

SESS. II.—1891.  
NEW ZEALAND.

## REPORT ON THE NEW ZEALAND FORCES.

*Presented to both Houses of the General Assembly by Command of His Excellency.*

The ACTING UNDER-SECRETARY for DEFENCE to the Hon. the DEFENCE MINISTER.

SIR,—

Defence Office, Wellington, 1st July, 1891.

I have the honour to submit, for the information of His Excellency the Governor, Commander-in-Chief, the annual report upon the Permanent Militia and Volunteer Forces of the colony, together with a report from Mr. Bell, Engineer for Defences, dealing with the general progress and construction of harbour-defence works. Before proceeding I must point out that, as I only took charge of this department on the 1st April last, after the expiration of both the financial and Volunteer years, I am unable to furnish as complete a report as I should have wished.

*Permanent Artillery.*—The officers, non-commissioned officers, and gunners of this branch of the service have been brought up to a good state of efficiency in gunnery, small-arms drill, and theoretical instruction, signalling, &c., and the state in which the batteries, guns, and appliances are kept reflects credit on all concerned. All available non-commissioned officers and gunners at Dunedin and Lyttelton were, during last summer, brought to head-quarters for the purpose of undergoing a course of scientific gunnery, and attending lectures on guns, explosives, &c., with a view of their acquiring such technical knowledge as is indispensable for the proper performance of their duties. This experiment was attended with very satisfactory results, and at the conclusion of the course of instruction the men rejoined their batteries. The usual annual target-practices have been carried out during the year without accident, and the Force have generally proved themselves accurate shots, but the limited amount of ammunition fired on account of the expense attending practices with service-ammunition is calculated to interfere with efficiency. It is hoped, however, that ere long the Morris tubes which have been ordered from Home will arrive for the 6in. and 8in. B.L. guns when a considerable saving should be made annually by the use of these tubes for ordinary target-practice. The services of the officers and non-commissioned officers have been extensively utilised in instructing the Volunteers, and I am pleased to be able to report that the best possible feeling exists between these two branches of the Forces, the Volunteers freely admitting that the teaching imparted to them by the Permanent Artillery has been most valuable and beneficial, while they are loud in their praises of all ranks of the Permanent Forces for the trouble, patience, and forbearance they have shown at all times when instructing them. A detachment of the Permanent Artillery was detailed for duty, with the Volunteers, at the Easter Camp, at Palmerston North, which was duly appreciated by the Volunteers and produced good results as furnishing an example of drill and discipline which many corps will endeavour to follow, as well as supplying a want, that the Volunteers hitherto have had no opportunity of seeing a thoroughly-efficient and well-drilled corps which they might be stimulated to emulate.

*Transfers.*—During the past year twenty-four gunners have been transferred to the Police Force, ten to the Prison Department, and two non-commissioned officers to the Volunteer Force as Staff Instructors. These officers have given satisfaction in their new departments, and during the labour-troubles the Permanent Artillery rendered very valuable service to the Police, by assisting them in street-patrol duties, and maintaining order generally, which undoubtedly saved the colony considerable expense and trouble.

*Torpedo Corps and Submarine Miners.*—This branch of the service during the past year has been kept up to its usual state of efficiency, under Captain Falconer, by constant instruction and drill in the various duties appertaining to this particular and important corps. The appliances in charge are kept always ready for use, and, in the event of necessity arising, minefields would be laid out at the shortest possible notice. The torpedo-boats and torpedoes are in serviceable order and carefully and well kept. It is with deep regret that I have to report a fatal accident in connection with this corps by an explosion of gun-cotton, whereby two torpedo-men lost their lives and a third was seriously injured. Every endeavour was made to ascertain the cause of this accident, and the thanks of the department are specially due to His Excellency the Governor for his

exertions in obtaining from His Excellency the Admiral the services of two expert naval officers, who held a most exhaustive inquiry into the matter, obtaining a mass of information on the system adopted in the colony for carrying out torpedo- and submarine-work, and furnishing a valuable report containing recommendations and suggestions which have been adopted and carried out, and which should prevent the possibility of a similar disaster. It may be stated in justice to all concerned that this is the only accident that has happened since the corps has been enrolled.

During the year four torpedo-men have passed for and obtained Marine Board certificates as river-engineers, and several more are nearly ready to present themselves for examination. Like the Artillery branch, the officers and petty officers have been extensively employed as Instructors in submarine-mining work to the Naval Artillery Volunteers, and the progress made in this work under these Instructors is alike creditable to masters and pupils. The drill is popular, and very soon there will be a considerable number of efficient submarine miners in our Volunteer Force, a very valuable contingent in war-time.

*Recruits.*—The recruits who have joined both the Artillery and Torpedo branches during the past year have been mostly colonials and the greater portion New-Zealand born. They are robust, active, intelligent and subordinate, calculated to make good soldiers, and as a rule anxious and impatient to become efficient, and as there is a long list of applicants for enrolment, who from their appearance, character, trade, and physique should do well in the Force, there is no likelihood of any dearth of recruits. It is hoped that men transferred to the Police, Prisons, &c., will not be entirely lost to the Permanent Force, but that arrangements will be made which will enable these men yearly to undergo at least a fortnight's course of gun-drill, &c., and thereby to retain their practical knowledge of guns and artillery should they be at any time required to assist in manning the batteries.

*Conduct.*—The conduct of the Permanent Force generally has been good: there have been cases of drunkenness, absence without leave, and the like, but really serious-offences have been very rare.

*Officers.*—The changes amongst the officers during the past year have been the retirement of one captain on account of retrenchment, his place being filled by the transfer of the staff-officer to battery duty, the services of a staff-officer being dispensed with.

*Volunteers.*—On the 31st December last the strength of the Volunteer Force of the colony was 6,700 of all ranks, as against 7,719 at the close of the previous year, and of those numbers 4,939 earned capitation last year, as against 5,758 in 1889. Too much reliance should, however, not be placed on the actual strength shown above those who earn capitation, as many of the men whose names are retained on the rolls are not in the colony. At the annual inspections when making inquiries as to the whereabouts of absentees, the invariable reply is, "Oh, this one is in Melbourne, and that one is in Sydney, but they are coming back shortly;" in fact, in a few instances, men who are in Johannesburg are retained on the strength of corps, but commanding officers are loth to strike such men off the strength, in case the corps might be below the minimum. I estimate that 500 of the total strength of 6,700 may be looked upon as on paper only, and fairly omitted from making any calculation as to the actual strength available for service. During shearing and harvest seasons, when the greater number of daylight-drills should take place, it will be found, as far as country corps are concerned, that seldom more than one-third (certainly not half) of the total strength of these corps are available for duty, as in many cases the men are employed outside the district, and entirely away from the control of their commanding officers.

*Inspections.*—I have great pleasure in stating that during the past year I have noticed a marked improvement generally in the corps inspected, more especially in the proficiency of officers and non-commissioned officers, who have evidently profited by the somewhat severe comments I deemed it my duty to pass upon them in my report last year. They have not only made themselves better acquainted with the more modern systems of tactics and drill, more especially as regards the latest adopted modes of attack and defence, but they have learned to command and control their subordinates in the matter of their expenditure of ammunition when on parade, and are less reticent to point out and put a stop to irregularities and inefficiency. In many instances the musters for inspection were very poor, as will be seen by the attached return, but those on parade undoubtedly presented a far more soldierlike appearance than was met with in the previous year. What is required is more daylight-parades, for which payment should be made and, if employers of labour still persist in refusing to give their men leave to attend, a certain number of days in each year, the greater part in summer, should be by statute proclaimed Volunteer holidays or half-holidays, by which the men would be enabled to attend and good results would follow.

*Mounted Corps.*—Like the infantry corps, there is certainly a marked improvement generally in the mounted troops, and, as they are composed of officers and men who are good horsemen and well mounted, they would doubtless prove very useful in the case of an attack. There is a wide difference of opinion just now amongst military experts as to the difference between mounted infantry and mounted rifles. It is said that Lord Wolseley believes in mounted infantry, but not in mounted rifles; the Inspector-General of Cavalry in Great Britain, on the other hand, places his faith in mounted rifles; while the Germans ridicule the idea of mounted infantry, but say that mounted rifles will, before many years are past, take the place of cavalry. However, what seems to be required for a country like New Zealand is mounted rifles, who should be instructed both in cavalry and infantry drill, equal attention being given to mounted and dismounted drills; this kind of training should produce a body of men and horses whose services must be most valuable in time of war. All mounted-infantry corps, as well as some of the cavalry corps, have recently been made mounted rifles, and it is hoped the few hussars, &c., that remain will shortly become mounted rifles, and make themselves proficient in both mounted and foot drill as quickly as possible.

*Field Batteries.*—The field batteries still maintain their reputation for drill and efficiency, but there appears to be a consensus of opinion amongst the battery officers that a capitation of £2 per

annum per man is insufficient to keep a field battery efficient. The wear and tear on uniform in cleaning and pulling about the guns is great, while the expenditure on oil, cotton-waste, flannel, &c., for cleaning the guns has to be provided out of capitation. As a rule the field batteries keep up their numbers better than the infantry corps.

*Naval Artillery and Garrison Batteries.*—There is a marked improvement in many of these corps, and the attention given by the batteries to big-gun drill, torpedo-work, submarine-mining, and signalling drills is praiseworthy, and the reports received from the various Instructors in these different drills is most encouraging. During last year 72 were passed as efficient in submarine-mining, and 48 in heavy-gun drill, receiving the extra £1 and badge of efficiency; and it is presumed this year that number will be considerably increased, as many more are now under instruction. Since the guns have been mounted at the drill-sheds in the four centres the attendance has considerably improved, and every facility has been given for teaching the technical part of gunnery, by lectures on the projectiles and explosives in use with this particular description of ordnance, which have been well attended and appreciated by the Volunteers.

*Engineers.*—There are three companies of engineers—at Auckland, Christchurch, and Dunedin respectively, but none in Wellington. Each corps has extensive appliances and tools, which are almost entirely supplied and kept up by the corps themselves. They are an extremely useful body of men comprising all sort of trades, and have more than once when in camp proved their efficiency by erecting and maintaining a telephone connection with the Government telegraph system. They are also well trained in signalling by flags in daylight, and with lamps at night.

*Infantry.*—As already pointed out, the rifle corps have fallen off numerically during the past year, though I am glad to say not in efficiency, while they continue to maintain their reputation for good shooting. Their physique is perhaps not quite so good as formerly in the town corps, but as stated last year they are all that can be desired for citizen soldiers; and if employers of labour would only give a little encouragement to the Volunteer movement, by occasionally giving an hour or two's leave to attend parades, the existing vacancies in corps would very soon be filled up. The opposition shown by employers of labour in refusing their men the smallest amount of time necessary for the performance of any military duty is somewhat inexplicable, when it is remembered that these employers would be the greatest sufferers were an attack made on these shores, and it is mainly for the protection of their properties that the Force is maintained. It is a matter of surprise to many how well the men turn out at night for drill, after having undergone a hard day's work. This clearly shows that the men are as a rule anxious to make themselves efficient.

*Cadets.*—The strength of this portion of the Force at the end of the past year was 2,112, being a decrease of 232 on the previous year. Many of these corps are valuable feeders to the Volunteer Force, and if possible more encouragement should be given to corps belonging to schools, and cadet camps should be held at some convenient season under responsible officers. The presence of these boys at Easter adult camps is, I am forced to think, not attended with any beneficial results. They require tent-accommodation, which can ill be spared, and the staff drill-instructors' time is too much taken up with camp duties to enable them to give any attention to the cadets. These boys are not available for guard or picquet duties, and as they could be encamped by themselves some time during the summer without inconvenience, some such arrangement would probably be attended with more useful results than is the outcome of the present system of their attending Easter camps.

*Medical Officers.*—It is a general complaint amongst the medical department that no encouragement is given them to train an ambulance corps, and that their position and status are not sufficiently recognized; that many constantly attend parades, while others perform no duties at all. It appears there are fair grounds for complaint, and new rules for medical officers' guidance are much required.

*Equipment, Dress, &c.*—It is a pleasure to find that a new karkee uniform has been sanctioned, and will probably be shortly adopted throughout the Force. It has been chosen for service rather than display, and is of colonial traditional aspect. It will serve for both full and undress by the difference of the headdress, the glengarry being worn as undress, and the soft-felt hat as full-dress. If this uniform were universally adopted by the mounted rifles, artillery, engineers, and infantry, and the capitation guaranteed for three years, all corps should very soon be financially sound. The keeping-up full and undress uniforms is unnecessary, and hampers corps funds considerably. New belts are much required throughout the Force, but it will probably be wise to defer purchasing these till a decision has been come to as to what magazine-rifle the Government intend adopting. A marked improvement in the equipment of mounted corps is the adoption of a uniform-pattern bridle, bit, and saddle-cloth, but buckets for carrying rifles and bandoleers are much required for these troops. The all-important question of new rifles seems as far off solution as ever, but the determination to wait for the lead of the Imperial service in this respect is both wise and economical, and, if another twelve months can be tided over with the sniders now in use, our patience should be rewarded by obtaining the best-pattern magazine-rifle procurable. The whole question of the merit of the different rifles now under trial at Home seems to depend on the magazine attached to them, which is indeed their *raison d'être*: the improvement sought for is not a trifling acceleration of fire above that of the single-loader for ordinary occasions, but a certain reliable store of strength with which to meet the extraordinary occasions which in modern wars are certain to arise. The want of harness is very much felt in the field batteries, and Maxim guns are required for each centre.

*Easter Camps.*—Three camps were held last Easter: at Redcastle (Oamaru), Palmerston North, and Greymouth respectively; the total attendance being 1,806, 1,211, and 353; and the cost £1,719 7s. 5d., as shown by return attached, Table III. While admitting that good service was done at these camps, it appears worthy of consideration whether the Government gets a sufficient return for this large expenditure. Many of the corps, from the distance they have to

travel, do not reach the camp till late on the Friday afternoon, and have to leave again early in the afternoon of the Monday, thus showing the time for drill, &c., to be very short. But many corps derive much benefit even from this short encampment.

*Capitation.*—The system of giving all branches of the service the same capitation appears to be somewhat unfair, as it is manifest that mounted corps, field batteries, and engineers are put to much greater expense in wear and tear than the infantry. It must be recollected that in mounted corps there is a man and horse to be taken into consideration; in field batteries the guns to be kept clean and in serviceable order; and in the engineers a large supply of tools and appliances to be kept up; and these corps for the above-stated reasons require more capitation than infantry, but an adjustment is insurmountable. It is suggested that the amount of capitation decided upon should be guaranteed for three years, the men being enrolled for a like period. This would put an end to the uncertainty that prevails from year to year in the Force as regards the amount of capitation that will be passed by the House of Representatives; and in order to do away with the injustice now existing, under which regular attendants cannot count many parades they attend, in consequence of two-thirds of the total strength not being present, the capitation should be divided up into so many parades—say, a £2 capitation is divided into sixteen parades of 2s. 6d. each, then every man present would be credited with 2s. 6d. for each parade he attended, and absentees would be fined a like amount, the 2s. 6d. being credited to those present irrespective of whether two-thirds of the corps were present or not. As soon therefore as the regular attendant had put in his sixteen parades he would have earned his capitation, and would not be required to attend several extra parades, as he has to do under existing regulations, to enable the casual attendants to obtain capitation.

*Corps inspected.*—The corps inspected by me during the past year were the Rangitikei Cavalry, Wairoa Light Horse, Heretaunga Mounted Infantry, Canterbury Mounted Rifles, Marlborough Hussars, and Alexandra Cavalry. Naval Artillery: Wanganui, Port Chalmers, Dunedin, Bluff, Peninsula, Ponsonby, Auckland, Napier, Nelson, Lyttelton, Wellington, Petone, Greymouth, and Westport. Field Batteries: A, B, D, E, F, G, and H. Garrison Batteries: L, N, and O. Engineers: Auckland, Canterbury, and Dunedin. Rifles: Inangahua, Brunner, 1st Westland, Kumara, Greymouth, Wellington City, Wellington Guards, Wellington Rifles, Christchurch Guards, Christchurch Rifles, Christchurch Scottish, Christ College Rifles, Sydenham, Richmond, Canterbury Irish, Kaiapoi, Rangiora, Nelson City, Stoke, Waimea, Blenheim, Blenheim City, Hastings, Napier, Victoria, Newton, Auckland City Guards, Auckland Royal Irish, Onehunga, Invercargill City Guards, North Dunedin, Dunedin City Guards, Wakari, Dunedin Highland Rifles, Dunedin Irish Rifles, South District Rifles, Royal Rangitikei, Palmerston North, Wanganui City. Cadets: Wanganui Collegiate, Wellington College, Reefton, Westport, Kumara, Christ College, Christchurch High School, Kaiapoi, Christchurch Queen's Cadets (four companies), Nelson College, Blenheim, Napier High School, Invercargill Middle School.

Corps specially worthy of mention are Rangitikei Cavalry and Heretaunga Mounted Infantry. Both these corps have made considerable improvement in drill; while the Marlborough Hussars and Christchurch Mounted Rifles are both good serviceable corps. The Wellington, Napier, Bluff, and Petone Navals are all much improved. The A, B, D, E, and G Batteries are all worthy of special mention, though there were a considerable number of absentees from the A Battery. The Dunedin Engineers is a particularly good corps, though it also had a great many absentees from inspection. Of the rifle corps the Wellington City, Nelson City, Kumara, Stoke, 1st Westland, North Dunedin, Waimea, Wakari, Dunedin Highland, Blenheim, and South District all had good musters, and were efficient and steady under arms; while of the cadets Nelson College, Kaiapoi, Wellington College, Kumara, and Christ College are all worthy of commendation. The corps not inspected were Canterbury Yeomanry Cavalry, Waiuku, Te Awamutu, Otago Hussars, North Otago Hussars, East Coast Hussars, and South Franklyn Mounted Infantry. Naval Artillery: Thames, Timaru, and Oamaru. Field Batteries C and I. Rifles: Wairoa, Riverton, Bruce, Taranaki, Greytown, Masterton, Manchester, Ashburton, Waitahuna, Featherston, Geraldine, Timaru, East Taieri, Temuka, Naseby, Waimate, Hawera, Tuapeka, Kaitangata, Papawai, Palmerston South, Gore, Riversdale, and the Hamilton Light Infantry.

I have, &c.,

A. HUME, Lt.-Col. N.Z.M.,  
Acting Under-Secretary for Defence.

## REPORT UPON HARBOUR-DEFENCES FOR THE YEAR 1890-1891.

### *Temporary Prisons, and Convict-labour.*

THERE has been no new departure during the year. The material points deserving notice in connection with the temporary prisons in which the convicts are housed on the works, and with the nature and value of their work, were fully dealt with in the reports for 1889 (H.-16) and 1890 (H.-15), and the remarks therein printed hold good as applying also to the present year.

### *Designs of Works.*

These have been based on the principle also detailed in the two reports above quoted. The work of the year has been chiefly expended in carrying to completion those works which had reached an initiatory or advanced stage of progress at the date of last report, and there has consequently been no special development in the direction of the application of any new designs. In one or two cases, modifications of the temporary works so hastily thrown up in the scare of 1885, with a view of adapting them to the requirements of permanent-fortification principles, have been included in the year's programme. The processes of comparative dismantling occasioned by such

conversion may have that appearance of spending money twice over which is in all countries—and in none more than in England—so frequently brought against the administration of fortifications; but it must be admitted that to leave the very costly and elaborately-mounted guns which the colony has acquired under the inefficient and unlasting protection of the hurriedly-improvised works of 1885 would be unwise policy. The only suitable sites had been occupied and covered by these temporary works; and on the permanent armament being emplaced it became very necessary to convert the temporary works into protection of a more permanent character. This has been designed at the least possible expenditure of labour and money.

#### *Progress of Year in Land Works.*

Fair progress has been made during the year on the lines of the approved scheme, and all four harbours are at date considerably more capable of effective artillery resistance to any hostile attack than at the commencement of the year.

More work would have been done but for the decision of the Government in power, in November, 1890, to employ prison-labour in road-making and other works in the region of the West Coast sounds. This occasioned the removal of drafts of the best men on the defence-works, amounting to nearly 50 per cent. of the available numbers in each case, from the gangs employed at Wellington, Lyttelton, and Dunedin. The full complement has never since been made up, and, indeed, the numbers have remained almost as left by those drafts. When it is considered that the labour employed on the defence works is entirely confined to that of convicts, and that the inferior sort of convicts will not work energetically unless there are good workers of the better sort among them, it will be readily gathered that the removal of all the best men for a period of five months, or nearly one-half the year, has materially handicapped the progress of all the defence-works at the three ports mentioned. The works at Otago Heads have been stopped as from date, and the staff paid off.

#### *Inspection by Captain Moore, R.N.*

Although not upon formal credentials, the whole of the defence-works of the colony have quite recently been carefully and critically inspected by Captain Moore, of the Royal Navy, the officer specially despatched to Australia by the Imperial Government to confer with the authorities of the Australian Colonies upon the defences of Thursday Island, Albany, and other strategic harbours. Captain Moore will no doubt officially communicate to the Government his opinions. To the departmental officers he has freely stated his approval of, and satisfaction with, the majority of the works. It may be of additional interest, when so much has been said and written about the lavish expenditure on defences in New Zealand, to record that Captain Moore was, by permission of the late Minister of Defence, supplied with the figures, in the minute detail kept by the department, of the cost of each battery and work, and that he expressed his surprise at their lowness and economy as compared with practically similar works constructed in Australia, as to which he had obtained the figures from the authorities on the other side.

#### *Land Works uncommenced.*

With regard to those land works included in the complete scheme of defence upon which operations of construction have not yet been commenced or brought to any definite stage of design, little progress has been made during the year, and the remarks under this head in the report of last year hold good. It may be added that, under the recently-received instructions with regard to defence-works to be proceeded with during the present year, this position of affairs will not be altered. The same remarks apply to any questions of additional armament.

#### *Mounting of Ordnance.*

Three thirteen-ton 8in. guns and one seven-ton 7in. gun have been permanently mounted during the year, and emplacements for further heavy ordnance and quick-firing guns on hand in the colony are advancing to completion.

#### *Submarine Defence.*

The usual training of the Torpedo Corps, and preparation and testing of appliances, has further advanced the power of defence by mines at the two principal harbours, and there now remains only the actual mine-field work and its accessories to enable utilisation to be made, in case of necessity, of the excellent stores with which the dépôts are supplied. The exigencies in this respect were fully pointed out in last year's report, but funds have not permitted during the past year the completion of equipment, &c., therein mentioned, the absence of which must handicap the attainment of the full result that the *matériel* is capable of giving if the facilities and conveniences established as essential by long-continued experience in submarine-mining work carried out at R.E. stations of the Imperial army are wanting. The close of the year has been unhappily marked by the fatal explosion at Shelly Bay dépôt, in Wellington; but, as inquiries, both of a military and civil nature, into this unfortunate accident are at date in course of progress, it would not be proper to comment upon it.

#### *Stores.*

The whole of the valuable submarine stores and equipments in the colony are in the charge of the Torpedo Corps at the various stations, and are inspected at periodical intervals by Captain Falconer, the officer in command of the submarine-mining branch, and are all kept in excellent arrangement and condition.

The steam-launches, and all other plant, gear, stores, and appliances employed in and for the general carrying-on of the defence-works, have been maintained in an efficient and satisfactory condition throughout the year.

The guns, magazines, artillery-stores, ammunition, &c., are under charge of the Permanent Artillery, and are reported on by the Staff Officer.

*Maintenance of Batteries.*

The completed batteries and works which have been handed over to the Artillery have been maintained, and various minor works required in connection with them executed, during the year.

*General Foreign Information.*

Further information and suggestions connected with the perfection of the equipment and the fighting-powers of the guns in possession of the colony, and embodying also the latest ideas and results derived from experiments and trials of various guns and other means of defence in England, have been forwarded during the year by the Agent-General and General Harding-Steward, R.F.

*Land for Sites.*

In connection with the acquisition of sites for batteries and other works, the sum of nearly £600 has had to be paid for the completion of the original agreement with regard to the site of St. Clair Battery, Dunedin. An unusual complication as regards title, which, after prolonged negotiations, could only be cleared by a special Act of Parliament passed in 1890, accounts for the long delay in completion of purchase and final payment for this parcel of land.

A further land-claim is now under order for adjudication in the Compensation Court at Auckland. This is for the land taken for the submarine-mining dépôt in 1885, for which the owner did not lodge claim until the present year. The value by the department is £600, but, as land-claims against the Government are generally assessed at a higher rate than the valuation, the charges may amount to, say, £1,000.\*

*Expenditure.*

With regard to expenditure during the year, provision for the *matériel* of war from England (partly in fulfilment of contracts entered into by previous Governments, and partly to complete equipments), which has always been charged to Loan Fund, as well as certain miscellaneous charges which cannot properly be brought against the vote for prison-labour and material, was made last year by a vote out of Loan Fund of £3,000, against which appears a net expenditure of £2,477 5s. 3d., or a saving of, say, £523.

A saving of £1,670 has also been made on the vote of £10,000 for the works, the expenditure having been £8,320 10s. 10d.

The net result, therefore, is a saving of £2,202, or, say, 17 per cent. on the total amount voted.

The liabilities at the 31st March were £3,710 upon *matériel* and miscellaneous charges, which will require to be covered by a vote out of Loan Fund, and £1,871 upon works, which will merge in any vote that may be passed for the current year's expenditure.

The total outstanding liabilities at the 31st March amount therefore to £5,581.

The values of lands acquired, owing to the exigencies of negotiations, in excess of actual requirements, and of the engines, plant, &c., on the works, amount, at a low valuation, to about £10,000. This sum is an asset against the cost of the defences, and against the liabilities at any date at which the works might be discontinued.

The total expenditure on harbour-defences up to the 31st March, 1891, together with the liabilities at that date, amounts to, in round numbers, £475,000, of which £240,000 represents cost of *matériel* of war from England and miscellaneous charges connected therewith, and £235,000 the cost of works in the colony. Of this latter sum about £36,500 represents cost of land, and the balance, £198,500, the cost of forts, batteries, submarine defences, steam-launches, reports of Royal Engineer officers, engineering, supervision, and all other charges.

The usual return is attached to this report, giving, under some principal subdivisions in tabular form, particulars of the total expenditure upon the harbour-defences of the colony from the first steps taken up to the present date.

31st March, 1891.

ARTHUR BELL,  
Engineer for Defences.

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\* The award of Court has, since date of this report, been made. Amount, £1,500.

Table I.  
RETURN of VOLUNTEERS to the 31st December, 1890.

| District.             | Corps. | Cavalry. | Corps. | Mounted Infantry. | Corps. | Naval Artillery. | Corps. | Artillery. | Corps. | Engi-neers. | Corps. | Rifles. | Corps. | Hono-rary. | Corps. | Total. | Corps. | Cadets. |
|-----------------------|--------|----------|--------|-------------------|--------|------------------|--------|------------|--------|-------------|--------|---------|--------|------------|--------|--------|--------|---------|
| Auckland              | ..     | ..       | ..     | ..                | 2      | 185              | 2      | 115        | 1      | 55          | 6      | 383     | ..     | ..         | ..     | 738    | ..     | ..      |
| Waikato               | ..     | 70       | ..     | 56                | ..     | ..               | ..     | ..         | ..     | ..          | 1      | 48      | ..     | ..         | ..     | 174    | ..     | ..      |
| Taranaki              | ..     | 45       | ..     | ..                | ..     | ..               | ..     | ..         | ..     | ..          | ..     | 51      | ..     | ..         | ..     | 96     | ..     | ..      |
| Patea                 | ..     | ..       | ..     | 67                | ..     | ..               | ..     | ..         | ..     | ..          | ..     | 57      | ..     | ..         | ..     | 57     | ..     | 55      |
| Wanganui              | ..     | ..       | ..     | ..                | 1      | 56               | ..     | ..         | ..     | ..          | 2      | 125     | ..     | ..         | ..     | 117    | ..     | ..      |
| Rangitikei            | ..     | 63       | ..     | ..                | ..     | ..               | ..     | ..         | ..     | ..          | 1      | 164     | ..     | ..         | ..     | 244    | ..     | 86      |
| Wellington            | ..     | 51       | ..     | ..                | ..     | 172              | 1      | 57         | ..     | ..          | 3      | 215     | ..     | ..         | ..     | 215    | ..     | ..      |
| Wairarapa             | ..     | ..       | ..     | 39                | ..     | ..               | ..     | ..         | ..     | ..          | 3      | 483     | ..     | ..         | ..     | 483    | ..     | ..      |
| Napier                | ..     | ..       | ..     | ..                | 2      | ..               | ..     | ..         | ..     | ..          | 4      | 202     | ..     | ..         | ..     | 202    | ..     | ..      |
| Poverty Bay           | ..     | ..       | ..     | ..                | ..     | 50               | 1      | 49         | ..     | ..          | 2      | 121     | ..     | ..         | ..     | 220    | ..     | ..      |
| Thames                | ..     | 62       | ..     | ..                | ..     | 65               | ..     | ..         | ..     | ..          | ..     | ..      | ..     | ..         | ..     | 62     | ..     | ..      |
| ..                    | ..     | ..       | ..     | ..                | ..     | ..               | ..     | ..         | ..     | ..          | ..     | ..      | ..     | ..         | ..     | 65     | ..     | ..      |
| Total North Island    | 5      | 291      | 3      | 162               | 7      | 528              | 4      | 221        | 1      | 55          | 24     | 1,416   | ..     | ..         | 44     | 2,673  | 9      | 490     |
| Nelson                | ..     | ..       | ..     | ..                | 2      | 107              | 1      | 53         | ..     | ..          | 3      | 152     | ..     | ..         | ..     | 312    | 2      | 108     |
| Marlborough           | ..     | 61       | ..     | ..                | ..     | ..               | ..     | ..         | ..     | ..          | 2      | 117     | ..     | ..         | ..     | 178    | 2      | 77      |
| Canterbury, North     | ..     | 79       | 1      | 44                | ..     | 69               | 2      | 96         | 1      | 48          | 9      | 487     | ..     | 57         | ..     | 880    | 4      | 299     |
| .. South              | ..     | ..       | ..     | ..                | 1      | 52               | 1      | 56         | ..     | ..          | 5      | 258     | ..     | ..         | ..     | 366    | 3      | 110     |
| Oamarni               | ..     | ..       | ..     | ..                | 1      | 73               | 1      | 48         | ..     | ..          | 4      | 243     | ..     | ..         | ..     | 397    | 5      | 288     |
| Dunedin               | ..     | 38       | ..     | ..                | 3      | 195              | 2      | 101        | 1      | 53          | 11     | 685     | ..     | ..         | ..     | 1,085  | 10     | 646     |
| Invercargill          | ..     | 51       | ..     | ..                | ..     | 100              | 1      | 54         | ..     | ..          | 4      | 231     | ..     | ..         | ..     | 433    | ..     | ..      |
| Westland              | ..     | ..       | ..     | ..                | 1      | 68               | ..     | ..         | ..     | ..          | 5      | 308     | ..     | 48         | ..     | 376    | 2      | 94      |
| Total South Island    | 4      | 224      | 1      | 44                | 10     | 664              | 8      | 408        | 2      | 101         | 43     | 2,481   | 2      | 105        | 70     | 4,027  | 28     | 1,622   |
| Total all New Zealand | 9      | 515      | 4      | 206               | 17     | 1,192            | 12     | 629        | 3      | 156         | 67     | 3,897   | 2      | 105        | 114    | 6,700  | 37     | 2,112   |

Table II.  
RETURN of ANNUAL INSPECTION.

| Name of Corps.                                    | Date of Inspection. | Present on Parade. |                                    |        | Absent. | Total Strength of Corps. |
|---|---------------------|--------------------|------------------------------------|--------|---------|--------------------------|
|   |                     | Officers.          | Non-commissioned Officers and Men. | Total. |         |                          |
|   | 1890.               |                    |                                    |        |         |                          |
| Rangitikei Cavalry .. .. .                        | April 19            | 2                  | 36                                 | 38     | 13      | 51                       |
| Wairoa Light Horse .. .. .                        | May 9               | 3                  | 56                                 | 59     | 9       | 68                       |
| Inangahua Rifles .. .. .                          | Oct. 2              | 3                  | 32                                 | 35     | 17      | 52                       |
| Westport Naval Artillery .. .. .                  | " 4                 | 3                  | 44                                 | 47     | 6       | 53                       |
| Brunner Rifles .. .. .                            | " 10                | 1                  | 39                                 | 40     | 15      | 55                       |
| 1st Westland Rifles .. .. .                       | " 13                | 3                  | 58                                 | 61     | 8       | 69                       |
| Kumara Rifles .. .. .                             | " 15                | 2                  | 59                                 | 61     | 3       | 64                       |
| Greymouth Naval Artillery .. .. .                 | " 16                | 3                  | 50                                 | 53     | 15      | 68                       |
| Greymouth Rifles .. .. .                          | " 16                | 2                  | 41                                 | 43     | 20      | 63                       |
| Heretaunga Mounted Infantry .. .. .               | Nov. 10             | 2                  | 29                                 | 31     | 22      | 53                       |
| Wellington Naval Artillery .. .. .                | " 10                | 4                  | 78                                 | 82     | 21      | 103                      |
| Petone Naval Artillery .. .. .                    | " 10                | 3                  | 55                                 | 58     | 11      | 69                       |
| D Battery, New Zealand Regiment Artillery .. .. . | " 10                | 1                  | 48                                 | 49     | 7       | 56                       |
| Wellington City Rifles .. .. .                    | " 10                | 3                  | 58                                 | 61     | 4       | 65                       |
| Wellington Guards .. .. .                         | " 10                | 3                  | 47                                 | 50     | 15      | 65                       |
| Wellington Rifles .. .. .                         | " 10                | 3                  | 49                                 | 52     | 8       | 60                       |
| Garrison Band .. .. .                             | " 10                | ..                 | 22                                 | 22     | 1       | 23                       |
| Canterbury Mounted Rifles .. .. .                 | " 7                 | 4                  | 25                                 | 29     | 15      | 44                       |
| Lyttelton Navals .. .. .                          | " 7                 | 3                  | 55                                 | 58     | 10      | 68                       |
| E Battery, New Zealand Regiment Artillery .. .. . | " 7                 | 2                  | 42                                 | 44     | 3       | 47                       |
| N Battery, New Zealand Regiment Artillery .. .. . | " 7                 | 3                  | 45                                 | 48     | 5       | 53                       |
| Canterbury Engineers .. .. .                      | " 7                 | 2                  | 22                                 | 24     | 23      | 47                       |
| Christchurch City Guards .. .. .                  | " 7                 | 4                  | 21                                 | 25     | 22      | 47                       |
| Christchurch Rifles .. .. .                       | " 7                 | 1                  | 39                                 | 40     | 14      | 54                       |
| Sydenham Rifles .. .. .                           | " 7                 | 1                  | 20                                 | 21     | 40      | 61                       |
| Christchurch Scottish Rifles .. .. .              | " 7                 | 1                  | 23                                 | 24     | 20      | 44                       |
| Christ's College Rifles .. .. .                   | " 7                 | 3                  | 37                                 | 40     | 22      | 62                       |
| Richmond Rifles .. .. .                           | " 7                 | 1                  | 33                                 | 34     | 12      | 46                       |
| Canterbury Irish Rifles .. .. .                   | " 7                 | 2                  | 18                                 | 20     | 25      | 45                       |
| Kaipoi Rifles .. .. .                             | " 7                 | 4                  | 39                                 | 43     | 23      | 66                       |
| Rangiora Rifles .. .. .                           | " 7                 | 2                  | 36                                 | 38     | 16      | 54                       |
| Garrison Band .. .. .                             | " 7                 | ..                 | 15                                 | 15     | 6       | 21                       |
| District Staff .. .. .                            | " 7                 | 4                  | ..                                 | 4      | ..      | 4                        |
| Permanent Staff .. .. .                           | " 7                 | 1                  | 3                                  | 4      | ..      | 4                        |
| Nelson Navals .. .. .                             | " 15                | 2                  | 45                                 | 47     | 8       | 55                       |
| H Battery, New Zealand Regiment Artillery .. .. . | " 15                | 2                  | 48                                 | 50     | 2       | 52                       |
| Nelson City Rifles .. .. .                        | " 15                | 4                  | 39                                 | 43     | 9       | 52                       |
| Stoke Rifles .. .. .                              | " 15                | 3                  | 44                                 | 47     | 3       | 50                       |
| Waimea Rifles .. .. .                             | " 15                | 4                  | 41                                 | 45     | 5       | 50                       |
| Staff .. .. .                                     | " 15                | 2                  | 1                                  | 3      | ..      | 3                        |
| Marlborough Hussars .. .. .                       | " 15                | 3                  | 45                                 | 48     | 4       | 52                       |
| Blenheim Rifles .. .. .                           | " 19                | 3                  | 52                                 | 55     | 3       | 58                       |
| Blenheim City Rifles .. .. .                      | " 19                | 3                  | 44                                 | 47     | 12      | 59                       |
| Staff .. .. .                                     | " 19                | 2                  | 1                                  | 3      | ..      | 3                        |
| Hastings Rifles .. .. .                           | " 25                | 2                  | 27                                 | 29     | 18      | 47                       |
| Napier Naval Artillery .. .. .                    | " 26                | 2                  | 42                                 | 44     | 6       | 50                       |
| F Battery, New Zealand Regiment Artillery .. .. . | " 26                | 3                  | 33                                 | 36     | 13      | 49                       |
| Napier Rifles .. .. .                             | " 26                | 3                  | 38                                 | 41     | 13      | 54                       |
|   | 1891.               |                    |                                    |        |         |                          |
| Auckland Naval Artillery .. .. .                  | Jan. 9              | 3                  | 54                                 | 57     | 28      | 85                       |
| Ponsonby Naval Artillery .. .. .                  | " 9                 | 1                  | 41                                 | 42     | 39      | 81                       |
| A Battery, New Zealand Regiment Artillery .. .. . | " 16                | 3                  | 41                                 | 44     | 17      | 61                       |
| O Battery, New Zealand Regiment Artillery .. .. . | " 16                | 2                  | 30                                 | 32     | 6       | 38                       |
| Auckland Engineers .. .. .                        | " 19                | 1                  | 33                                 | 34     | 14      | 48                       |
| Victoria Rifles .. .. .                           | " 19                | 2                  | 27                                 | 29     | 31      | 60                       |
| Auckland City Guards .. .. .                      | " 19                | 2                  | 33                                 | 35     | 28      | 63                       |
| Newton Rifles .. .. .                             | " 19                | 2                  | 34                                 | 36     | 27      | 63                       |
| Auckland Royal Irish Rifles .. .. .               | " 19                | 2                  | 20                                 | 22     | 24      | 46                       |
| Onehunga Rifles .. .. .                           | " 19                | 1                  | 27                                 | 28     | 35      | 63                       |
| Garrison Band .. .. .                             | " 19                | ..                 | 25                                 | 25     | ..      | 25                       |
| Bluff Naval Artillery .. .. .                     | Mar. 16             | 1                  | 68                                 | 69     | 31      | 100                      |
| G Battery, New Zealand Regiment Artillery .. .. . | " 16                | 2                  | 43                                 | 45     | 7       | 52                       |
| Invercargill City Guards .. .. .                  | " 16                | 3                  | 42                                 | 45     | 15      | 60                       |
| Garrison Band .. .. .                             | " 16                | ..                 | 20                                 | 20     | ..      | 20                       |
| Dunedin City Guards .. .. .                       | " 18                | 3                  | 42                                 | 45     | 12      | 57                       |
| North Dunedin Rifles .. .. .                      | " 18                | 2                  | 52                                 | 54     | 4       | 58                       |
| Wakari Rifles .. .. .                             | " 18                | 3                  | 39                                 | 42     | 2       | 44                       |
| Dunedin Highland Rifles .. .. .                   | " 18                | 2                  | 50                                 | 52     | 7       | 59                       |
| Dunedin Irish Rifles .. .. .                      | " 18                | 2                  | 40                                 | 42     | 16      | 58                       |
| Dunedin South District Rifles .. .. .             | " 18                | 2                  | 30                                 | 32     | 6       | 38                       |
| Staff .. .. .                                     | " 18                | 5                  | 2                                  | 7      | ..      | 7                        |
| Garrison Band .. .. .                             | " 18                | ..                 | 29                                 | 29     | 7       | 36                       |
| Dunedin Naval Artillery .. .. .                   | " 19                | 1                  | 49                                 | 50     | 6       | 56                       |
| Port Chalmers Naval Artillery .. .. .             | " 19                | 3                  | 45                                 | 48     | 24      | 72                       |
| Peninsula Naval Artillery .. .. .                 | " 19                | 3                  | 20                                 | 23     | 40      | 63                       |
| Ordnance Band .. .. .                             | " 19                | ..                 | 25                                 | 25     | ..      | 25                       |
| B Battery, New Zealand Regiment Artillery .. .. . | " 20                | 2                  | 41                                 | 43     | 6       | 49                       |
| L Battery, New Zealand Regiment Artillery .. .. . | " 20                | 2                  | 24                                 | 26     | 18      | 44                       |
| Dunedin Engineers .. .. .                         | " 20                | 2                  | 36                                 | 38     | 15      | 53                       |
| Alexandra Cavalry .. .. .                         | " 27                | 2                  | 36                                 | 38     | 25      | 63                       |
| Rangitikei Cavalry .. .. .                        | " 27                | 3                  | 36                                 | 39     | 12      | 51                       |



Table II.—continued.

| Name of Corps.                            | Date of Inspection. | Present on Parade. |                                    |        | Absent. | Total Strength of Corps. |
|---|---------------------|--------------------|------------------------------------|--------|---------|--------------------------|
|   |                     | Officers.          | Non-commissioned Officers and Men. | Total. |         |                          |
|   | 1891.               |                    |                                    |        |         |                          |
| Wairoa Mounted Infantry .. .. .           | Mar. 27             | 3                  | 36                                 | 39     | 28      | 67                       |
| Wanganui Naval Artillery .. .. .          | " 27                | 2                  | 40                                 | 42     | 13      | 55                       |
| Rangitikei Royal Rifles .. .. .           | " 27                | 3                  | 53                                 | 56     | 11      | 67                       |
| Palmerston North Rifles .. .. .           | " 27                | 1                  | 28                                 | 29     | 19      | 48                       |
| Wanganui City Rifles .. .. .              | " 27                | 2                  | 23                                 | 25     | 24      | 49                       |
| Total .. .. .                             |                     | 190                | 3,088                              | 3,278  | 1,144   | 4,422                    |
|   | 1890.               |                    |                                    |        |         |                          |
| Wanganui Collegiate School .. .. .        | April 17            | 2                  | 48                                 | 50     | 13      | 63                       |
| Wellington College Cadets .. .. .         | " 25                | 2                  | 42                                 | 44     | 1       | 45                       |
| Reefton School Cadets .. .. .             | Oct. 2              | 3                  | 41                                 | 44     | 2       | 46                       |
| Westport Cadets .. .. .                   | " 9                 | 3                  | 47                                 | 50     | 6       | 56                       |
| Kumara School Cadets .. .. .              | " 15                | 3                  | 35                                 | 38     | 5       | 43                       |
| Christ College Cadets .. .. .             | Nov. 7              | 3                  | 42                                 | 45     | 5       | 50                       |
| Boys' High School Cadets .. .. .          | " 7                 | 2                  | 37                                 | 39     | 14      | 53                       |
| Kaiapoi Cadets .. .. .                    | " 7                 | 3                  | 45                                 | 48     | 2       | 50                       |
| Queen's Cadets (Four Companies) .. .. .   | " 7                 | 3                  | 69                                 | 72     | 126     | 198                      |
| Nelson College Cadets .. .. .             | " 15                | 3                  | 46                                 | 49     | 3       | 52                       |
| Blenheim Borough School Cadets .. .. .    | Dec. 19             | 3                  | 44                                 | 47     | 23      | 70                       |
| Napier High School Cadets .. .. .         | Nov. 26             | 1                  | 43                                 | 44     | 9       | 53                       |
| Invercargill Middle School Cadets .. .. . | 1891.<br>Mar. 17    | 3                  | 47                                 | 50     | ..      | 50                       |
| Total .. .. .                             |                     | 34                 | 586                                | 620    | 209     | 829                      |
| Grand total .. .. .                       |                     | 224                | 3,674                              | 3,898  | 1,353   | 5,251                    |

Table III.

RETURN giving PARTICULARS of EXPENDITURE on VOLUNTEER ENCAMPMENTS, held during the present Year, and compiled up to 8th June, 1891.

| Particulars.                                 | Oamaru.  | Palmerston, | Greymouth. | Auckland City Guards. | Total:    |
|--|----------|-------------|------------|-----------------------|-----------|
|  | £ s. d.  | £ s. d.     | £ s. d.    | £ s. d.               | £ s. d.   |
| Camp allowance, Otago Hussars .. .. .        | 35 0 0   | .. .. .     | .. .. .    | .. .. .               | 35 0 0    |
| Advertising .. .. .                          | 20 0 10  | 10 19 9     | .. .. .    | .. .. .               | 31 0 7    |
| Travelling-allowances .. .. .                | 135 18 3 | 55 7 6      | 8 3 6      | .. .. .               | 199 9 3   |
| Stores .. .. .                               | 15 10 4  | 4 7 3       | 9 14 3     | .. .. .               | 29 11 10  |
| Freight, &c. .. .. .                         | 61 3 8   | 35 12 10    | 12 5 3     | .. .. .               | 109 1 9   |
| Rations .. .. .                              | 516 9 5  | 302 11 0    | 73 12 0    | .. .. .               | 892 12 5  |
| Water .. .. .                                | 16 16 1  | .. .. .     | .. .. .    | .. .. .               | 16 16 1   |
| Forage .. .. .                               | 58 4 0   | 62 15 6     | .. .. .    | .. .. .               | 120 19 6  |
| Horse-hire .. .. .                           | 83 10 0  | 1 0 0       | .. .. .    | .. .. .               | 84 10 0   |
| Labour, &c. .. .. .                          | 30 7 6   | .. .. .     | .. .. .    | .. .. .               | 30 7 6    |
| Allowance, Permanent Militia.. .. .          | .. .. .  | 68 5 0      | .. .. .    | .. .. .               | 68 5 0    |
| Tansit allowance,—                           |          |             |            |                       |           |
| Westland Rifles .. .. .                      | .. .. .  | .. .. .     | 30 0 0     | .. .. .               | 30 0 0    |
| Westport Navals .. .. .                      | .. .. .  | .. .. .     | 23 0 0     | .. .. .               | 23 0 0    |
| Kumara Rifles .. .. .                        | .. .. .  | .. .. .     | 13 10 0    | .. .. .               | 13 10 0   |
| Inangahua Rifles .. .. .                     | .. .. .  | .. .. .     | 9 18 0     | .. .. .               | 9 18 0    |
| Camp allowance, Auckland City Guards .. .. . | .. .. .  | .. .. .     | .. .. .    | 25 5 6                | 25 5 6    |
|  | 973 0 1  | 540 18 10   | 180 3 0    | 25 5 6                | 1,719 7 5 |

Defence Office, 8th June, 1891.

Table IV.

RETURN giving NAMES of CORPS and NUMBER of OFFICERS and MEN present at the EASTER ENCAMPMENTS at PALMERSTON NORTH, REDCASTLE, and GREYMOUTH.

| Name of Corps.                                     | Present.  |                                    |        | Absent. | Grand Total of Corps. |
|--|-----------|------------------------------------|--------|---------|-----------------------|
|  | Officers. | Non-commissioned Officers and Men. | Total. |         |                       |
| <b>PALMERSTON NORTH ENCAMPMENT.</b>                |           |                                    |        |         |                       |
| <b>WELLINGTON AND WAIBARAPA DISTRICTS.</b>         |           |                                    |        |         |                       |
| Heretaunga Mounted Infantry .. .. .                | 3         | 35                                 | 38     | 2       | 40                    |
| Wellington Naval Artillery .. .. .                 | 4         | 54                                 | 58     | 33      | 91                    |
| D Battery, New Zealand Regiment Artillery .. .. .  | 2         | 29                                 | 31     | 23      | 54                    |
| Wellington City Rifles .. .. .                     | 3         | 53                                 | 56     | 10      | 66                    |
| Wellington Guards .. .. .                          | 2         | 32                                 | 34     | 30      | 64                    |
| Wellington Rifles .. .. .                          | 3         | 44                                 | 47     | 17      | 64                    |
| Wellington Garrison Band .. .. .                   | ..        | 11                                 | 11     | 15      | 26                    |
| Masterton and Featherston Rifles, combined .. .. . | 2         | 41                                 | 43     | 61      | 104                   |
| Permanent Staff .. .. .                            | 1         | 1                                  | 2      | ..      | 2                     |
| District Staff .. .. .                             | 4         | ..                                 | 4      | ..      | 4                     |
| Wellington Bugle Band .. .. .                      | ..        | 25                                 | 25     | ..      | 25                    |
| <b>WANGANUI DISTRICT.</b>                          |           |                                    |        |         |                       |
| Alexandra Cavalry .. .. .                          | 2         | 36                                 | 38     | 25      | 63                    |
| Rangitikei Cavalry .. .. .                         | 3         | 36                                 | 39     | 12      | 51                    |
| Wairoa Mounted Infantry .. .. .                    | 3         | 36                                 | 39     | 18      | 57                    |
| Wanganui Naval Artillery .. .. .                   | 2         | 40                                 | 42     | 16      | 58                    |
| Rangitikei Royal Rifles .. .. .                    | 3         | 53                                 | 56     | 11      | 67                    |
| Palmerston North Rifles .. .. .                    | 1         | 28                                 | 29     | 19      | 48                    |
| Wanganui City Rifles .. .. .                       | 2         | 23                                 | 25     | 24      | 49                    |
| Hawera Rifles .. .. .                              | ..        | 8                                  | 8      | 46      | 54                    |
| Permanent Staff .. .. .                            | 1         | 2                                  | 3      | 1       | 4                     |
| District Staff .. .. .                             | 3         | ..                                 | 3      | ..      | 3                     |
| <b>POVERTY BAY DISTRICT.</b>                       |           |                                    |        |         |                       |
| East Coast Hussars .. .. .                         | 1         | 2                                  | 3      | 43      | 46                    |
| <b>NAPIER DISTRICT.</b>                            |           |                                    |        |         |                       |
| Napier Naval Artillery .. .. .                     | 2         | 45                                 | 47     | 2       | 49                    |
| F Battery, New Zealand Regiment Artillery .. .. .  | 3         | 33                                 | 36     | 27      | 63                    |
| Napier Rifles .. .. .                              | 2         | 45                                 | 47     | 7       | 54                    |
| Hastings Rifles .. .. .                            | 2         | 39                                 | 41     | 6       | 47                    |
| Napier Garrison Band .. .. .                       | ..        | 16                                 | 16     | 4       | 20                    |
| Napier High School Naval Cadets .. .. .            | 2         | 28                                 | 30     | 23      | 53                    |
| Permanent Staff .. .. .                            | 1         | 1                                  | 2      | ..      | 2                     |
| District Staff .. .. .                             | 1         | ..                                 | 1      | ..      | 1                     |
| <b>NELSON DISTRICT.</b>                            |           |                                    |        |         |                       |
| Nelson Naval Artillery .. .. .                     | 2         | 46                                 | 48     | 13      | 61                    |
| H Battery, New Zealand Regiment Artillery .. .. .  | 2         | 43                                 | 45     | 12      | 57                    |
| Nelson City Rifles .. .. .                         | 2         | 40                                 | 42     | 17      | 59                    |
| Stoke Rifles .. .. .                               | 3         | 45                                 | 48     | 6       | 54                    |
| Waimea Rifles .. .. .                              | 3         | 33                                 | 36     | 33      | 69                    |
| Nelson Garrison Band .. .. .                       | ..        | 19                                 | 19     | ..      | 19                    |
| Permanent Staff .. .. .                            | 1         | 1                                  | 2      | ..      | 2                     |
| District Staff .. .. .                             | 3         | ..                                 | 3      | ..      | 3                     |
| <b>MARLBOROUGH DISTRICT.</b>                       |           |                                    |        |         |                       |
| Blenheim Rifles .. .. .                            | 3         | 53                                 | 56     | 20      | 76                    |
| Blenheim City Rifles .. .. .                       | 3         | 48                                 | 51     | 9       | 60                    |
| Marlborough Hussar Band .. .. .                    | ..        | 3                                  | 3      | ..      | 3                     |
| Permanent Staff .. .. .                            | 1         | 1                                  | 2      | ..      | 2                     |
| Officers unattached .. .. .                        | 2         | ..                                 | 2      | ..      | 2                     |
| Totals .. .. .                                     | 83        | 1,128                              | 1,211  | 585     | 1,796                 |
| <b>REDCASTLE, OAMARU, ENCAMPMENT.</b>              |           |                                    |        |         |                       |
| <b>OTAGO DISTRICT.</b>                             |           |                                    |        |         |                       |
| Staff .. .. .                                      | 6         | 4                                  | 10     | ..      | 10                    |
| Otago Hussars .. .. .                              | 3         | 29                                 | 32     | 24      | 56                    |
| Ordnance Band .. .. .                              | ..        | 23                                 | 23     | 4       | 27                    |
| Dunedin Naval Artillery .. .. .                    | 2         | 32                                 | 34     | 21      | 55                    |
| Port Chalmers Naval Artillery .. .. .              | 2         | 41                                 | 43     | 22      | 65                    |
| Peninsula Naval Artillery .. .. .                  | 2         | 45                                 | 47     | 16      | 63                    |
| B Battery, Artillery .. .. .                       | 2         | 33                                 | 35     | 14      | 49                    |
| L Battery, Artillery .. .. .                       | 2         | 18                                 | 20     | 22      | 42                    |
| Engineers .. .. .                                  | 3         | 48                                 | 51     | 8       | 59                    |
| Garrison Band .. .. .                              | ..        | 30                                 | 30     | 6       | 36                    |
| City Guards .. .. .                                | 3         | 33                                 | 36     | 19      | 55                    |
| North Dunedin Rifles .. .. .                       | 3         | 33                                 | 36     | 22      | 58                    |
| Wakari Rifles .. .. .                              | 3         | 27                                 | 30     | 14      | 44                    |
| Highland Rifles .. .. .                            | 2         | 43                                 | 45     | 9       | 54                    |
| Irish Rifles .. .. .                               | 3         | 32                                 | 35     | 19      | 54                    |
| South District Rifles .. .. .                      | 1         | 29                                 | 30     | 9       | 39                    |
| Country Band .. .. .                               | ..        | 24                                 | 24     | 8       | 32                    |
| Bruce Rifles .. .. .                               | ..        | 1                                  | 1      | 35      | 36                    |
| Carried forward .. .. .                            | ..        | ..                                 | ..     | ..      | ..                    |

Table IV.—*continued.*RETURN of CORPS and NUMBER of OFFICERS and MEN present at ENCAMPMENTS—*continued.*

| Name of Corps.                           | Present.  |                                    |        | Absent. | Grand Total of Corps. |
|--|-----------|------------------------------------|--------|---------|-----------------------|
|  | Officers. | Non-commissioned Officers and Men. | Total. |         |                       |
| REDCASTLE, ENCAMPMENT— <i>continued.</i> |           |                                    |        |         |                       |
| OTAGO DISTRICT— <i>continued.</i>        |           |                                    |        |         |                       |
| Brought forward.. .. .                   |           |                                    |        |         |                       |
| East Taieri Rifles .. .. .               | 1         | 5                                  | 6      | 33      | 39                    |
| Kaitangata Rifles .. .. .                | ..        | 15                                 | 15     | 38      | 53                    |
| Tuapeka Rifles .. .. .                   | 3         | 15                                 | 18     | 18      | 36                    |
| Waitahuna Rifles .. .. .                 | ..        | 6                                  | 6      | 27      | 33                    |
| SOUTHLAND DISTRICT.                      |           |                                    |        |         |                       |
| Bluff Naval Artillery .. .. .            | 1         | 51                                 | 52     | 48      | 100                   |
| Invercargill City Guards .. .. .         | 1         | 39                                 | 40     | 20      | 60                    |
| G Battery, Artillery .. .. .             | 1         | 31                                 | 32     | 20      | 52                    |
| Garrison Band .. .. .                    | ..        | 30                                 | 30     | ..      | 30                    |
| NORTH CANTERBURY DISTRICT.               |           |                                    |        |         |                       |
| Canterbury Yeomanry Cavalry .. .. .      | 2         | 32                                 | 34     | 46      | 80                    |
| Canterbury Mounted Rifles .. .. .        | 3         | 23                                 | 26     | 12      | 38                    |
| E Battery, Artillery .. .. .             | 1         | 41                                 | 42     | 12      | 54                    |
| N Battery, Artillery .. .. .             | 3         | 37                                 | 40     | 9       | 49                    |
| Lyttelton Naval Artillery .. .. .        | 3         | 52                                 | 55     | 9       | 64                    |
| Engineers .. .. .                        | 2         | 28                                 | 30     | 13      | 43                    |
| Christchurch City Guards .. .. .         | 2         | 33                                 | 35     | 12      | 47                    |
| Christchurch Rifles .. .. .              | 3         | 24                                 | 27     | 30      | 57                    |
| Irish Rifles .. .. .                     | 2         | 29                                 | 31     | 8       | 39                    |
| Scottish Rifles .. .. .                  | 2         | 21                                 | 23     | 20      | 43                    |
| Richmond Rifles .. .. .                  | 1         | 12                                 | 13     | 7       | 20                    |
| Sydenham Rifles .. .. .                  | ..        | 34                                 | 34     | 4       | 38                    |
| Christ's College Rifles .. .. .          | 2         | 33                                 | 35     | 10      | 45                    |
| Kaipoi Rifles .. .. .                    | 2         | 51                                 | 53     | 12      | 65                    |
| Rangiora Rifles .. .. .                  | 2         | 31                                 | 33     | 13      | 46                    |
| Garrison Band .. .. .                    | ..        | 23                                 | 23     | 5       | 28                    |
| District Staff .. .. .                   | 4         | 2                                  | 6      | 2       | 8                     |
| SOUTH CANTERBURY DISTRICT.               |           |                                    |        |         |                       |
| Timaru Naval Artillery .. .. .           | 1         | 48                                 | 49     | 18      | 67                    |
| C Battery, Artillery .. .. .             | 1         | 43                                 | 44     | 13      | 57                    |
| Temuka Rifles .. .. .                    | 2         | 33                                 | 35     | 18      | 53                    |
| Ashburton Rifles .. .. .                 | 2         | 42                                 | 44     | 16      | 60                    |
| Geraldine Rifles .. .. .                 | 3         | 33                                 | 36     | 8       | 44                    |
| Timaru Rifles .. .. .                    | 3         | 40                                 | 43     | 15      | 58                    |
| Waimate Rifles .. .. .                   | 3         | 37                                 | 40     | 11      | 51                    |
| District Staff .. .. .                   | 2         | 1                                  | 3      | 7       | 10                    |
| OAMARU DISTRICT.                         |           |                                    |        |         |                       |
| Oamaru Naval Artillery .. .. .           | 3         | 28                                 | 31     | 42      | 73                    |
| North Troop, Otago Hussars .. .. .       | 2         | 25                                 | 27     | 6       | 33                    |
| I Battery, Artillery .. .. .             | 2         | 30                                 | 32     | 13      | 45                    |
| Garrison Band .. .. .                    | ..        | 25                                 | 25     | ..      | 25                    |
| Oamaru Rifles .. .. .                    | 2         | 28                                 | 30     | 17      | 47                    |
| Palmerston South Rifles .. .. .          | 1         | 17                                 | 18     | 26      | 44                    |
| Waikouaiti Rifles .. .. .                | 2         | 22                                 | 24     | 33      | 57                    |
| Naseby Rifles .. .. .                    | 1         | 19                                 | 20     | 37      | 57                    |
| Staff .. .. .                            | 3         | 1                                  | 4      | ..      | 4                     |
| Totals .. .. .                           | 111       | 1,695                              | 1,806  | 980     | 2,786                 |
| GREYMOUTH ENCAMPMENT.                    |           |                                    |        |         |                       |
| Greymouth Naval Artillery .. .. .        | 4         | 56                                 | 60     | 9       | 69                    |
| Westport Naval Artillery .. .. .         | 2         | 44                                 | 46     | 12      | 58                    |
| 1st Westland Rifles .. .. .              | 3         | 57                                 | 60     | 2       | 62                    |
| Kumara Rifles .. .. .                    | 3         | 51                                 | 54     | 10      | 64                    |
| Inangahua Rifles .. .. .                 | 2         | 34                                 | 36     | 14      | 50                    |
| Greymouth Rifles .. .. .                 | 3         | 51                                 | 54     | 10      | 64                    |
| Brunnerton Rifles .. .. .                | 1         | 39                                 | 40     | 10      | 50                    |
| Staff .. .. .                            | 2         | 1                                  | 3      | ..      | 3                     |
| Totals .. .. .                           | 20        | 333                                | 353    | 67      | 420                   |

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## HARBOUR DEFENCES.

Table V.

RETURN showing the EXPENDITURE ON HARBOUR DEFENCES, in detail, from their Commencement to the 31st March, 1891, also Liabilities at that Date.

| Classification.   | 1878-79.         | 1879-80.          | 1880-81.       | 1883-84.*         | 1884-85.           | Total Expenditure up to 31st March, 1885.† | 1885-86.           | 1886-87.            | 1887-88.            | 1888-89.           | 1889-90.           | 1890-91.            | Total Expenditure from 31st March, 1885, up to 31st March, 1891.‡ | Great Totals Expenditure from 1878 to 31st March, 1891.§ | Liabilities known to exist at 31st March, 1891. | Grand Total Expenditure and Liabilities at 31st March, 1891. |
|---|------------------|-------------------|----------------|-------------------|--------------------|--|--------------------|---------------------|---------------------|--------------------|--------------------|---------------------|---|--|---|--|
|   | £ s. d.          | £ s. d.           | £ s. d.        | £ s. d.           | £ s. d.            | £ s. d.                                    | £ s. d.            | £ s. d.             | £ s. d.             | £ s. d.            | £ s. d.            | £ s. d.             | £ s. d.   | £ s. d.  | £ s. d.   | £ s. d.  |
| <b>I.—MATERIAL FROM ENGLAND.</b>  |                  |                   |                |                   |                    |  |                    |                     |                     |                    |                    |                     |   |  |   |  |
| R.B.L. guns and carriages, &c. ...  | ...              | ...               | ...            | ...               | ...                | ...  | 35,149 0 0         | 38,033 15 7         | 11,188 15 8         | 17,770 7 9         | ...                | ...                 | 102,141 19 0  | 102,141 19 0   | ...   | ...  |
| R.M.L. guns and carriages, &c. ...  | ...              | 26,356 13 0       | ...            | ...               | ...                | 26,356 13 0                                | 4,203 6 4          | ...                 | ...                 | 354 5 10           | ...                | ...                 | 4,557 12 2  | 30,914 5 2   | ...   | ...  |
| Field-guns and carriages, service pattern ...   | ...              | ...               | ...            | ...               | ...                | ...  | ...                | 900 0 0             | ...                 | ...                | ...                | ...                 | 900 0 0   | 900 0 0  | ...   | ...  |
| Machine-guns and carriages ...  | ...              | ...               | ...            | ...               | ...                | ...  | ...                | 1,745 12 2          | 6,393 9 6           | 5,673 13 0         | ...                | ...                 | 13,812 14 8   | 13,812 14 8  | ...   | ...  |
| Ammunition ...  | 10 7 10          | 799 0 7           | ...            | ...               | ...                | 809 8 5                                    | 3,504 5 11         | 3,352 8 9           | 11,890 2 2          | 4,975 1 4          | ...                | ...                 | 23,721 18 2   | 24,531 6 7   | ...   | ...  |
| War Office stores : Miscellaneous equipments ...  | 4,830 0 0        | ...               | ...            | ...               | ...                | 4,830 0 0                                  | ...                | 3,975 14 7          | 485 18 10           | 120 10 0           | 391 14 7           | 129 12 9            | 5,103 10 9  | 9,933 10 9   | ...   | ...  |
| Major-General Stewart, R.E., Military Adviser to Agent-General ...                                | ...              | ...               | ...            | ...               | ...                | ...  | 513 13 6           | 1,986 10 8          | 522 17 4            | 344 6 0            | 330 8 2            | 341 14 9            | 4,039 10 5  | 4,039 10 5   | ...   | ...  |
| Torpedo-boats ...   | ...              | ...               | ...            | 6,300 0 0         | 4,735 17 0         | 11,035 17 0                                | ...                | ...                 | ...                 | ...                | ...                | ...                 | ...   | 11,035 17 0  | ...   | ...  |
| Whitehead torpedoes and air-compressing machinery ...   | ...              | ...               | ...            | ...               | ...                | ...  | 8,104 0 8          | 685 0 0             | ...                 | 374 7 7            | 4 8 4              | ...                 | 9,167 16 7  | 9,167 16 7   | ...   | ...  |
| Submarine mining stores for submarine defence of ports ...  | ...              | ...               | ...            | ...               | ...                | ...  | ...                | 872 13 6            | 12,055 6 6          | 2,096 4 5          | 3,259 19 6         | Cr.   619 1 9       | 17,665 2 2  | 17,665 2 2   | ...   | ...  |
| Miscellaneous charges : Freight, insurance, shipping, &c. ...                                     | 857 0 4          | 415 11 1          | ...            | ...               | 2,226 13 10        | 3,499 5 3                                  | 338 19 7           | 2,026 11 2          | 3,539 0 11          | 3,370 7 9          | 899 17 1           | ...                 | 10,174 16 6   | 13,674 1 9   | ...   | ...  |
| <b>Totals ...</b>   | <b>5,697 8 2</b> | <b>27,571 4 8</b> | ...            | <b>6,300 0 0</b>  | <b>6,962 10 10</b> | <b>46,531 3 8</b>                          | <b>51,813 6 0</b>  | <b>53,578 6 5</b>   | <b>46,075 10 11</b> | <b>35,079 3 8</b>  | <b>4,886 7 8</b>   | <b>Cr. 147 14 3</b> | <b>191,285 0 5</b>  | <b>237,816 4 1</b>                                       | <b>2,000 0 0</b>                                | <b>239,816 4 1</b>   |
| <b>II.—WORKS IN THE COLONY.</b>   |                  |                   |                |                   |                    |  |                    |                     |                     |                    |                    |                     |   |  |   |  |
| Defence works generally : Batteries, dépôts, launches, engineering, and miscellaneous charges ... | 713 1 3          | 531 19 8          | 904 6 2        | 912 6 11          | 2,638 5 3          | 5,699 19 3                                 | 58,081 5 1         | 74,429 6 8          | 25,805 14 11        | 12,769 13 7        | 9,194 12 6         | 10,256 13 10        | 190,537 6 7   | 196,237 5 10   | 1,981 18 1                                      | 198,219 3 11   |
| Purchases, &c., of land : Sites for dépôts and batteries ...                                      | ...              | ...               | ...            | ...               | ...                | ...  | 17,272 9 0         | 11,421 6 2          | 1,577 9 8           | 2,240 6 0          | 1,671 2 9          | 688 16 6            | 34,871 10 1   | 34,871 10 1  | 1,600 0 0                                       | 36,471 10 1  |
| <b>Totals ...</b>   | <b>713 1 3</b>   | <b>531 19 8</b>   | <b>904 6 2</b> | <b>912 6 11</b>   | <b>2,638 5 3</b>   | <b>5,699 19 3</b>                          | <b>75,353 14 1</b> | <b>85,850 12 10</b> | <b>27,383 4 7</b>   | <b>15,009 19 7</b> | <b>10,865 15 3</b> | <b>10,945 10 4</b>  | <b>225,408 16 8</b>   | <b>231,108 15 11</b>                                     | <b>3,581 18 1</b>                               | <b>234,690 14 0</b>  |
| <b>Totals I. and II. ...</b>  | <b>6,410 9 5</b> | <b>28,103 4 4</b> | <b>904 6 2</b> | <b>7,212 6 11</b> | <b>9,600 16 1</b>  | <b>52,231 2 11</b>                         | <b>127,167 0 1</b> | <b>139,428 19 3</b> | <b>73,458 15 6</b>  | <b>50,089 3 3</b>  | <b>15,752 2 11</b> | <b>10,797 16 1</b>  | <b>416,693 17 1</b>   | <b>468,925 0 0</b>                                       | <b>5,581 18 1</b>                               | <b>474,506 18 1</b>  |

\* There was no expenditure for the years 1881-82 and 1882-83. † At this date (31st March, 1885) the actual construction of defence works commenced. The expenditure in the colony prior to this date was—(a) For surveys and other expenses incidental to the visits of Colonel Scratchley, R.E., and Major Cantley, R.E., to report upon the defences of the colony; (b) the salaries and travelling-expenses of those Imperial officers; (c) the landing, transport, storage, and care of R.M.L. guns and ammunition, and of torpedo-boats; and (d) other miscellaneous charges. ‡ This column represents the expenditure on all accounts incurred since the actual construction of the defence works commenced—namely, from 31st March, 1885, to 31st March, 1891. § This column represents the sum of the separately-shown expenditures of the two periods assigned in the two preceding notes. || The total expenditure on submarine stores was £488 12s. 7d.; but £1,117 14s. 4d. was recovered, chiefly by insurance on cable, &c., lost in the "Assaye," making a credit balance of £619 1s. 9d.

31st March, 1891.

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