

exterior, communicating with the star grooves cut in the end of the barrel and the gas escape through the cast-iron breech.

The B tube consists of two coils united, and being rough-turned to a diameter of about 13.75 inches, and finished bored to 10.75 inches, it is shrunk on with 0.003 inch shrinkage in the diameter.

The B tube in order to be shrunk on the A tube has to be bored to the degree of smoothness which is necessary for close contact and mutual support, and is gauged to $\frac{1}{1000}$ of an inch every few inches of its length as well as at every shoulder it may have. To these measurements the shrinkage is added, and a plan made out according to which the exterior of the inner coil or A tube must be fine turned in order that it may exceed in diameter the bore of the outside coil by the required amount of shrinkage at the respective points. This plan, together with a series of corresponding "horseshoe" gauges, (very accurately adjusted), is then furnished to the turner, who turns down the inside coil to the proper size. The operation of shrinkage is very simple. The outer coil is expanded by heat until it is sufficiently large; (if a large mass by means of a wood-fire, for which the tube itself forms the flue; if a small mass, in a reverberatory furnace at a low temperature). It is then raised up by a travelling crane overhead, and dropped over the part on to which it is to be shrunk, which is placed vertically in a pit ready to receive it, and where the tube and jacket cool off.

The heat required in shrinking is not very great. Wrought-iron, on being heated from 62° F. (the ordinary temperature, say) to 212°, expands linearly about $\frac{1}{1000}$ part of its length, (the same amount of extension in fact as that due to its elastic limit or pressure of 12 tons to the square inch of section). Therefore, it is not necessary to have more than 500° F., which will allow a good working margin.

With respect to the mode of cooling during the process of shrinking care must be taken to prevent a long coil or tube cooling simultaneously at both ends, for this would cause the middle portion to be drawn out to an undue state of longitudinal tension. Therefore, in some cases, water is projected on one end of a coil so as to cool it first.

In order to prevent the expansion of the inner tube, thus obstructing or retarding the operation of cooling, water is circulated through the interior by means of the usual supply pipe and siphon.

In the manufacture of these tubes samples of each week's work are tested for tensile strength and elasticity, and usually with most favourable results; the stretching-weight being about 12 tons, and the breaking-weight 23 tons per square inch.

METHOD OF CASTING 40 TON CASINGS.

Report of the Chief of Ordnance 1876 U.S. America.

IRON.

The iron employed was Richmond pig, remelted and graded, as follows:—

	Pounds.
No. 1, soft.....	12,800
No. 2, under medium.....	29,874
No. 2, above medium.....	44,947
No. 3, hard.....	44,947
Remelted, hard.....	27,615
Total.....	160,183

This charge was distributed between three furnaces, in such proportions as to be melted in each in about the same time.

GUN-PIT AND FLASK.

The gun-pit is about 11 feet in diameter and 20 feet in depth; its bottom is covered with a cast iron plate $2\frac{1}{2}$ inches thick, and the walls are of boiler-iron, bricked up on the inside with two courses. The pit was in good condition, and was heated by fire previous to cooling. The flask in which the gun was cast was in sections, six in number, opening longitudinally, and have a circular cross-section, excepting a slight bulge at one point where the side-runner passed down. The mold of sand was formed within the flask in the usual manner.

CASTING.

The furnaces were fired at 5.30 a.m. February 6, and the metal was down at 12.15 p.m.; it remained in fusion four hours, after which it was conducted in the usual manner, by troughs, to the gun-mold. The operation of casting occupied 21 minutes.

COOLING.

Water was allowed to circulate through the core-barrel at the rate of 48 gallons per minute, entering at 31° and leaving in 45 minutes at 68°. One hour after casting fires were started in the pit and kept burning for 40 hours, after which they were allowed to die out. At the expiration of 24 hours the core-barrel was removed and water injected into the gun at the rate of 24 gallons per minute, entering at 38° and leaving after 15 minutes at 60°. It required 120 hours to entirely cool the gun, after which it was removed from the pit and placed in the lathe. While in the lathe a ring 3".68 in thickness was cut from next the face of the muzzle, from which after testing for initial tension, specimens were cut for ascertaining the density and tenacity. These specimens were tested with the following results:

Initial tension, 18,500 pounds, or in a ratio of 0.533 to the absolute strength of the metal on the exterior.

Specimens, where taken.	Density.	Tensile strength.	
		Area of section broken.	Tenacity per square inch.
		Inches.	Pounds.
No. 1, outside.....	7.2729	1.1122	34,529
No. 2, 2' from middle.....	7.2777	1.1178	30,746
No. 3, middle.....	7.2900	1.1122	29,943
No. 4, middle.....	7.2789	1.1141	29,710
No. 5, middle.....	7.2746	1.1178	28,522
No. 6, 2' within middle.....	7.2970	1.1178	33,636
No. 7, inside.....	7.2900	1.1159	33,866
Mean.....	7.2858	31,707

DIRECTIONS FOR INSERTING COILED WROUGHT-IRON BARRELS INTO CAST-IRON CASINGS.

The casing should be cast with the bore nearly to the required size to take the barrels, and the bore afterwards carefully adjusted by lapping with leaden block and sand and water. The taper, if any, from the breech toward the muzzle, should be uniform, and in no place should the eccentricity exceed .002 inch. The muzzle end should be screwed with an allowance of .015 between the diameters of the ring and

the casing; the screwed part should be longer than required for the ring, so as to insure the rear end of barrel being in contact with the cast iron at the end of the bore. A "gaz-indicator hole" is drilled through the breech end, so that it will come nearly opposite the junction line of the plug in the barrel. All sharp edges in the interior of the casing should be taken off, and the bore carefully cleaned and oiled.

The barrel is turned to the measurements taken from the casing when finally prepared to receive the barrel. These measurements should be taken at least every six inches from the muzzle to within 12 inches from the breech, when they should be taken at every inch. From the muzzle to a point 24 inches from the breech, the difference between the bore and the size of the barrel should not exceed .015 of an inch, and from thence to the bottom of the bore .007 of an inch.

The barrel can be turned by means of an expanding mandrel placed in the muzzle, the centre being left in the plug at the bottom of the barrel. The reduced part from the muzzle ring should be .01 of an inch less in diameter than the bore of the ring; the breech of the ring should be square to the face against which it is screwed.

The radius at the breech end of barrel should not be in contact with the casing, but should have .05 of an inch clearance; thus if the gun has been bored out with a 1.7 radius tool, the barrel should be turned to 1.75 inch radius.

When fitting the barrel into the casing, all bearing-surfaces should be well oiled. It is most convenient to place the casing on tressels about 3 feet 6 inches high. The barrel is lifted by a crane and entered as far as the slings will permit. The slings are then placed round the end of the expanding mandrel, and at the outer end of the mandrel are bolted two strong cross-bars by which the barrel is worked round while it is being drawn in by the crane. The indicator hole allows the air to escape.

The plug center should not be taken off until it comes in contact with the bottom of the bore, when it may be turned off and the breech-end well marked with thin red-lead paint. The barrel should then be again tried in and well worked against the casing, great care being taken that the end of the barrel abuts truly against the bottom of the bore.

A small screw is inserted at about the middle of the length of the barrel, as shown on the drawing, to prevent the possibility of the barrel turning round in the gun during firing.

When the tube is properly adjusted, the collar is securely screwed into the muzzle. The muzzle of the gun is then faced, and the bore lapped and rifled, the gun vented, and then it will be ready for firing.

For convenience, the barrels may be lapped and rifled before insertion in the casing.

Certified Copy,
W. POWELL, Colonel,
Adjutant-General of Militia,
Canada.
HEADQUARTERS,
OTTAWA, 31st December, 1877.

APPENDIX No. 10.

EXTRACTS from General Orders (24) 21st December, 1877, containing Extracts from the Militia Law in "Aid to the Civil Power," with extracts from the "Regulations and Orders for the Active Militia" relating thereto.

Also "Regulations" for the "Examination by Boards of Officers of Candidates for appointment or promotion in the Infantry of the Active Militia."

ACTIVE MILITIA.—AID TO THE CIVIL POWER.

Section 27 of the Militia and Defence Act of 1868; and the Regulations relative to corps when called out in aid of the Civil power are published for the information and guidance of all concerned:—

"The Active Militia, or any corps thereof, shall be liable to be called out for active service with their arms and ammunition, in aid of the civil power in any case in which a riot, disturbance of the peace or other emergency requiring such service occurs, or is, in the opinion of the civil authorities hereinafter mentioned, anticipated as likely to occur, and, (in either case) to be beyond the powers of the civil authorities to suppress, or to prevent or deal with,—whether such riot, disturbance or other emergency occurs, or is so anticipated within or without the municipality in which such corps is raised or organized: and it shall be the duty of the senior officer of the Active Militia present at any locality to call out the same or any portion thereof as he considers necessary for the purpose of preventing or suppressing any such actual or anticipated riot or disturbance, or for the purpose of meeting and dealing with any such emergency as aforesaid, when thereunto required in writing by the Chairman or Custos of the Quarter Sessions of the Peace, or by any three magistrates of whom the Warden, Mayor or other head of the municipality or county in which such riot, disturbance or other emergency occurs, or is anticipated as aforesaid, may be one; and to obey such instructions as may be lawfully given him by any magistrate, in regard to the suppression of any such actual riot or disturbance, or in regard to the anticipation of such riot, disturbance or other emergency, or to the suppression of the same, or to the aid to be given to the civil power in case of any such riot, disturbance or other emergency; and every such requisition in writing as aforesaid shall express on the face thereof, the actual occurrence of a riot, disturbance or emergency, or the anticipation thereof, requiring such service of the Active Militia in aid of the civil power for the suppression thereof: and every officer, non-commissioned officer and man of such Active Militia or any portion thereof shall, on every such occasion, obey the orders of his commanding officer: and the officers and men, when so called out, shall, without any further or other appointment, and without taking any oath of office, be special constables, and shall be considered to act as such so long as they remain so called out; but they shall act only as a military body, and shall be individually liable to obey the orders of their Military Commanding Officer only; and they shall, when so employed, receive from the Municipality in which their services are required, the following rates of pay, that is to say: Officers, the same pay as that of Officers of corresponding rank in Her Majesty's Service, with an additional sum to each Mounted Officer of two dollars per day, and non-commissioned Officers and Privates the sum of one dollar each, per day, with an additional sum of one dollar per day for each horse actually and necessarily used or employed on such occasion, and they shall be also provided with proper lodging by such Municipality;—and the said sums, and the value of such lodging, if not furnished by the Municipality,

may be recovered from it by the Officer Commanding the Corps, in his own name, and when received or recovered shall be paid over to the Officers and men entitled thereto." (31 Vict., c. 40, sec. 27, as amended by 36 Vic. c. 46, sec. 1.)

In cases where the Officers and men called out do not reside within the Municipality in which their services are required, they are also to receive from the Municipality the reasonable cost of transport going and returning. (See 40 Vict., c. 40, sec. 1.)

Regulations.

In cases where aid is applied for, in the manner provided by law, the senior officer of the Active Militia to whom the requisition is addressed will immediately inform the Deputy Adjutant General of the District thereof, by telegram for transmission to Head Quarters.

Officers of the Active Militia have no discretionary power as to the necessity for aid, they would therefore incur a grave responsibility if they failed to afford a sufficient force to maintain the peace or to quell a riot.

No officer is to go out with militia for the purpose of aiding in the suppression of riot, the maintenance of the public peace, or the execution of the law, except upon requisition in writing, as specified by law. (See 31 Vict., c. 40, sec. 27, as amended by 36 Vic. c. 46, sec. 1.)

The officer commanding is to move to the place to which he shall be directed by a magistrate; he is to take care that the men under his command march in regular military order, with the usual precautions, and that they are not scattered, detached, or posted in a situation in which they may not be able to act in their own defence. The Magistrate under whose direction the officer is acting, is to accompany the force, and the officer is to remain near him. (See p. 193 R. & O.)

"When the number of the detachment shall be under 20 files, it is to be told off into four sections. If there should be more than 20 files, the detachment is to be told off into more sections than four." (p. 194, R. & O.)

All commands to the men are to be given by the officer. They are not, on any account, to fire except by word of command of their officer, who is to exercise a humane discretion respecting the extent of the line of fire, and is not to give the word of command to fire, unless distinctly required to do so by the Magistrate under whose direction he is acting. (p. 195, R. and O.)

"In order to guard against all misunderstanding, officers commanding corps or detachments, are, on every occasion on which they are employed in the suppression of riots, or in the enforcement of the law, to take the most effectual means, in conjunction with the magistrates under whose orders they may be placed, for notifying beforehand, and explaining to the people opposed to them, that in the event of the men being ordered to fire, their fire will be effective." (p. 196, R. and O.)

"If the Commanding Officer should be of opinion that a slight effort would be sufficient to attain the object, he is to give the word of command to one or two specified files to fire. If a greater effort should be required, he is to give the word of command to one of the sections, told off as above ordered, the fire of the other section being kept in reserve till necessary; and when required, the fire of each of them being given by the regular word of command of the commanding officers." (p. 197, R. and O.)

"If there should be more officers than one with the detachment, and it should be necessary that more sections than one should fire at a time, the commanding officer is to fix upon, and clearly indicate to the men, what officer is to order any number of the sections to fire; such officer is to receive his directions from the commanding officer, after the latter shall have received the requisition of the magistrate to fire. No other individual, excepting the one indicated by the commanding officer, is to give orders to any file or section to fire." (p. 198, R. and O.)

"The firing is to cease the instant it is no longer necessary, whether the magistrate may order the cessation or not. Care is to be taken not to fire upon persons separated from the crowd. It is to be observed, that to fire over the heads of

a crowd engaged in an illegal pursuit, would have the effect of favouring the most daring and the guilty, and might have the effect of sacrificing the less daring and even the innocent." (p. 199, R. and O.)

"If firing should unfortunately be necessary, and should be ordered by the magistrate, officers and men must feel that they have a very serious duty to perform; and they must perform it with coolness and steadiness, and in such manner as to be able to discontinue their fire at the instant at which it shall be found there is no longer occasion for it." (p. 200, R. and O.)

"On completion of the duty for which the force was called out, an immediate report thereof, in writing, is to be made, by the Commanding Officer to the Deputy Adjutant General of the District for transmission to Head Quarters, (See p. 191, R. and O.)

No. 3.

EXAMINATION BY BOARDS OF OFFICERS.

Regulations.

1. The following Regulations relating to the examination by Boards of Officers of Candidates for appointment or promotion in the Infantry of the Active Militia, are published under authority of Section 33 of the Militia and Defence Act of 1868, for the information and guidance of all concerned.

2. The certificates to be obtained will be known as 1st and 2nd Class Certificates respectively.

(a.) First Class certificates will be granted to those who shall have proved themselves to the satisfaction of the Board, able to drill and handle a Battalion in the Field, and who shall have acquired a competent acquaintance with the internal economy of a Battalion.

(b.) Second Class Certificates will be granted to those who shall have proved themselves able to command a Company at Battalion drill, to drill a Company at "Company Drill," and who shall have acquired a competent acquaintance with the internal economy of a Company and the duties of a Company Officer.

3. Applications of intending Candidates for examinations should be made through the ordinary channel of communication to the Deputy Adjutant General of the District in which each candidate resides.

4. Whenever it may be considered desirable to assemble a Board, (which will be composed of the Deputy Adjutant General commanding the District and a Brigade Major) the Deputy Adjutant General will submit to Head Quarters for approval a series of questions for the class or classes of Candidates who may desire to be examined.

5. Upon the receipt by the Deputy Adjutant General of the approved questions, he will notify each Candidate of the time and place of meeting, and assemble the Board.

6. The number of questions shall not be less than "forty" on the subject of drill, and "ten" on arms and internal economy, in addition to which, "twenty" on the clauses of the Articles of War, the Militia Act and regulations regarding calling out troops in aid of the civil power.

7. The examinations will be in writing, and when held during the annual drill of Corps in the locality, an oral examination is to be held in addition.

8. Six hours will be allowed for the written examination.

9. The questions are to be dictated to, and be taken down, by each candidate, who will write the answers opposite each question, on half margin paper.

10. Candidates whilst under examination will not be permitted to leave the room, nor will conversation or books, or memoranda of any kind be allowed.

11. At least one member of the Board must always be present in the room during the examination.

12. The value of marks is to be recorded by the Board in *red ink* opposite each answer, as follows:

3 marks for a perfect answer.
2 do partially perfect answer.
0 do an imperfect answer.

13. In order to pass the examination, each candidate must have answered two-thirds of the questions, perfectly.

14. The Board to mark in *red ink* their correction of any mistakes and to certify in each case that the candidate has not received any assistance from books or other sources while undergoing the examination.

15. The proficiency of Candidates both at the oral and written examination must be certified to, and reported on by the Board.

16. The worked papers of the Candidates are to be transmitted by the Deputy Adjutant General to Head Quarters for approval, together with the proposed "Certificates," which will be registered and returned, if the papers are approved.

Certified Copy,
W. POWELL, Colonel,
Adjutant-General of Militia,
Canada.

HEADQUARTERS,
OTTAWA, 31st December, 1877.

APPENDIX No. II.

MILITARY COLLEGE.

ANNUAL REPORT.

*From Commandant, Military College, to Lieut-General Sir E. Selby Smyth, K.C.M.G.,
President of Military College and Commanding Militia, Dominion of Canada.*

SIR,—I have the honor to submit the following Report of the Military College for the year 1877 :—

*Presentation of Medals by the Right Honorable the Earl of Dufferin, K.C.B., K.P.,
G.C.M.G., Governor General of Canada, for competition by Cadets.*

2. Since the date of my last annual report His Excellency the Right Honorable the Earl of Dufferin authorized me to signify his intention of presenting a gold, a silver and a bronze medal for competition among the cadets.

This medal bears the name of the "Earl of Dufferin" Medal, and is to be awarded to the cadet who, from the date of his joining the Military College to the date of presentation, obtains the greatest number of marks for combined moral, intellectual and physical qualities, *i.e.*, to be the most distinguished cadet of his period.

The bronze medal to be presented in June, 1877; the silver in June, 1878; and the gold in June, 1880.

This liberal and considerate gift of His Excellency is of great value, not only as an incentive to exertion by the cadets, and when won as an honorable and lasting badge of success achieved, but as an expression of the interest His Excellency takes in the progress of the Canadian Military College.

Successful Competitor for Earl of Dufferin Medal for 1876.

3. No. 1, Corporal A. Wurtele, had the high and well deserved distinction of receiving the Earl of Dufferin bronze medal for June, 1877. This cadet passed first at the competitive examination for the Military College, held in February, 1876, and maintained his leading position by conduct, industry and ability.

Corporal Wurtele gained the medal with the aggregate of 2,793 marks out of a maximum total of 3,345; the cadet next to him (Corporal A. Perry) having 2,753.

Presentation of their Publications by British Military Institutions to the Cadets, Military College.

4. The Committees of the Royal United Service Institution, of the Royal Artillery Institute, and of the Royal Engineer Institute, respectively, either have, or shortly will, intimate officially their intention of presenting to the Library of the Canadian Military College copies of their periodical publications. These papers will be of great value to the College, as the issues from each Institution are frequent, are of a highly interesting and scientific nature, and by no means limited to strictly military subjects.

Detail of Classes, Cadets, &c.

5. The second term commenced on 4th February, with two classes for instruction, *viz.*: 8th and 7th, respectively containing 12 and 16 cadets; and the third term commenced 10th September, with three classes, *viz.*: 8th, 7th, 6th, of respectively 13, 12 and 13 cadets.

Appendix A gives a list of the successful candidates since my Annual Report for 1876, the marks they obtained, their age on joining the Military College, and the establishments in which they were previously educated.

Appendix B gives full detail information of the Winter Half-Yearly Examination just concluded.

Appendix C gives the names of the cadets who have won prizes during the year, with the subjects and classes in which they obtained them.

Appendix D gives a nominal roll of the cadets, with their classes, as selected for next Term.

Of 44 cadets at present on the roll, 10 were born, and one more has permanent residence, in the Province of Quebec, 7 in New Brunswick, and 2 joined the Military College from Manitoba, the remainder belonging to Ontario. The nature and advantages of the Military College appear to be insufficiently known in Nova Scotia, Prince Edward Island and British Columbia.

I beg to recommend that steps be taken to ensure greater publicity to the Military College in these Provinces.

Subjects of Instruction.

6. Four new subjects of instruction have been commenced since the date of my last Report, the instruction of the several classes having, in accordance with regulations, been as follows, —

8TH CLASS.

Mathematics.
French.

Geometrical Drawing.
German.

7TH CLASS.

Mathematics.
Fortification.
German

Geometrical Drawing.
French.
Military Topography and Surveying.

6TH CLASS.

Mathematics.
Fortification.
German.
Artillery (Theory of)

Descriptive Geometry.
French.
Military Topography and Surveying.
Military Administration and Law.

I regret that some of the instruction in military history and administration, &c., which according to regulations should have been taught to the cadets of the 6th Class, has had to be postponed till next term, in consequence of it having been found necessary to detail the Instructor for these subjects to assist in teaching mathematics and artillery.

This difficulty will not recur, as provision has now been made for adequate instruction in mathematics and artillery for the ensuing year.

Drills and Exercises during 1877.

7. Facilities for artillery drills and exercises having been provided, the cadets of the 2nd and 3rd terms have attained considerable knowledge in this arm, and those of the 1st term have shown the same aptitude as their predecessors in acquiring proficiency in infantry drill.

The provision of a complete battery of four field guns of less weight than the 9-pounder R. M. L. is desirable and recommended, as the 9-pounder gun is too heavy to manœuvre readily with man power only.

Guard mounting, sentry duty, tent pitching, &c., have been practised.

The cadets have gone through a regular systematic course of rifle instruction resulting in very satisfactory target practice.

Swimming has been practised, and only two cadets are now deficient in this respect.

The provision by Government of an excellent temporary gymnasium, of a cricket ground, and of a boat for practising the useful acquirements of rowing and sailing, have been of great assistance to me in my endeavor to encourage among the cadets manly physical exercises, during their few leisure hours, and has been greatly appreciated by the cadets.

I consider that *out-door* amusements are not only beneficial, but essential, for the thorough training of youths of the age of the cadets, while undergoing close study for long periods. Arrangements having been made for affording competent and systematic instruction in gymnastics, fencing, &c., during the ensuing year, the cadets will now be able to obtain, with facility, and without danger, the full advantages of the appliances recently supplied.

Occurrence of Fire.

8. On 25th February a dangerous fire broke out in the cadet barracks, but the prompt, energetic and disciplined manner in which the cadets carried out the fire orders, as previously detailed, succeeded in suppressing the flames before very serious damage had been done.

The soldierlike order of the cadets on this occasion earned commendatory mention in the *Militia Gazette* 10th March, 1877.

Steps have been taken to lessen the probability of a recurrence of this danger, and fire escapes have been provided.

Inspection of College during 1877.

9. On the 2nd June the College was visited by the Honorable the Premier, who spent several hours in carefully inspecting the institution in every Department.

On the 20th June the College and cadets were inspected by you, when you also presented the "Earl of Dufferin" medal, and the prizes given by Government, to the cadets who were successful at the summer half-yearly examination.

On the 6th September His Excellency the Governor General, accompanied by Her Excellency the Countess of Dufferin, and Staff, honored the Military College with their presence. It is extremely gratifying to be able to report that all these inspections elicited expressions of high and complete satisfaction with all the arrangements and working of the College.

His Excellency the Governor General instructed me, under his own hand, to convey to the Staff and cadets his gratification at the success which had been attained in the organization of the institution, and his warm appreciation of all that he saw.

The Honorable the Ministers of Militia and Finance visited the College during the year, and in addition to many Canadians a not inconsiderable number of persons from Europe have also inspected it.

Conduct and Discipline.

10. The conduct of the cadets during the year has been thoroughly satisfactory, and those who have been appointed non-commissioned officers merit remark for the manner in which they have performed their duty and assisted to maintain discipline.

Various new appointments and promotions of cadets to different ranks of non-commissioned officer have been made. The mutual respect of the staff of the Military College and the cadets, and the good feeling of the latter among themselves has continued.

Health, Sanitary Condition, &c.

11. With the exception of an outbreak of measles among the cadets in the early part of the year, the health of the cadets has been excellent.

The sanitary condition of the College premises has been placed on a more satisfactory footing by the clearing away of many old cess-pits, &c., &c., but the water supply is still incomplete and defective, some cases of typhoid fever among the servants' families being attributable to this source.

Scarlet fever also appeared among the staff.

The spread of these diseases was checked by the precautions adopted; but their occurrence points to the necessity for hospital accommodation and a better water supply as soon as practicable.

Additional Subjects of Instruction for 1878.

12. The regulations as defined by Council, require that in order to fulfil the plan for the gradual development of the College the following additional subjects of instruction should be commenced during the ensuing year, viz.:—

1st. Freehand Drawing.

2nd. Experimental and Natural Sciences: Chemistry, Electricity, Geology.

3rd. Civil Engineering.

The fact that the cadets join the Military College practically without any previous instruction in drawing, either instrumental or freehand, is most disadvantageous to them, as it seriously retards their progress in more than one branch of instruction, and this absence of previous teaching makes it the more important that an instructor of freehand drawing be granted for the Military College, certainly not later than the commencement of September, 1878.

It may be hoped that so obvious a deficiency in the preparatory schools of the country may be met within a few years, as natural taste and ability among the cadets for freehand drawing is evidently not wanting.

The cadets of the senior class are now sufficiently advanced in general education and in powers of mind, to fit them for commencing with profit the study of the natural sciences and of civil engineering; and therefore it is almost unnecessary to mention the disadvantage it would be, both to the cadets and the country, to postpone commencing such highly important and practicable branches of education beyond the period contemplated by the regulations.

Steps should therefore be taken for the provision of instructors for these subjects by September, 1878, and ample time should be given for the selection of men of proved qualifications.

Additional Drills and Exercises during 1878.

13. The prescribed course of military drills and exercises culminates in military engineer practises and equitation, and both these should commence in September, 1878, provision for the necessary preliminary arrangements should therefore be made without delay.

A certain amount of stores, material, &c., will be required for the former, and for the latter a ride of about 15 horses will be requisite. The addition of this number of horses to the Kingston "A" Battery, School of Gunnery, would render the latter an effective Field Battery and at the same time enable it to provide the necessary facilities for the practice of equitation by the cadets of the Military College. My communication M. C. 1259, 20th October, 1877, and M. C. 1284, 6th November, allude in detail to the matter referred to in this (12) and the previous (11) paragraphs.

Military College Buildings.

14. The increased number of cadets renders the rapid completion and occupation of the new building for class rooms and mess establishment, still in course of construction, a necessity; and the advantages accruing from its early completion can

hardly be overrated. The building at present utilized for all purposes will then form an excellent barracks for 60 cadets, and also the much needed separation of the captain of cadets quarters from the cadet barracks.

Without this building the development of the College must have been entirely stopped, and similarly, in order to ensure that its gradual expansion, as intended, be not retarded, it is essential that the west wing of the cadet barracks be commenced early the ensuing spring. I would also strongly advocate the provision of a hospital, and of additional officers quarters.

The latter is rendered necessary by the distance of the College from Kingston, and the hours (7.15 a.m., to 9 p.m.) during which work has to be prosecuted.

I would further, both for economy, cleanliness, and safety from fire, recommend the erection of Petroleum Gas Works.

General result of Examination during year.

15. The general result of the examination held at the end of the spring and autumn terms, of the intermediate quarterly examinations, and of work during these terms, has been, on the whole, thoroughly satisfactory.

The number of cadets who have undertaken the voluntary study of German is gratifying and reflects credit on the Instructor of modern languages.

Result of Winter Half-yearly Examination. (Vide Appendices, B. 1, B. 2, B. 3.)

16. For detail of the winter examination just concluded, vide Appendices B. 1, B. 2, B. 3. The 6th class (which was the highest class at the examination just concluded) especially, have done remarkably well in every subject.

The 7th class still labors under the disadvantages consequent on the majority of its members (when in the 8th class) having joined the Military College at different periods, but several of the cadets comprising it shew marked ability and industry. The 8th class has passed an examination fully as good as any previous batch at the termination of its first term.

Report of Examiners.

17. The following Reports have been rendered by the several Examiners:—
Fortification, Descriptive Geometry and Geometrical Drawing, 6th 7th and 8th classes.

The whole of the 6th class have qualified and passed a very good examination in Fortification, and their answers in Descriptive Geometry shew that they have acquired considerable knowledge of a somewhat difficult subject, although the time at their disposal is very limited.

The 7th class (individuals excepted) have not done so well in Fortification as I anticipated. I attribute this to want of sufficient application. In Geometrical Drawing the 7th class has done very much better.

The 8th class may be congratulated on the progress they have made in Geometrical Drawing, especially considering that they have not received any instruction in drawing previous to joining the Military College.

They have worked well and taken full advantage of the opportunities afforded them.

Military Topography and Surveying, 6th and 7th classes.

The 6th class has passed a good examination in Military Topography and Surveying, having obtained an average of 85 out of 110 marks; and considering the short time the 7th class has been under instruction in these subjects, the work of this class is equally as good.

Theory of Artillery and Projectiles, 6th class.

The 6th class has passed an excellent examination in Artillery.

Military Administration and Law, 6th class.

The time which it has been possible to give to instruction of the 6th class in Military Administration and Law has been very brief.

The cadets evince much interest in these subjects, and the examination has shewn that the cadets have acquired all the information which was possible, and more than was expected.

Modern Languages, 6th, 7th and 8th classes.

The progress of the cadets in the 6th 7th and 8th classes during the year in both French and German, but more especially in the latter language, has been satisfactory.

As the time available for study of languages is necessarily not great, the very limited acquaintance with French, possessed by the cadets on joining the Military College, is much to be regretted.

Mathematics, 6th, 7th and 8th classes.

The Euclid papers of all the classes (viz. 6, 7, and 8,) are remarkably well worked, the majority of the 6th class having obtained over 90 per cent of the full marks allotted. With the exception of three cadets, the whole of the 6th class have taken up and counted marks on voluntary higher mathematics, and show considerable proficiency therein.

This is a most gratifying sign of a desire to obtain knowledge above that actually demanded from them. The working of the examination papers in algebra, in all the classes is not so good, as, although the papers set were rather difficult, they were such as should have admitted of a better result. In the 6th class Cadets Perry and Spelman, in the 7th class Cadet Laurie, and in the 8th class Cadet Coryell, give great promise of becoming great mathematicians. I am thoroughly satisfied with the general result of the examination in mathematics, but many of the cadets do not yet show that capability for intelligently reading up book work by themselves, which I hoped for from their natural ability.

General ability and progress of Cadets.

18. From the rapid but sound progress of many of the cadets since they joined the Military College, I am perfectly satisfied that at the end of their full course of four years (viz: June, 1880) the cadets of the then 1st class will be composed of young men of as high ability and education, and I trust of equally high moral and physical qualities, as any country or Government could obtain or desire, for its servants in any Department of the Public Service.

Charge of Cadets by Instructional Staff.

19. The time has now come for rendering it advisable to distribute the cadets into divisions, and to bring the instructional staff into more intimate relationship with the cadets, by requesting the Military Instructors to undertake the supervision of divisions, and I trust that every facility will be given me to effect this most desirable arrangement, which is not only the best, but also the most economical organization practicable.

Assistance afforded by Staff.

The Staff, both superior and subordinate, have assisted me with energy and ability.

The, as yet, incompetent organization of the College has necessarily demanded from the Staff, unusual and arduous labour, and this has been cheerfully and zealously accorded by all.

The ability and great experience in instruction of Major Kensington, Royal Artillery, has been of special value.

I have the honour to be, Sir,

Your obedient servant,

E. O. HEWETT, Lieut.-Colonel,

Commandant, Military College.

APPENDIX A TO ANNUAL REPORT, MILITARY COLLEGE.

LIST of successful Candidates for Cadetships during the year 1877.

Names of Cadets.	Age on joining Military College.	Where Educated.	Marks obtained at examination for entrance to Military College.	Remarks.
	Years			
Doucet, A. E.	17	Montreal College, Montreal, P.Q.	6,515	Joined 2nd February, 1877.
Gibson, J. G.	17	Dunham Academy, Quebec	7,110	
Laurie, R. C.	19	Manitoba College, Winnipeg	6,646	
Ross, A. B.	16	Goderich High School, Goderich, Ont.	6,507	Joined 2nd April, 1877.
Bridges, W. T.	16-2	Trinity College School, Port Hope, Ont.	5,378	
Clarke, G. C.	16-3	Grammar School, Kingston, Ont.	5,645	
Coryell, J. A.	16-2	do Strathroy, Ont.	2,596	
Dunscumb, W. G. B.	14-9	High School, Quebec	4,671	
McVicar, J. M.	18-7	Manitoba College, Winnipeg	4,030	
Shanly, C. W.	17-11	Upper Canada College, Toronto, Ont.	3,346	
Van Straubenzee, A. H.	15-5	Trinity College School, Port Hope, Ont.	5,863	
Campbell, H. M.	16-6	Collegiate School, Fredericton, N.B.	9,209	
Daniel, A. W.	16-10	Grammar School, St. John, N.B.	3,304	
Drury, E. H.	18-2	do do	2,377	Joined 8th September, 1877.
Ford, E.	15-2	Collegiate Institute, Kingston, Ont.	4,424	
Graham, W. J.	19	Everet School, Tossoronto Towns'p, Ont.	1,577	
Greig, W. R.	18	High School, London, Ont.	6,729	
Hubbell, E. W.	15	Collegiate Institute, Kingston, Ont.	2,401	
Kent, R. E.	15-11	do do	2,926	
Shaw, G. W.	16-3	High School, Quebec	7,546	
Cartwright, R.	17	Dr. Barron's, Rice Lake.	4,613	
Hogan, H. H.	15	Collegiate School, Montreal.	4,643	
Mackay, H. B.	19	Not yet known.	8,200	
McIlhinney, W. J.	15	Brockville High School.	3,100	Passed entrance examination, December, 1877.
Sears, J. W.	16	Grammar School, St. John, N.B., and Collegiate School, Galt, Ont.	3,246	
Yates, B. W.	18	Dr. Barron's, Rice Lake.	3,881	

E. O. HEWETT, Lt.-Colonel,
Commandant, Military College.

KINGSTON, 16th January, 1878.

APPENDIX B (1).—Military Colloge Examination

Term.	Class.	Order in Class before Examination.	NAMES IN ALPHABETICAL ORDERS.	OBLIGATORY.													Totals.					
				A	A	A	A	A	B	B	B	B	A	B								
				Mathematics.	Fortification.	Artillery.	Military History, Strategy and Tactics, and Administration and Law.	Military Topography and Surveying.	French.	German.	Chemistry.	Electricity.	Geology.	Frechand Drawing and Painting.	Geometrical Drawing and Descriptive Geometry.	Drills.	Gymnastics.	Equitation.	Swimming.	N.-C. Officers and Cadets.	Conduct.	
				900	350	200	200	250	150	150				200	75			10	200		2,685	
				450	175	100	100	125	50	50				66		42			66			
3rd Term.	6th Class.	2	Perry, A.....	Ob.	795	290	196	199	208	83				170	75			10	200		2,226	
				Cd.	795	290	196	199	208	83				170	75			10	200		2,226	
3rd Term.	6th Class.	11	Rivers, V.....	Ob.	521	236	170	178	177	54				122	69			10	200		1,737	
				Cd.	521	236	170	178	177	54				122	69			10	200		1,737	
3rd Term.	6th Class.	6	Spelman, J.....	Ob.	789	269	196	190	195	52				174	63			10	198		2,136	
				Cd.	789	269	196	190	195	52				174	63			10	198		2,136	
3rd Term.	6th Class.	5	Wise, H.....	Ob.	599	206	172	188	194	123				158	63			10	200		1,913	
				Cd.	599	206	172	188	194	123				158	63			10	200		1,913	
3rd Term.	6th Class.	1	Wurtele, A.....	Ob.	635	262	185	191	236		103			173	51			10	200		2,046	
				Cd.	635	262	185	191	236		103			173	51			10	200		2,046	

Returns—Sixth Class—&c.—Continued.

Term.	Class.	Order in Class before Examination.	NAMES IN ALPHABETICAL ORDERS.	VOLUNTARY.													Totals.	Grand Totals.	OBLIGATORY AND VOLUNTARY.	REMARKS.				
				A	A	A	A	A	B	B	B	B	A	B										
				Mathematics.	Geometrical Drawing and Fortification.	Artillery.	Military History, Strategy and Tactics, and Administration and Law.	Military Topography and Surveying.	French.	German.	Chemistry.	Electricity.	Geology.	Frechand Drawing and Painting.	Civil Engineering.	Geometrical Drawing and Descriptive Geometry.	N.-C. Officers only eligible.	Discipline.						
				400					150	150						100	50							
									50	50						33	16							
																	825 or 850, according to term.							
																	3,510 or 3,535, according to term.							
3rd Term.	6th Class.	2	Perry, A.....	Ob.	334											51	38				539	2,765		
				Cd.	334												51	38				539	2,765	1
3rd Term.	6th Class.	11	Rivers, V.....	Ob.													25	46				46	1,783	
				Cd.														25	25				25	1,762
3rd Term.	6th Class.	6	Spelman, J.....	Ob.	290											81	25				448	2,584		
				Cd.	290												81	25				448	2,584	3
3rd Term.	6th Class.	5	Wise, H.....	Ob.	118												38	240				240	2,153	
				Cd.	58													38	180				180	2,093
3rd Term.	6th Class.	1	Wurtele, A.....	Ob.	187											34	38				339	2,385		
				Cd.	187												34	38				339	2,385	4

If not Qualified, Subjects to be specified.
If 1st or 2nd in any Subject, Subject to be specified.

Class.
1st. Mathematics.
1st. Military History.
1st. German.
1st. Artillery.
2nd. Fortification.

1st. Descriptive Geometry.
2nd. Mathematics.
2nd. Artillery.

1st. French.
2nd. German.

1st. Military Topography and Surveying.

E. O. HEWETT, Lt.-Colonel,
Commandant, Military Colloge.

APPEN

MILITARY COLLEGE Examination Return—Seventh Class—COMBINED

OBLIGATORY.

Term.	Class.	Order in Class before Examination.	NAMES IN ALPHABETICAL ORDER.	OBLIGATORY.													Totals.	Remarks.					
				A	A	A	A	A	B	B	B	B	A	B									
				Mathematics.	Fortification.	Artillery.	Military History, Strategy and Tactics, and Administration and Law.	Military Topography and Surveying.	French.	German.	Chemistry.	Electricity.	Geology.	Freehand Drawing and Painting.	Geometrical Drawing and Descriptive Geometry.	Drills.	Gymnastics.	Equitation.	Swimming.	N.-C. Officers and Cadets.	Conduct.		
			Maximum marks allotted.....	800	300			150	125	125					150	75				10	200 or 150	1,885 or 1,935 according to term.	
			Maximum marks allowed to count.....	400	150			75	41	41					50		42				50		
2	7	11	Clark, G.....	{ Ob. 537 Cd. 537	172			112	81						70	63			10	142	1,187		
3	7	9	Davis, F.....	{ Ob. 488 Cd. 488	181			102	54						78	63			10	156	1,132		
3	7	4	Denison, S.....	{ Ob. 512 Cd. 512	213			133		68					105	69			10	195	1,305		
2	7	8	Doucet, A.....	{ Ob. 478 Cd. 478	134			94	123						76	69			8	145	1,127		
2	7	12	Dunscombe, W..	{ Ob. 400 Cd. 400	158			97		88					76	44			8	145	222		
2	7	3	Gibson, J.....	{ Ob. 628 Cd. 628	177			109	95						76	44			10	131	1,004		
3	7	10	Irving, L.....	{ Ob. 408 Cd. 408	227			106							79	75			10	128	1,301		
								106		105					102	75			10	193	1,226		

DIX B (2.)

SUBJECTS—from September, 1877, to January, 1878.

VOLUNTARY.

Term.	Class.	Order in Class before Examination.	NAMES IN ALPHABETICAL ORDER.	VOLUNTARY.													Totals.	Grand Totals.	Remarks.
				A	A	A	A	A	B	B	B	B	A	B					
				Mathematics.	Geometrical Drawing and Fortification.	Artillery.	Military History, Strategy and Tactics, and Administration and Law.	Military Topography and Surveying.	French.	German.	Chemistry.	Electricity.	Geology.	Freehand Drawing and Painting.	Civil Engineering.	Geometrical Drawing and Descriptive Geometry.	N.-C. Officers only eligible.	Discipline.	
			Maximum marks allotted.....	200					125	125							50		
			Maximum marks allowed to count.....														16		
2	7	11	Clark, G.....						41	41									
3	7	9	Davis, F.....								49								
3	7	4	Denison, S.....																
2	7	8	Doucet, A.....																
2	7	12	Dunscombe, W..								79								
2	7	3	Gibson, J.....																
3	7	10	Irving, L.....																

If not Qualified, Subjects to be specified.
If 1st or 2nd in any Subject, Subject to be specified

1st. Military Topography and Surveying.
1st. Geometrical Drawing and Descriptive Geometry.
Not qualified, 'Fortification.'
2nd. French.
1st. Fortification.
1st. German.
2nd. Geometrical Drawing and Descriptive Geometry.

APPENDIX C TO ANNUAL REPORT, MILITARY COLLEGE.

RETURN of Cadets who have received Prizes during the year 1877.

Class.	Subject of Award.	Recipient.	Examination.	Remarks.
VIII.	Class.....	Wurtele, A., Corpl.....	February, 1877.	
	Mathematics.....	Perry, A., Lance-corpl.....		
	Geometrical drawing.....	Irving, L., Corpl.....		
	French.....	Wise, H., Lance-corpl.....		
	German.....	Irving, L., Corpl.....		
VII.	"Earl of Dufferin Medal," for general proficiency from date of joining to June, 1877.....	Wurtele, A., Corpl.....	June, 1877.	
	Class.....	Perry, A., Corpl.....		
	French.....	Freer, H., Corpl.....		
	Military topography and surveying.....	Wurtele, A., Corpl.....		
	Fortification and geometrical drawing.....	Perry, A., Corpl.....		
VIII.	Mathematics.....	Spelman, J., Lance-corpl.....	January, 1878.	
	Geometrical drawing.....	Irving, L., Sergt.....		
	Modern languages.....	Reed, T., Cadet.....		
	Class.....	Laurie, R., Cadet.....		
	Mathematics.....	Perley, G., Corpl.....		
VI.	Class.....	Reed, T., Cadet.....	January, 1878.	
	Mathematics.....	Perry, A., Corpl.....		
	Fortification and geometrical drawing.....	do.....		
	Military topography and surveying.....	McPherson, D., Corpl.....		
	French.....	Wurtele, A., Corpl.....		
VII.	German.....	Wise, H., Lance-corpl.....	January, 1878.	
	Class.....	Perry, A., Corpl.....		
	Mathematics.....	Laurie, R., Cadet.....		
	Fortification and geometrical drawing.....	do.....		
	Military topography and surveying.....	Irving, L., Sergt.....		
VIII.	French.....	Denison, S., Cadet.....	January, 1878.	
	German.....	Laurie, R., Cadet.....		
	Class.....	Irving, L., Sergt.....		
	Mathematics.....	Laurie, R., Cadet.....		
	Fortification and geometrical drawing.....	Irving, L., Sergt.....		

E. O. HEWETT, Lieut.-Colonel,
Commandant, Military College.

KINGSTON, ONT., 16th January, 1878.

APPENDIX D TO ANNUAL REPORT, MILITARY COLLEGE.

NOMINAL ROLL of Cadets, their Classes for next Term, and positions therein, as determined by aggregate marks, from date of joining to 31st December, 1877.

Names.	Class.	Order as determined by Aggregate Marks.	Remarks.
Cochrane, J., Cadet.....	Fifth.....	12	
Davis, W., Lance Corporal.....	".....	7	
Des Brisay, C., Corporal.....	".....	9	
Dixon, F., Lance Corporal.....	".....	13	
Fairbank, C., do.....	".....	10	
Freer, H., Corporal.....	".....	8	
Keefer, H., Serjeant.....	".....	4	
McPherson, D., Corporal.....	".....	3	
Perry, A., do.....	".....	1	
Rivers, V., Lance Corporal.....	".....	11	
Spelman, J., do.....	".....	5	
Wise, H., do.....	".....	6	
Wurtele, A., do.....	".....	2	
Clarke, G., Cadet.....	Sixth.....	8	
Davis, F., do.....	".....	9	
Denison, S., do.....	".....	5	
Doucet, A., do.....	".....	10	
Dunscorn, W., Cadet.....	".....	11	
Gibson, J., do.....	".....	3	
Irving, L., Serjeant.....	".....	6	
Laurie, R., Cadet.....	".....	1	
Reed, T., do.....	".....	2	
Ross, A., do.....	".....	4	
Van Straubenzee, A., Cadet.....	".....	7	
Bridges, W., Cadet.....	Seventh.....	3	
Campbell, R., do.....	".....	4	
Coryell, J., do.....	".....	1	
Daniel, A., do.....	".....	10	
Ford, E., do.....	".....	9	
Greig, W., do.....	".....	8	
McVicar, J., do.....	".....	6	
Perley, G., Corporal.....	".....	2	
Shanly, C., Cadet.....	".....	7	
Shaw, G., do.....	".....	5	
Cartwright, R., Cadet.....	Eighth.....	7	
Drury, E., do.....	".....	2	
Graham, W., do.....	".....	3	
Hogan, H., do.....	".....	6	
Hubbell, E., do.....	".....	4	
Kent, R., do.....	".....	1	
MacKay, H., do.....	".....	5	
McIlhinney, W., do.....	".....	10	
Sears, J., do.....	".....	9	
Yates, E., do.....	".....	8	

E. O. HEWETT, Lieut.-Colonel,
Commandant, Military College.

KINGSTON, ONT., 16th January, 1878.

(Addition to Appendix No. 1.)

MILITARY DISTRICT No. 11.

HEADQUARTERS,

VICTORIA, B. C., 20th December, 1877.

SIR,—I have the honor to forward my Annual Inspection Report of the Militia in this Military District, for the information of the General Officer Commanding the Canadian Militia.

It will be seen, on reference thereto, that the musters of the various companies comprising the force in this Province can scarcely be considered satisfactory. This, however, was chiefly owing to the numerous changes which had then recently, and are still, taking place, with regard to the commanding officers of these corps, as well as the men themselves.

That these changes will eventually prove beneficial, I have no doubt whatever, and I have, therefore, much confidence in predicting a far more gratifying result at my next annual inspection.

The entire authorized strength of the Militia in this District is at present only two hundred officers and men, exclusive of staff and band.

New Westminster Rifles.

I commenced my inspection at New Westminster, on the 5th December, with the New Westminster Rifle Corps, (the Seymour Artillery not being available for inspection, for the reasons hereinafter stated) which mustered—officers, 3; non-commissioned officers and privates 24, total 27.

The arms and accoutrements, &c. of this company were in excellent order, but the clothing is much worn, and in some instances almost unfit for service. This, of course, may be expected as the greater portion has been in use for four years, and many of the young men have outgrown their tunics.

The men were exercised in company drill, including skirmishing and the manual and firing exercises, both by Capt. Peele and Lieut. Bonson, in all of which they acquitted themselves very creditably, both to officers and men.

This company is nearly up to its established strength of forty, rank and file, only wanting two to complete at the date of inspection, and although only 24 were present on parade, Captain Peele's state shows that only one man was absent without leave, and the remaining absentees could not have attended without serious inconvenience and pecuniary loss, but are available, as I am informed by Captain Peele, whenever required for service. I have no reason for doubting his statement, as on the occasion of the anticipated riot at Wellington in April last, they turned out very creditably at the shortest possible notice.

Seymour Artillery.

Lieut. Scott, commanding the Seymour Artillery, informed me that it was impossible for him to muster his corps for inspection, as owing to his being about to resign command of the corps, in consequence of having ceased to reside at New Westminster, he was in process of calling in all the stores belonging to the Battery for which he is responsible.

At his request I held a private meeting of the corps on the 7th instant, on which occasion I learned from those who attended (in all eight men) that the corps had recently for various reasons become thoroughly disorganized.

I therefore consented to recommend the disbandment and re-organization of the Seymour Artillery as the best and surest method of replacing it in a state of efficiency.

With this view I have directed Lieut. Scott to hand over the arms, accoutrements and clothing, &c. in possession of his corps to Capt. Peele, and I have placed a service roll in the hands of Sergt. Brown, whom I have selected to obtain the necessary signatures for the new organization. Since doing so I learn from him that the matter progresses favorably, and I hope in a few days to be able to forward a complete roll to headquarters for submission to the General Officer commanding. The new corps in process of enrolment will consist entirely of residents within the city of New Westminster and its immediate vicinity, who take considerable interest in the organization.

Lieut. Scott's resignation will be forwarded to headquarters as soon as he obtains the necessary transfer receipt.

Drill Shed.

The drill shed at New Westminster is in good repair, but requires two new stoves, those already there, which were supplied some years ago by the New Westminster Rifle corps, at their own expense, being now nearly worn out.

I have also here to state that Captain Peele has been notified by the City Council that, in accordance with a by-law recently passed, the stoves must be provided with brick chimneys before they can again be used.

Some lamps being likewise required, I have directed Captain Peele to prepare an estimate of the cost of these articles and alterations, for submission to headquarters.

Guns.

Lieut. Scott, commanding Seymour Artillery, reported to me that when recently removing one of the 24-pounder brass guns from the open platform to the drill shed for winter drill purposes, one of the wheels had broken down completely.

On examination of the broken wheel I found it to be thoroughly rotten. This was temporarily replaced by one taken off one of the limbers; but I find the entire carriage is scarcely any better than the wheel, and I consider it would be very unsafe to attempt to use the gun for practice in its present condition. The other carriage appears to be in somewhat better condition, however, and as the guns themselves are of little value except for the material in them, I would not recommend any money being spent in repairing them.

Harness.

There are ten complete sets of good harness, and five saddles belonging to them, in thorough repair, with the exception of the saddle linings, which have been destroyed by moths.

Ammunition.

There are also about 150 rounds of shot and shell of various sorts, with fuzes to match, and a small quantity of powder in store and magazine, all of which I inspected while at New Westminster.

Victoria Rifles.

I inspected the Victoria Rifles Nos. 1 and 2 Companies, on the 10th instant, and although their muster was also rather slack, it shows a slight improvement on last year's inspection parade. The arms and accoutrements were in good order, but the clothing very shabby.

The two companies were formed into one and exercised in skirmishing by Brevet Major Rosecoe, commanding No. 1 Company; drill by Capt. Vinter, commanding No. 2, and manual and firing exercises by Lieut. Wolfenden, all of which were very creditably performed.

Band.

The band mustered eleven musicians, who have improved very considerably in proficiency since last inspection, and do a good deal of credit to the Bandmaster, Mr. Haynes. Inspected their instruments, and found them in good order.

Nanaimo Rifles.

I inspected the Nanaimo Rifle Company, under the command of Ensign Harvey (recommended for Capt.), on the 12th December. Under existing circumstances, I did not expect much from this company, and was, therefore, scarcely disappointed at finding only sixteen rank and file present on parade. This company has had less opportunity of attaining proficiency than any other in the district, for reasons fully explained in previous communications on this subject, but I have much confidence in stating that in another year they will be second to none in this Province, as Ensign Harvey is a zealous and popular officer, and takes considerable interest in promoting the efficiency of the corps, now virtually under his command, although his name has not yet appeared in the *Gazette* as Captain.

On inspection I found the arms, accoutrements and clothing of this company in good order, and a few simple movements by fours were fairly executed.

As the company is almost entirely composed of recruits, and Ensign Harvey has only taken them in hand recently, pending his promotion, I considered the result of my inspection satisfactory, and I feel satisfied that at my next annual inspection I shall be able to report upon them as equal to any other in the district.

They, however, labor under considerable disadvantages, having no drill shed, and being, therefore, obliged to pay rent for the use of a small city-hall, in which they are obliged to assemble for drill in inclement weather or whenever their drills take place at night.

On those occasions the cost of lights is also an additional grievance shared alike by them and the New Westminster corps, each having hitherto been obliged to pay for their own lamps and coal oil.

I shall also take this opportunity of stating that, both at New Westminster and Nanaimo, good rifle ranges have been established, entirely at the expense of the officers, and, in some instances, also of the men of the different corps embodied in these localities; and, although one hundred dollars (\$100) would not cover the expenditure in either case, I am given to understand that a gratuity of this amount would be gratefully received by each party in full re-imbursment of such expenditure, and I confidently recommend the adoption of this course as that best calculated to place the Militia of this Province on a popular footing.

In conclusion, I beg to state that a little liberality on the part of the Government would, in my opinion, be well expended in popularizing the Militia organization in this Province, which has hitherto devolved too much upon the officers of the corps, and in many instances upon the men themselves.

Should such a course be adopted, I have no hesitation in stating that not only could the present organization be kept up to its full authorized strength in this Dis-

trict, but also, that should occasion at any time arise, the force could be doubled or even trebled if necessary, at the shortest possible notice.

In corroboration of this statement I beg leave to inform you that I have now before me two applications for the formation of two full corps, distinct from any at present existing, and bearing signatures sufficient in warranting my assertion.

One comes from the neighborhood of New Westminster, on the mainland of British Columbia, known as "The Serpentine," and the other from "Wellington," in the vicinity of Nanaimo, on Vancouver Island.

They have not been forwarded, as I have received no notification that an increase to the establishment was contemplated in this Military District.

They are, however, forthcoming at any moment they may be required.

Having before fully reported with regard to the unpopularity of the present uniform—more especially the forage cap—I need make no further reference to this subject on the present occasion.

I would, however, respectfully suggest the advisability of allowing the *drill season* in this District to count from the 1st of January to the end of November, or date of inspection; as the most available portion of the year, viz., the spring and early part of the summer is under the present arrangement excluded, confining the season to the very fine months during which the majority of the men constituting the Militia of this Province are necessitated by their business occupations to be absent from their corps.

The present system has also the effect of invariably delaying the date of my annual inspection, as owing to the shortness of the season the companies are always behindhand with their drill and target practice, and the officers commanding corps consequently request me to postpone my inspection to the latest possible moment.

Were this alteration made I should always endeavour to complete my annual tour before the end of November, and thereby not only avoid the most inclement portion of the season for travelling, but also be enabled to inspect the Militia—as a general rule—in more favorable weather, and transmit my Report to headquarters in better time.

I have the honor to be, sir,

Your obedient servant,

C. F. HOUGHTON, Lt.-Colonel,

Deputy Adjutant General, Military District No. 11.

The Adjutant-General of Militia,
Headquarters, Ottawa.

(Addition to

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.		Muster.			Whether in Camp or otherwise.	Miles. Mode.	Distance the several Corps had to proceed to Muster, and mode of transport.
Battalion or Corps.	Companies.	Corps.	Corps.	Place.	Date.	Number of days' drill performed.				
	Commanding Officer and Head Quarters.	Officers.	N.-C. O. and Men.	Officers.	N.-C. O. and Men.					
New Westminster Rifles.....	1 Capt. Peele, New Westminster....	3	40	3	24	New Westminster.	Dec. 5 12	Company Head-quarters.		
Seymour Artillery.....										
Victoria Rifles...	1 Bt.-Major Roscoe, Victoria	3	40	2	22	Victoria	Dec. 10 12			
do ...	2 Capt. Vinter, Victoria	3	40	1	25	do	do 10 12	do		
Nanaimo Rifles ..	1 Ensign Harvey, Nanaimo.....	3	40	1	16	Nanaimo	Dec. 12 12	do		

Appendix No. 2.)

performed the Annual Drill for 1877-78.—Continued.

Time required to concentrate the Battalion or Corps.	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.	Number of Non-exercised Men, if any.	Target Practice.		Date of Inspection.	Date when drill was completed.	REMARKS.
								Battalion.	Company.			
		Good.	No.	As reported.	Company drill and skirmishing, manual and firing exercise.	Yes.			Dec. 5	Dec. 5	Target Practice Returns not received.	
		Good.	11 good musicians.	do	do	do		29.40	Dec. 10	Dec. 10	Target Practice Returns forwarded.	
		Good.		do	Movements by fours.	do		32.5	do 10	do 10		
		Nil.									Not Inspected.	
		Nil.									None exercised in Target Practice.	