence it descends to the sea level at Souris. The locations of these extensions present the same difficulties, arising from the same causes as those already spoken of in describing the location of the main line. The system of letting adopted was, however, different from that under which the main line was let. The final location was made by Government Engineers. Full drawings of the line and of all structures were exhibited, and the quantities of the different work furnished to contractors, who were required to undertake the construction and equipment for a bulk sum, accompanying their tenders with a schedule giving in detail the prices at which the various kinds of work would be executed. Both extensions were let to Messrs. Schreiber and Burpee, at the rate of \$14,840 per mile.

The total amount of the contracts now entered into is \$2,806,535. To this is to be added the land damages which are paid by the Government, the exact amount of which cannot yet be stated, engineering and incidental expenses, the cost of building and furnishing machine shops, and a small amount for extras to be paid the contractors for additional work, owing to changes in the location by order of the Government. The grading and most of the masonry of the whole line, including the extensions, will be completed before the end of 1873. The contractors are doing the work well and faithfully, and pushing it forward with great energy, so that there is no reason to doubt that the railway will be completed and ready for traffic by the beginning of September, 1874, the time specified in the contracts. The division between Charlottetown and Summerside will be ready to open next spring.

The gauge of the railway is three feet six inches. The width at formation level on embankments is 12 feet, in earth cuttings 16 feet, and in rock cuttings 14 feet. The earth is light and easily removed, and when put into embankments remains well in place; it is scarcely affected at all by the frost and has no tendency to run to "slurry." Some of the slopes finished in the easier stages of the work are already covered with grass.

In the central parts of the island, especially on the high land between Charlottetown and Summerside, a soft stratified rock is met with in almost every cutting at four or five feet below the surface. It is easily removed, in many cases without blasting, and will form very fair ballast.

The bridges are generally small as, from the cause already explained, the streams are almost all crossed near their sources. The bridge over the Hillsborough, at Mount Stewart, and that over the Morrell, on the eastern extension, are each of 100 feet span, and those on the Marie and Midgell of 50 feet span; none of the others exceed 30 feet in span. The abutments are in most cases of stone; where a scarcity of stone has necessitated the use of wooden trestles they are set on stone piers. The superstructures are in all cases of timbers, those of 50 and 100 feet span being Howe trusses, and those of smaller span, the ordinary stringers, with ruts and straining beams.

The Island sandstone, though rather too dark in color and coarse in grain for ornamental work, furnished a good sound building material for such structures as bridges and culverts. It is easily cut when first quarried but becomes very hard after exposure. The best quarries are in the interior between North Wiltshire and Freetown, where the stone is of a lighter color and more uniform hardness. The culverts are all of stone, and the masonry, although rated only third class, will compare favorably with most second class masonry. The bridge masonry is also very good.

The rails are iron of T pattern, "Sandbrig's Standard" section, and weighing 40 lbs. to the lineal yard. They were rolled under specification and inspection, each cargo being accompanied by the inspector's certificate. They are laid on cross sleepers seven feet long, five inches thick, and from eight to ten inches face, 2,300 to the mile. The woods used are pine, cedar, juniper, (tamarac) hemlock, spruce, and ash. The joint fastenings weigh $13\frac{1}{2}$ lbs., and consist of two iron fish plates 18 inches long and $\frac{3}{8}$ inch thick, secured by 4 bolts $\frac{3}{4}$ inch in diameter. The ballast is either broken sandstone or coarse sand mixed with sandstone gravel.

The station buildings are, with the exception of the engine house at Charlottetown, of wood.

They are as follow :—

At Charlottetown—Passenger station, 25 by 40 feet with shed 200 feet long, covering track and platform. Engine house (brick) 140 feet diameter, 14 pits. Freight house 22 by 150 feet. Car shed 60 by 210 feet. Coal shed 20 by 160 feet.

At Tignish, Alberton, Summerside, Georgetown and Souris—Passenger station 20 by 32 feet, with covered track and platform 136 feet long. Freight house 100 by 22 feet. Engine house 90 by 40 feet. Car shed 90 by 30 feet. Coal shed 80 by 20 feet.

At O'Leary Road, Port Hill, Wellington, Kensington, River Hunter, North Wiltshire, Royalty Junction, Mount Stewart, Cardigan, Morrell, St. Peter's, and East Souris Road, there are buildings 42 by 22 feet, containing a waiting-room, ticket-office, and freight-room.

Besides the above there are 45 flag stations, consisting of a platform 100 feet long, with a shed to shelter passengers.

Coaling stations are provided at every twenty or twenty-five miles, and watering stations from ten to twelve miles apart. There is a turn-table in each engine-house. The repair shops are not included in the contracts, and have yet to be provided for.

The rolling stock, when completed, will consist of :—

- 14 engines
- 14 first-class passenger cars,
- 9 second-class passenger and baggage cars,
- 5 postal and smoking cars,
- 125 box freight cars,
- 43 platform freight cars,
- 4 snow ploughs and flanges.

Ten of the engines are tank engines. Six of them have 10 by 15-inch cylinders, 42 inch drivers, two pair coupled, and weigh about 20 tons equipped. The remaining four

have tenders. They weigh about 16 tons, exclusive of the tenders have 12 by 18-inch cylinders and 48-inch drivers, two pair coupled. The tank engines were built in England; the others are being built at the Baldwin Locomotive Works, Philadelphia.

The cars for passenger service weigh about 16,000 lbs. each.

The first-class cars are 34 feet 6 inches long by 7 feet 4 inches wide inside, and seat 40 passengers each. The seats are three abreast, two on one side and one on the other. This gives each passenger a space of 1 foot 9 inches (as much as in a broad-gauge car) leaving the aisle two feet in the clear.

The second-class cars are of the same dimensions as the first-class but seat only 30 passengers, 15 feet of the length being occupied by the baggage room. The seats are double on both sides. The aisle is 1 foot 8 inches wide, leaving 1 foot 5 inches for each passenger. The postal cars contain a smoking room, 7 feet 4 inches by 17 feet, an express room 5 feet 4 inches by 5 feet 8 inches, and a post office 5 feet 8 inches by 10 feet, the remaining space being occupied by passages, &c.

The box freight cars weigh 10,500 lbs. each, and are 23 feet 6 inches long by 7 feet 4 inches wide inside.

The platform cars weigh 10,000 lbs. each, and are 24 feet long by 8 feet wide on the deck.

The wheels are two feet in diameter, the axles 3½ inches in diameter in the journals, and 4 inches at the shoulders. The maximum load estimated to be carried in the box car is 15,000 lbs., and on the platform car 16,000 lbs.

All the cars are being built in the contractor's shops at Charlottetown.

Some provision has yet to be made for a line of telegraph along the railway.

PROBABLE TRAFFIC.

In attempting to estimate the probable amount of traffic which may be expected for the railway, some remarks on the productions and resources of the Province may be of interest.

The total area of the island is estimated at 1,365,400 acres, of which 445,103 acres are returned as "arable" land. The population, by the census of 1871, numbered 94,021, or 44 per square mile. When the lines now under contract are completed, there will be 200 miles of railway on the island, and as compared with the other Provinces, Prince Edward Island will stand thus:—

	Inhabitants per Square Mile.	Miles of Railway.	Square Mile to Mile of Railway.	Inhabitants to Mile of Railway.
Ontario	13	.....	.....	.....
Quebec	6	.....	.....	.....
Nova Scotia	21	3,100	121	1,124
New Brunswick	11	.....	.....	.....
Prince Edward Island	44	200	10½	472

The principal farm stock and products in 1870, were:—

Number of horses.....	25,329
" cattle	62,984
" sheep	147,364
" pigs	52,514
Bushels of wheat.....	269,392
" buckwheat.....	75,109
" barley	176,441
" oats	3,128,576

Bushels of potatoes	3,375,726
" turnips.....	395,358
" Indian corn	2,411
Pounds of flax.....	27,282
" butter.....	981,939
" cheese.....	155,524
Tons of hay.....	68,349

The weight of the above may be estimated at 300,000 tons, and of this about 125,000 tons was the produce of the districts from which the railway may be expected to draw its traffic. The total weight of the farm products exported was 60,000 tons, and of this, 25,000 tons would probably have been transported by railway.

The fisheries of Prince Edward Island are the most valuable in the Gulf. The small harbors afford convenient fishing stations, but though the inhabitants engage in the shore fishing to some extent, the mackerel fishery is carried on principally by American vessels, whose crews, however, often consist in large proportion of men shipped for the season from Cape Breton and the south-east coast of Nova Scotia.

The products of the fisheries, and the quantity exported in 1870, were as follows:—

Barrels mackerel, cured.....	16,047	Exported	14,095
" herrings and alewives, cured..	16,851	"	4,548
Quintals cod and hake, cured.....	15,649	"	9,036
Gallons fish oil, manufactured.....	11,662	"	1,210
Pounds hake, sounds, cured.....	12,552	"	5,500
" other fish preserved.....	6,711		
Barrels oysters		"	11,104

It is not probable that any great proportion of these would be sent over the railway, most of the fish being shipped from the ports near which it is caught.

The lumber traffic would also be small. There are numerous (311) small saw mills throughout the island, which manufacture enough lumber to supply their respective neighborhoods, but very little would be likely to pass over the railway. The value of lumber exported in 1870, was about \$16,000, and of that imported, about \$75,000.

The other manufactures in 1870, were:—

Yards cloth.....	579,288
Pounds leather.....	197,031
" tobacco.....	69,399
Barrels lime	56,787
Number bricks	1,556,245
" fish barrels.....	56,787

In 1871 Dr. Dawson and Dr. Harrington made a geological exploration of the island, with the following results:—

Metallic ores were not observed anywhere in sufficient quantity to be of economic importance. As regards coal, Dr. Dawson says, "on the whole it may be concluded that the probabilities are decidedly against the discovery of a large bed of coal at such a depth as to enable it to be immediately available."

Peat exists in large quantities in several localities. The quantity and value of the three principal deposits are thus estimated by Dr. Harrington:—

Lennox Island Bog.....	20,200 tons.	\$80,800 00
Squirrel Creek Bog.....	500,000 "	2,000,000 00
Black Bank.....	1,777,248 "	7,108,992 00

Total 2,297,448 tons. \$9,189,792 00

Another deposit is said to exist on Grover Island, Richmond Bay.

The result of comparative trials of the peat, with that in use in Canada, showed that

the quality, especially of that at Black Bank is excellent, as the deposits are close to the shore, in fact are being constantly washed away by the sea; they are easy of access, and are, doubtless, capable of supplying a large quantity of good fuel.

In respect to the supply of fuel for the railway, it may be stated that coal from the Pictou mines can be delivered in Charlottetown, Summerside or Georgetown for about \$4.00 per ton. Estimating that a ton of coal is equal, as fuel, to two tons of peat, it would not be economical to use the latter unless it could be delivered at Cascumpec or Summerside at a cost of \$2.00 per ton. The timber remaining on the island is too valuable for other purposes to allow of its being used for fuel.

The climate of Prince Edward Island differs but little from that of the other Maritime Provinces, except that the sea-breezes make it cooler in summer. It has also the great advantage of being free from sea fogs which, during that season, prevail on the coasts of Maine, New Brunswick and Nova Scotia. The freshness and salubrity of the atmosphere, and the clearness of the gulf water, with the fine sand beaches, adapt the shores of the island admirably for watering places. The broken surface of the country, with the continual succession of hill and dale, and the well cultivated farms, render the scenery in the interior very beautiful. When these advantages become better known, they will, no doubt, attract a large number of visitors in the summer. During the winter the railway will have only such passenger traffic as may be furnished by the local travel.

There is no *datum* on which to estimate the probable passenger traffic, except a comparison with that on the lines in the neighbouring Provinces. Taking this as a basis, it is not unfair to assume that 200,000 passengers will be carried in a year, with an average mileage of 25 miles, and at an average rate, after making due allowance for reduction on the regular rates by commutation tickets, of two cents per mile. The above would give, as the total receipts, 200,000 passengers at 50 cts., \$100,000.00.

The freight traffic may be estimated as follows:—

	Tons.
Exports from Railway District.....	25,000
Proportion of remaining farm products, which may be estimated to pass over Railway one-eighth of 100,000 tons...	12,500
From Lumber Trade and Fisheries, say.....	2,500
Return Freights.....	10,000
Total.....	50,000

As a large proportion would be shipped at Charlottetown and Georgetown, the average mileage may be safely estimated at 30 miles, and the average rate per ton, allowing for the large per centage of fourth-class freight, at three cents per ton per mile; this would make the receipts:—

50,000 Tons Freight at 90 cts..... \$45,000 00

The total traffic receipts on this basis would be as follows:—

	\$	cts.
200,000 Passengers, at 50 cts.....	100,000	00
50,000 Tons Freight, at 90 cts.....	45,000	00
Mails and Sundries, say.....	5,000	00

Total Annual Revenue..... 150,000 00

The receipts would probably increase in time, but as there is no through traffic to be expected, the increase would depend on the development of the natural resources of the country, which are chiefly agricultural, and would therefore be slow, though probably steady.

The working expenses may be roughly estimated at from \$750 to \$800 per mile of railway, or from \$150,000 to \$160,000 per annum. A great drawback to the progress of Prince Edward Island is the stagnation of trade arising from its almost complete isolation in winter. The navigation generally closes about the middle of December and does not

re-open until the end of April. During that time there are no means of transit to and from the main land, except by crossing on the ice. The mails are carried with tolerable regularity, but passengers can cross only with great labor, and being subjected to exposure to fatigue and danger. Freight cannot be carried at all. The present winter crossing is from Cape Traverse, Prince Edward Island, to Cape Tormentine, N.B. The distance across at this place is $8\frac{1}{2}$ miles in a direct line, but in general a much greater distance is travelled, owing to the constant drift of the ice floes, and the divergences which are enforced in the choice of the best route. The passage occupies from three to eight hours, according to the state of the weather and the condition of the ice. The trip from Charlottetown involves, besides the crossing of the straits, 30 miles of stage travel on the island and 40 miles between Cape Tormentine and the Intercolonial Railway Station at Amherst, N.S. The crossing is made on foot, the party dragging with them a large boat, fitted with runners, containing the baggage, &c., and which enables them to cross any spaces of open water. All male passengers are expected to assist in hauling the ice-boats. Women rarely cross, except in the most favorable weather, and under circumstances of urgent necessity. The men employed in this service are skilful and experienced, and no material improvement can be hoped for in crossing at this point. In any attempt to prolong the time of navigation by steamers, attention must therefore be directed to some other route. As points of departure, Souris, Prince Edward Island, and Cape George, Nova Scotia, seem to promise the greatest chances of success. Souris is the eastern terminus of the Prince Edward Railway, and its harbor is clear of ice as late as and sometimes later than Georgetown; and Ballantyne's Cove, Cape George, being sheltered from the pack of drift ice coming down the straits, is said to be open until the end of January. The ice floes closely packed in the narrow strait between Pictou Island and the south shore of Prince Edward Island are said to disperse in the wider bay beyond, so that a steamer could almost always find a passage between them. The information available on this subject at present is very vague; the result can only be determined by a trial, which has never yet been made. Cape George is distant from the railway station at New Glasgow, N.S., 43 miles by the north west shore and 17 from Antigonish, or 52 miles from New Glasgow *via* Antigonish.

For the further information of the Department I have the honor to transmit herewith copies of the Census of 1871, of the Acts, 24 Vict., Cap. 4, and 26 Vict., Cap. 13, authorizing the construction of the trunk line with the extensions; and Dr. Dawson's Report on the Geological Structure and Mineral Resources of Prince Edward Island.

I have the honor to be, Sir,

Your obedient servant,

(Signed,) JOHN EDWARD BOYD,
Engineer in charge.

F. BRAUN, Esq.,
Secretary, Department Public Works.

APPENDIX No. 27.

REPORT RECOMMENDING PAYMENT OF \$2,000 TO MRS. TAGGART, WIDOW OF THE LATE MR. NATHANIEL TAGGART, ON THE GROUND OF HIS INVENTION OF THE "SOLID TIMBER LOCK GATES" NOW IN USE ON THE ST. LAWRENCE CANALS, BY JOHN PAGE, CHIEF ENGINEER.

OTTAWA, 10th July, 1874.

SIR,—I duly received your letter No. 25,251, accompanied by a memorial and other documents, presented by Mrs. Nathaniel Taggart, relative to an invention said to have been made by her late husband, of "Solid Timber Lock Gates," such as are now in use on the St. Lawrence Canals.

In reading over these papers it may be stated that many matters bearing on the question referred to, have been prominently and clearly brought to my recollection.

The most important of which, for the present case, is the fact that when the first enlargement of the Welland Canal was in progress, Mr. N. Taggart, who managed the business of the Contractor for the Lock Gates, brought under the notice of Mr. Samuel Power, Engineer of the Canal, and myself, in the winter of 1843 and '44, a mode of constructing Lock Gates of heavy plank, placed horizontally, and secured to each other for the whole height of the gates.

To the best of my recollection Mr. Taggart then shewed us a model of the kind of gate he proposed. We were both favourably impressed with the design, but as the contract for framed gates had been entered into, and the works connected with them well advanced, it was not considered advisable to recommend, at that time, the building of any of the Taggart Gates, and, in fact, none of them have ever been built or used on the Welland Canal up to the present time.

In the autumn of 1849, I believe, a pair of solid timber gates was first built under the authority of the Department for one of the locks on the Williamsburg Canals, which were found to answer so good a purpose, that gates of a similar kind have since that time been brought into use in all the locks on the St. Lawrence Canals.

The first proposition or design for "solid timber" gates, that I ever saw or heard of, was (as above stated) that described and shewn to me by Mr. Taggart in 1844.

In addition to the letters which accompany the memorial, there are others in the Department, bearing on the subject, copies of which are hereunto appended, viz:—

1st. A letter, dated 12th January, 1843, from N. Taggart to the Board of Works Department, asking his design to be considered.

2nd. The reply of the Secretary to the above, dated 19th January, 1843.

3rd. A letter dated 28th November, 1843, from J. B. Mills, Engineer, recommending a trial of the Taggart plan of gates.

4th. A letter dated 10th November, 1843, from Mr. Taggart, accompanied by a specification of the proposed gates. All of which shew that Mr. N. Taggart suggested and pointed out the mode of constructing what is called "solid timber" lock gates, six years before they were brought into use by the Department.

5th. A letter dated 4th February, 1853, (about three years after this kind of gate had been introduced) was addressed to the Chief Commissioner of Public Works, by N. Taggart, asking an acknowledgement of his invention, and referring to officers who were, or had been in the employment of the Department.

6th. A letter also dated the 4th of February, 1853, from N. Taggart to the Assistant Commissioner, the Hon. H. H. Killaly, drawing attention to the letter of J. B. Mills, on the subject of improved lock gates.

7th. A letter from the Hon. H. H. Killaly, in reply to the letter addressed to him by Mr. Taggart.

From these documents, together with my own knowledge of the circumstances, I am fully convinced that Nathaniel Taggart originated the leading idea of "solid timber" lock gates, such as are now in use on the St. Lawrence Canals.

It may also be stated that they are found to be a great improvement over the old plan, still there is good reason to believe, as stated by the memorialist, that he (Taggart) never received any remuneration for his *invention*.

Mr. Taggart, I understand, died in November, 1868, and left his widow in straightened circumstances, and as the public has derived considerable benefit from his ingenuity, it seems to me in no way unreasonable that his widow should apply for and receive some compensation for an invention of her late husband, which has been adopted and is intended to be still further used by the Government, although unprepared to say what is the actual value of the invention; still, after considering *the* matter, and the peculiar circumstances, it appears to me that about *Two Thousand Dollars* would be a fair and reasonable allowance to make to the widow.

If this be approved by the Hon. the Minister, the money could be sent through the British Minister at Washington, to be handed to the United States Government for the purpose of being delivered to Mrs. Jane Taggart, who is an American citizen, and resides at Waddington, County of St. Lawrence, State of New York.

I have the honour to be, Sir,

Your obedient servant,
(Signed) "JOHN PAGE,"
Chief Engineer Public Works.

F. BRAUN, Esq.,
Secretary of Public Works,

CORRESPONDENCE ENCLOSED.

WEST WILLIAMSBURG, Jany. 12th, 1843.

DEAR SIR,—I have not the honor of an acquaintance with you which would warrant me in obtruding a communication on one whose time, I am aware, must be fully occupied; but the slight acquaintance which I had the pleasure of forming with you when on your tour of inspection at the St. Lawrence Canals last fall, induces me to believe that you will readily consider any mechanical improvement which may be suggested by practical men, and that if such consideration should produce a favorable opinion, you would encourage such improvement.

I have a fervent (perhaps others may think vain) belief that I can make important improvements in the construction of lock gates, especially such as are required for large locks, dry docks, etc.

The improvement which I contemplate will reduce the cost, and add to the durability, and, as far as I am aware, has never been introduced.

My motive in troubling you at this time is to ascertain whether any compensation would be allowed to any person making such improvement as I have referred to, if the Board of Works, upon due examination, should think proper to adopt them.

I am aware that men are apt to think too favorably of their own productions, but after a thorough examination I can see no inconvenience in the improvements which I contemplate, and feel confident that they have essential advantages over anything of the kind which I have seen, and I believe that any unprejudiced engineer will arrive at the same conclusion, upon a proper examination of the plan.

I should be well pleased to exhibit to the Board of Works the improvements which I contemplate, as I have the utmost confidence that they would be examined in all candor and impartiality, but I would first desire to be informed if any compensation could be obtained (except by resorting to a patent) in case the plan should be approved and adopted.

As I have some thoughts of obtaining a patent, I should be unwilling to disclose the plan except in confidence, but I have a strong desire that it should be examined by the Board of Works, and would willingly exhibit it to yourself or any competent and confidential person if you should think it worth while to give it an examination.

If you should think proper to make a reply to this communication, you can do so directly through the bearer, Mr. Sturtevant, or at any time through the mail, directed to the office at West Williamsburgh.

You may probably recognize in me the person who had charge of putting up the gates for Mr. Wilkinson.

I am, dear Sir,

Your obedient Servant,

HON. H. H. KILLALY.

(Signed) NATHANIEL TAGGART.

Copy of No. 1,748.

BOARD OF WORKS, 19th Jany., 1843.

SIR,—Your letter of the 12th instant having been laid before the Board, I am directed to inform you that, however desirous they are to have the benefit of every improvement such as you speak of, still they could not pledge themselves to compensate you, further than this; if upon a confidential examination, they are satisfied of the utility of the plan, they would make a proposal to the originator, the extent of which would of course be regulated in some measure by the value of the suggestion in their estimation. Such a course would not interfere with your taking out a patent also.

I am, Sir,

Your obedient Servant,

MR. NATHANIEL TAGGART,
West Williamsburgh.

THOMAS A. BEGLY,

Copy of No. 2298.

KINGSTON, Nov. 28th, 1843.

SIR,—I have the model of Mr. Taggart's Gate for consideration, merely remarking that I would not recommend its general adoption at present, but I would recommend a trial of it in a lock to be selected.

I am, Sir,

Faithfully yours,

(Signed)

J. B. MILLS.

To the Hon. H. H. KILLALY,
&c., &c., &c.

Copy of No. 3283.

BEAUHARNOIS, 15th Nov. 1843.

DEAR SIR,—Believing that important improvements may be made in the manner of constructing Lock Gates, I beg the privilege of calling the attention of the Board of Works to the plan described in the following specification.

I have furnished Mr. Mills with a model which also presents a plan of opening and closing gates (which I think has not been heretofore used), which he will present to you.

I would ask for those improvements (if such they be) a candid examination by scientific and practical men; if they are as useful as they are deemed by many persons to whom they have been shown, they are worthy of introduction into the Canals of this Province.

From much reflection and conference with practical men, I have been unable to discover any practical disadvantages which are important in the contemplated mode of construction, but I think that both theoretically and practically, many advantages are presented, and as the engineers of the road are eminently qualified to judge of its merits, it is with much confidence that I submit it to their consideration.

SPECIFICATION.

The nature of my improvements is described as follows, viz.:—I construct the entire gate of thin parallel pieces of timber of any desirable thickness, and with such as boards or planks laid one upon the other, so as to present their edges to the pressure of the water. The boards, planks or pieces of timber, I secure to each other with bolts, spikes, nails, trenails or pins, the joints I make water tight by perfect fitting or by the interposition of some oleaginous or bituminous substance, or I cover the exposed surface with tongued and grooved plank, sheet copper or any desirable covering.

When a sufficient number of layers are secured together to obtain the requisite strength at the bottom, I propose to construct one or more chambers, so that the gate may be brought to any required buoyancy (or specific gravity.)

The necessary pivots, for the purpose of securing the gate in the quoin, I propose to secure to the upper and under surfaces of the gate by through bolts or other proper fastenings.

The following are among the advantages appertaining to the above described gates:—Being compounded of thin pieces of timber, that which is imperfect may be rejected and the decay of the structure thereby retarded, and in addition to the natural advantage, it may be artificially aided by the facility which the size of the timber affords to the process of saturating with conservative substances.

Being destitute of heel and mitre posts, the usual iron fastenings such as T's and L's are dispensed with,—in presenting the end timber to the quoin and mitre, the liability to wear by attrition is diminished, and by the interior chambers, any requisite buoyancy may be obtained, whereby the pressure on the pivot and castor may be quite removed or desirably diminished.

If there is no practical disability to the mode of constructing gates above (and no one has yet shown any) the value of the plan is too apparent to need recommendation.

The mode of opening and closing gates by cogs attached to the castor, as shown in the model with Mr. Mills, is as simple an application of power as can be constructed, and I can see no practical disadvantage which will not be equalled by any other mode.

I am, Dear Sir,

Your obedient Servant,

(Signed) NATHL. TAGGART.

Honorable H. H. KILLALY,

[Copy of No. 19,015.]

OGDENSBURGH, February 4th, 1853.

The undersigned would respectfully desire to invite your attention to a subject which he deems of importance in the progress of public improvement, in which he has some personal interest, and desiring to trespass as little as possible on your time, he will briefly submit the following facts:—

In the winter of 1843, the undersigned presented to the Board of Works, through J. B. Mills, Esq., the Resident Engineer at the Beauharnois Canal, a model and description or specification of an improved plan of constructing lock gates, which he deemed of great importance, and which was very favorably esteemed by nearly, if not all, the Engineers and practical Mechanics to whom it was made known.

The undersigned, at that time, entertained the notion that it would only be necessary to present the improvement, which he considered very valuable, to the notice of those interested to obtain for it a favorable consideration, but he was disappointed, and he failed in obtaining for it the favor which he considered it merited. Since that time the undersigned has, at all fitting opportunities, urged upon persons concerned in structures of the kind, the superior claim of his improvement over the kind in common use, and he feels so certain of its superior excellence that he does not hesitate to assert that no other mode of constructing wooden lock gates can equal it, either in point of economy or efficiency.

The Commissioners of Public Works are now constructing gates on the plan alluded to, and the undersigned asks the simple justice, that his claims to the improvement should be officially acknowledged.

In confirmation of his claim he would beg to refer to Samuel Keefer, Esq., John Page, Esq., Walter Shanley, Esq., or J. B. Mills, Esq., and other names may be added who will testify as to the originality of the invention.

With due regard the undersigned desires to be your obedient servant,

(Signed)

NATHANIEL TAGGART.

To the Honorable

The Commissioner of Public Works,
Canada.

[Copy of No. 18,991.]

OGDENSBURGH, February 4th, 1853.

DEAR SIR, —I am unwilling to trespass on the time of an individual whose public services, I am aware, must fully occupy his mind; yet, I trust, that the personal exertions that I have heretofore made in some of the Public Works under your charge, may so far entitle me to your regard, as to atone for the presumption which urges me to ask of you an individual favor.

You may remember, or you may have forgotten [sic], that in 1843 I invited your attention, through Mr. Mills, to what I deemed an important improvement in the construction of lock gates; the principal of those improvements were entrusted to Mr. Mills, in a written specification accompanying a model. I did believe at the time (and my opinion has never changed) that a great saving would ensue from the constructing of gates on my plan, but I did not succeed in making all others think as I did. There were at the time obstacles to my obtaining a patent in Canada, or I should have made application. I have taken steps to obtain one in the United States.

I presume you are aware that the Commissioners of Public Works are now building gates on my plan. I do not deem it unreasonable that the origin of the improvement should be acknowledged.

To establish my claim to the invention is an easy matter, and that the value of the improvement is far above what is estimated at present is well known to many practical men; when once fairly tested on the simple principle of the invention, it will certainly supersede any other plan heretofore used for constructing wooden gates, whether you take into view economy or efficiency.

I do not know as any pecuniary emolument will accrue from my obtaining the acknowledgement hereby sought, but I do not consider that it savours of unwarrantable ambition to seek such an acknowledgement. Can I ask of you, personally, to favor an official acknowledgement of my claim to the origin of the plan? I have taken the liberty to address the Chief Commissioner on the subject.

I am, sincerely,

Your obedient servant,

(Signed)

NATHANIEL TAGGART.

Honorable H. H. KILLALY, Esq.

[Copy of No. 12,824.]

8th February, 1853.

SIR,--I have to acknowledge the receipt of your letter of the 4th inst., in which you state you had invited my attention "through Mr. Mills" to a certain improvement on the mode of building lock gates, that gates on this principle are now being built by the Department and requesting a certificate that the principle is your invention. In reply I have to say, that I have no recollection whatever of Mr. Mills having ever spoken to me upon the subject.

I presume the improved construction you allude to is "the solid framing" on which plan we have built several sets of gates. The plans and specifications were made by Mr. Keefer, and I cannot imagine that that gentleman would hesitate a moment in acknowledging your claim to originating the idea, if he had learned from Mr. Mills or any other quarter that you are entitled to it. Mr. Keefer is now in Montreal, and I would recommend you communicating with him.

Mr. N. TAGGART,
Ogdensburgh.

(Signed)

H. H. KILLALY.

Extract of a Report of a Committee of the Honorable the Privy Council, approved by His Excellency the Governor General in Council on the 14th August, 1874.

The Minister approves Mr. Page's report and recommends that \$2,000 be accordingly paid from the appropriation for unforeseen expenses to Nathaniel Taggart's widow, the money to be sent by the British Minister at Washington, to be handed to the United States Government for the purpose of being delivered to Mrs. Jane Taggart, who is an American Citizen and resides at Waddington, County of St. Lawrence, State of New York.

(Signed)

W. A. HIMSWORTH,
C. P. C.

APPENDIX No. 28.

TABLE showing Dates of the closing of Canals and Harbors in the Provinces of Quebec and Ontario, and on Lake Superior, in the Autumn of 1873, and the opening in the Spring of 1874.

Canals or Harbors.	Closing.	Opening.
Lachine Canal	29th November, 1873.	29th April, 1874.
Beauharnois Canal	24th do do	3rd May, do
Cornwall do	4th December, do	29th April, do
Williamsburg do	2nd do do	1st May, do
Welland do	15th do do	9th April, do
Burlington Bay do	11th do do	1st do do
St. Anne's Lock	20th November do	4th May, do
Carillon Canal	18th do do	6th do do
Grenville do	18th do do	6th do do
Chute à Blondeau Canal	18th do do	6th do do
Rideau { Kingston Mills	21st do do	29th April, do
{ Ottawa	19th do do	5th May, do
St. Ours Lock	16th do do	16th April, do
Chambly Canal	20th do do	25th do do
Erie do (New York)	24th do do	5th May do
St. Peter's do (Cape Breton)	10th December, do	5th do do
Quebec, River St. Lawrence	22nd November, do	9th do do
Montreal do do	26th do do	25th April, do
Toronto, Lake Ontario	10th December, do	7th March, do
Kingston, do	15th January, 1874.	28th do do
Belleville, Bay of Quinté	20th November, 1873.	4th April do
Port Stanley, Lake Erie	30th do do	27th March, do
Rondeau do	20th do do	1st April, do
Kingsville do	28th December, do	23rd March, do
Windsor, River St. Clair	17th do do	19th do do
Sarnia, Lake Huron	23rd January, 1874.	4th do do
Goderich do	30th November, 1873.	15th April, do
Kincardine do	3rd December, do	20th do do
Owen Sound, Georgian Bay	1st do do	15th do do
Collingwood do	25th November, do	9th May, do
Prince Arthur's Landing, Lake Superior	15th December do	11th do do