

EVIDENCE

Taken by the Committee appointed to enquire into all matters relating to the
Esquimalt Graving Dock.

THURSDAY, MARCH 2ND.

HON. G. A. WALKER:—

Were you the head of the Government in 1874? *Ans.*—I was, after Mr. DeCosmos' resignation. I forget the date.

In charge of what Department was the Dry Dock? *Ans.*—Lands and Works.

Who was the responsible head of that Department at that time? *Ans.*—Mr. Beaven.

Was the first cement for the Dock ordered by that Department? *Ans.*—No. It was ordered by Dr. Ash, the Provincial Secretary, by telegram of 22nd June, 1874, followed by letter next day to Mr. Sproat, then Provincial Agent. Telegram was:—"Order cement, payable nine months after delivery to Hudson Bay, London." [Letter 1 put in.]

Was it ordered by Provincial Secretary acting under Executive instructions? *Ans.*—Yes; by Order in Council of 16th June, 1874, on the recommendation of Chief Commissioner of Lands and Works.

Can you tell us the facts which led to the order? *Ans.*—Yes. A lengthy correspondence between Mr. Sproat and the Provincial Secretary (Dr. Ash), and I think other correspondence between Kinipple & Morris and Mr. Sproat, and after an interview between Mr. DeCosmos and the Engineers named, in London, about Dock matters; of the latter I am not very certain.

Was Mr. DeCosmos in London in 1874? *Ans.*—His report in Sessional Papers, 1873-4, p. 49, will give the full history of it. He was then Premier.

Was Mr. DeCosmos in the Province when the cement was ordered? *Ans.*—I cannot say.

Was Mr. DeCosmos Premier when the cement was ordered? *Ans.*—No; he had resigned a few months before, on account of dual representation I believe.

Were you the head of the Government when the cement was ordered? *Ans.*—Yes.

What facts in Mr. Sproat's correspondence led the Government to order the cement? *Ans.*—I think, amongst other things, his recommendation in order to save delay. The Dock originally contemplated was a smaller one than the present one, and Mr. Sproat, by letter of 2nd January, 1874, shows why and for what purpose the cement was wanted. It was originally suggested by Kinipple and Morris that the Cofferdam should be constructed by sinking cement in bags and blocks (as at some Aberdeen works) "along the whole front line or wall of the intended Dock, except at the gap for the entrance, which was to be enclosed by the ordinary Cofferdam. The cement so sunk was to have been of considerable breadth, so as to form part of the front walls or their backing." The exhibit put in explains the matter more clearly. All the other letters from Mr. Sproat on the subject are here and can be seen. [Exhibit 2 put in].

With any letter from Mr. Sproat did any estimate of the quantity of cement required for that particular work reach the Government from Messrs. Kinipple & Morris? *Ans.*—Kinipple & Morris were not then Engineers, and all communications, verbal or otherwise, respecting cement took place between them and Mr. Sproat. I think the result of such communications was that 600 tons were wanted; but more than that quantity was ordered by Mr. Sproat.

How much more than 600 tons was ordered by Mr. Sproat? *Ans.*—Over 100 tons any way.

Was any quantity of cement mentioned in the Provincial Secretary's telegram? *Ans.*—No. I have given the wording of the telegram above.

Did Kinipple & Morris directly state to the Government what quantity of cement was wanted, or did the information come through or from Mr. Sproat that 600 tons was the quantity? *Ans.*—I don't now recollect. I had not charge of the Dock matter; it was then under Mr. Beaven's control. Except by Order in Council above referred to, I never had anything to do with ordering cement at that time or at any other time, until lately.

The 600 tons ordered then were not for the Dock, but for the intended Cofferdam? *Ans.*—The 600 tons were for the Cofferdam and walls of the structure first proposed, and looking at the correspondence, probably only for the front walls or their backing. In explanation of the change: The projected Cofferdam was not built, and when Mr. Kinipple asked me in November or December, 1874, the prices of labour here, he concluded from my reply, that it would be better to build the dock throughout of concrete, except in certain portions of it requiring stone, and to turn the cement ordered through Mr. Sproat into the main work, so as to keep, as Mr. Kinipple expressed it, the cost of construction of the whole work within the subsidies of £100,000. This Mr. Kinipple informed me of when I was in London in 1874.

Had, at the time of this conversation, the Imperial Government consented to increase their grant from £30,000 to £50,000? *Ans.*—No, but I had an assurance from the First Lord of the Admiralty, Mr. Ward Hunt, that the increase would probably be given, and it only required the assent of the Chancellor of the Exchequer, as head of the Treasury. This assent was not officially given, I think, until January, 1875, after my departure from London, but in the early part or middle of December, 1874, Sir Stafford Northcote

verbally consented to the increase at an interview I had with him, and gave me leave to communicate the fact to Lord Carnarvon as Colonial Secretary.

At the time of the conversation between you and Mr. Kinipple was the size and character of the Dock definitely known? *Ans.*—I think it was, because the Admiralty was induced to recommend the increase on the dimensions and character of the present Dock being roughly placed before them.

What were the size and character of the Dock when the Imperial Government first agreed to contribute £30,000? *Ans.*—The same as at present. No change was suggested when I was in London. I merely asked for an increase of £20,000 on the ground that the contributions of the Dominion and Imperial Governments up to that time were insufficient to construct the work without unduly pressing upon the limited finances of the Province. This is my recollection only. The full report on the subject appears in Sessional Papers of 1875.

Up to this time had any plans been made? *Ans.*—No.

Had any calculation of the cost of the Dock been made up to this time? *Ans.*—An amount of about £112,000 seems to have been arrived at as an estimate of the cost of the work, as appears by a letter from the Secretary of the Admiralty, dated 17th January, 1874, to the Colonial Office. (*See Sessional Papers, 1875, p. 589.*) This estimate is referred to in the letter as having been mentioned by Mr. DeCosmos.

By whom was that estimate made? *Ans.*—I do not know.

Has the Provincial Government that estimate? *Ans.*—Not that I am aware of. A report, however, dated October, 1874, now produced, was made by the Engineers Kinipple & Morris respecting the proposed Dock and cost of different sites.

Do you know the size and character of the dock referred to as costing £112,000? *Ans.*—From the correspondence and reports it would appear to be a Graving Dock of the dimensions of the present one.

Was not the £112,000 estimate based on a contribution of £30,000 from the Imperial Government? *Ans.*—The estimate, as I have said, was one obtained by Mr. DeCosmos when in London, and I infer that it was made at the time the £30,000 was contributed. I applied for the extra £20,000 without any authority whatever from the Provincial Government, but on the statement made by Mr. Kinipple, that if only £20,000 more could be obtained the Province could successfully carry out the scheme.

In the report of Kinipple & Morris of 1874 (Exhibit 3), is the total cost of the proposed dock contained therein? *Ans.*—Apparently it is.

Had the size of the dock then been decided upon? *Ans.*—I think the size had, but no plans had been made. I can't be sure as to size, as my negotiations were confined to increasing the amount of contributions, irrespective of the character of the dock. Col. Pasley, Director of Works for the Admiralty, whom I saw three or four times on the subject of the dock, was to have the approval of all plans or important changes affecting the whole work.

You say, in your letter of 25th November, 1874, to the Admiralty, that the working plans for a dock have not yet been ordered to be prepared, as the Provincial Government have not before them sufficient information for that purpose; also, that considerable quantities of cement had been shipped. Are we to infer that no calculation had been made by the Government as to the cost of the proposed dock, or the quantity of cement the dock would take, and is the cement referred to the 600 tons already mentioned? *Ans.*—I have already stated why the first cement was ordered. As to any calculations for the work, I would state that Mr. Kinipple was of opinion, as expressed to me as well as to Col. Pasley, that £100,000, and not £112,000, would finish the work. The Chief Commissioner of that time can give you full particulars of all that transpired as to cost and other matters then considered. I would also refer you to the Provincial Secretary, Dr. Ash, who took a very prominent interest in the work.

When you applied for the extra £20,000, did you not agree to build a larger dock than originally contemplated, to suit the requirements of the navy? *Ans.*—Yes, a larger one than that originally contemplated which, to the best of my memory, was to have been a dock for provincial purposes only, costing about \$400,000, with a depth only of 20 feet at sill. I think it was expected that the Dominion might contribute \$250,000 in lieu of guarantee in Terms of Union, and the Province the balance, \$150,000, to be spent on the work as a provincial one. This scheme seems to have been changed about the time of Mr. DeCosmos' negotiations, when Imperial aid was asked, on the ground that the work should accommodate Imperial wants. The construction of the larger and present class of Graving Dock was not, I think, decided upon until the Imperial Government agreed to give the £30,000 first promised. The size and character of the dock remained unchanged from that time to the present, to the best of my belief, as appears from the reports and correspondence.

Did you ascertain from Kinipple & Morris what the Dock would cost after the promise of the extra £20,000 you got from the Imperial Government? *Ans.*—Mr. Kinipple, as I stated before, gave his opinion to me on two or three occasions, and also to Mr. Sproat in my presence, as well as to Colonel Pasley, that the cost of the present Dock would not exceed £100,000. I asked him particularly about this, and so did Mr. Sproat. This included everything. Exhibit 3, being a report of Kinipple & Morris of October, 1874, already put in, shows, on page 96, that they had estimated the total cost of the Dock, provided Thetis Cove was adopted, at £100,000, exclusive of charges of Engineers and superintending charges. You will observe by this report that three-fifths of the work were to be of concrete. The dimensions of the Dock appear, by letter of 29th July, 1874, from Mr. Sproat, enclosing a letter from the Admiralty of the day previous, to have been—

	feet.
Length at coping	400
" on floor	370
Width at coping	90
" on floor	45
" at entrance	65 at least,

and the Dock was to accommodate vessels of the "Nelson" and "Northampton" class, half-midship section of which is enclosed. (Exhibit No. 4.) The depth remained unsettled, but was agreed to at 26½ feet over sill, fears being expressed that 29 feet would have been necessary. (*See Exhibit 4.*) It was with a knowledge

of the above facts and also information obtained by Mr. Morris here, that the above estimate of £100,000 was arrived at. The present dimensions of the Dock are the same as to length at coping, and in some other respects. The present dimensions are, according to plans and specifications:—

	ft.	in.
Clear length.....	400	0
Top, inside width at coping level.....	90	0
Width of stone floor at bottom.....	41	0
Top width of outer invert at coping.....	69	0
Top width of inner invert.....	65	0
Depth from coping level to invert.....	33	6
Depth from high-water level, spring tide, to inverts.....	26	6
Depth from coping level to finished floor against inverts.....	36	6
Depth at head of Dock.....	35	6
Depth to floor of Caisson, at sea.....	36	10½
Dam.....	35	6

The £100,000 was to include the Caisson as well as all other matters except engineering expenses and superintendence. The agreement between Kinipple & Morris and the Government, to act as Engineers in the matter, appears in the Public Works Report, Sessional Papers, 1876.

In the above estimate, are the different portions of the work detailed as to cost? *Ans.*—Apparently not, the estimate is stated to be approximate in the absence of working drawings, but it would also allow of the construction of two caisson chambers and vertical walls to permit Dock to be used as a wet Dock if desired. [See page 97.]

Then that estimate would just about amount to Mr. DeCosmos' estimate of £112,000? *Ans.*—Yes, and possibly under it.

At the time the cement was ordered, was the Dock site decided upon? *Ans.*—I had not charge of the work then, but, speaking from recollection only, I believe it was on Mr. Bukley's advice to the Government, he having acted as Engineer here prior to Messrs. Kinipple and Morris.

In the above estimate, is the cost of the Dock put in a lump sum? *Ans.*—Yes; it is as stated above, and after specially reporting upon the respective costs of the work at Dunn's Nook, Constance Cove, and Thetis Cove, and the purchase of any necessary land at any one of these places which might be selected. The particulars of difference of cost of Dock at each of these sites are stated in detail in the report. This report is the one of October, 1874, made by Kinipple & Morris. [For report, see Sessional Papers, 1876, pages 751 to 757.]

Which site for the Dock was selected, and when? *Ans.*—Thetis Cove. The reports will show the dates. I had not charge of the matter then.

Will you give Kinipple & Morris' estimate of cost of constructing Cofferdam at Thetis Cove? *Ans.*—

Cofferdam.....	£14,000
Secondly, Quay Wall.....	5,500
Thirdly, Filling round Dock.....	
Fourthly, Cost of land.....	2,400
	£21,900

As the cost of filling was left blank, how is total cost of Dock arrived at? *Ans.*—The Engineers' report only can explain this; but after considering the facilities of the respective sites, the Engineers came to the estimate of £100,000 for the whole structure complete, without details. Necessary materials and other matters are, however, reported upon. This was done after Mr. Morris had personally examined the site here.

Have you ever obtained from Kinipple & Morris a detailed estimate of the cost of the Dock? *Ans.*—I cannot find any detailed estimate, and cannot say if any came in 1876 and 1877, with the plans, during Mr. Vernon's time as Chief Commissioner of Lands and Works. I know there have been none received since by me, and can only swear to the fact as far as I am personally concerned. The specifications though, with bills of quantities, &c., were drawn by Kinipple & Morris, and sent out here, I think, in Mr. Vernon's time.

In the bills of quantities, is the amount of cement specified? *Ans.*—The quantity of cement required is not stated, but the concrete required is given in cubic yards. No avoirdupois or tonnage weight is mentioned of either cement or concrete.

Can the quantity of cement be calculated from the quantities of concrete given? *Ans.*—Yes, I believe so, by an Engineer or any person acquainted with concrete, because Mr. Bennett, in November last, made his estimate of 4400 tons being necessary, beyond what had been previously ordered, from the data given in the specifications, and after he had been specially requested to do so by Mr. Beaven and myself. This estimate of 4400 tons is contained in a letter from him to me, dated 12th November, 1881. [See Exhibit 5.]

Has the Government received from Mr. Bennett the figures of his calculation showing how his estimate of 4400 tons was arrived at? *Ans.*—No; but I subsequently sent a cablegram to Kinipple & Morris (with a view of checking this estimate) for their estimate of total amount of cement required for the dock by the specifications, to which they replied 5000 tons. This would include the 700 odd tons which arrived here in the first instance. No calculation has been made here by any one else for the Government.

Can you give the Committee the date of your cablegram to Kinipple & Morris? *Ans.*—December 21st, 1881.

What was the date of Mr. Bennett's letter in which he advises you that 4,400 tons would be required? *Ans.*—12th November, 1881.

What reason do you give for not having had an estimate made in your office, with a view of verifying Mr. Bennett's estimate? *Ans.*—Because I got him to check his estimate carefully more than once, and he assured me that he could not possibly be wrong.

As the Cofferdam has been carried on as a separate work, and as no detailed estimate has ever been apparently made of the whole cost of the dock, what authority exists for assuming that the £100,000 estimate made by Kinipple & Morris embraced cost of Cofferdam? *Ans.*—Their own report of October, 1874 (Exhibit 3) as far as I remember.

Was not the estimate of £100,000 made with the understanding that a timber floor for the dock would be sufficient? *Ans.*—The report must speak for itself, and Mr. Sproat's letters on the subject will give the information.

Do you know whether the change referred to in the letter of Kinipple & Morris, dated 7th September, 1876 (Sessional Papers, 1877, p. 255), which the Admiralty required in the dock plans, viz., substituting stone floor, with concrete underneath, for a timber floor, was made after their estimate, in October, 1874, of £100,000 as the cost of the whole dock? *Ans.*—I cannot tell, without referring to the papers. Some of the letters on this subject were received when Mr. Vernon was Chief Commissioner.

Were the plans and specifications of the dock made after a stone floor was decided on? *Ans.*—Yes, as far as the specifications show. Mr. Kinipple informed me, in London, that a wooden floor was subject to the chance of explosion, and that the Admiralty required a stone floor.

When was the cement and stone Cofferdam first proposed abandoned, and the present one substituted? *Ans.*—Mr. Beaven, then Chief Commissioner, can tell you, I think.

Was the Cofferdam contract let before your Government resigned? *Ans.*—I think it was, to Hayward & Jenkinson (see Sessional Papers, 1876, p. 426), but some arrangements occurred by which the contract was let to Messrs. Reed Bros., in January, 1876. The contract is signed by them and, to the best of my recollection, by Mr. Vernon.

Was the Cofferdam completed when you returned to office in 1878? *Ans.*—No, not before my return to office.

You took charge of dock matters then as Chief Commissioner of Lands and Works? *Ans.*—Yes.

Were any complaints made by the contractors that the plans and specifications and borings were defective? *Ans.*—Yes, in the correspondence between them and Mr. Vernon principally.

Do you know whether the complaints were well founded? *Ans.*—Not of my own knowledge, and this question, with others connected with it, is now before the Engineers in Chief for settlement between the Government and Messrs. Reed Bros.

Did not many extras arise in consequence of defects in plans, specifications, and borings? *Ans.*—The Resident Engineer can answer this best, but extras were allowed, while, on the other hand, considerable deductions were made, as is the case, as I am informed, in all such large works.

Can you inform us of the amount of Reed Bros. claim now under arbitration? *Ans.*—All their several claims were forwarded by me, with all their protests, Petition of Right, and letters in full, to the Engineers in Chief, when I submitted the case on the part of the Government. They have made four separate claims at different times on the same matter, differing in amount in each case, and ranging, speaking from memory, between about \$20,000 and \$42,000 odd. I can't speak positively. Each claim has been specially reported on and answered; their claims conflict with each other; their last claim is \$42,000 odd, and is now under further report from Mr. Bennett and myself. It is full of inaccuracies on the face of it.

Will you hand in the correspondence between your department and the Arbitrators to the Committee? *Ans.*—The only correspondence consists of one letter enclosing the case of the Government, as submitted by me, in the form of an answer to the case put forward by Messrs. Reed Bros. in their Petition of Right and affidavits filed in the Supreme Court on an application for a mandamus to compel the Chief Commissioner of Lands and Works to consent to an arbitration, under the general arbitration clause of the contract. There are also some late letters respecting Messrs. Reed Bros.' counter case. I must respectfully decline to place any matters now under arbitration before the Committee, lest it should prejudice the case of either party.

GEO. A. WALKER.

Signed, 3rd March, in the presence of }
THORNTON FELL. }

FRIDAY, MARCH 3RD, 1882.

HON. MR. WALKER.—*Continued.*

As the cost of the Dock will evidently far exceed Kinipple & Morris' estimate of £100,000, have you communicated with that firm to ascertain how the great discrepancies have arisen? *Ans.*—No, because it was unnecessary to do so. I informed Mr. Bennett some short time ago that I intended to report the fact of his errors in the cement estimate; this was before the House sat, but as I then heard that a Committee would be moved for I deferred doing so to give him an opportunity of explaining himself. I considered also that the fact of reporting his mistake could not cure it, and a little time would lead to no injurious results.

As the construction of the Cofferdam disclosed defects in borings and plans, did you instruct Mr. Bennett to make fresh borings on the Dock site so that the plans and specifications, if found defective, could be amended before Dock contract was let? *Ans.*—Certainly not. The alleged defects were discovered in Mr. Vernon's time, and are all being dealt with by the Arbitrators on the Cofferdam claims. A clause in each of the specifications relating to Cofferdam and Dock specially provides that on a bid or tender being offered for either work, the contractor shall be deemed, by reason of making the tender, to have fully satisfied himself of the correctness of all plans, bills of quantities, specifications, borings, and tide levels; besides, no defects in the above respects have been, to the best of my belief, alleged to have existed or to exist with respect to the dock contract. Even if they did exist, the Government would not be responsible for them according to the terms of the contract.

Do you know whether Reed Bros. had to dredge a greater quantity than the bills of quantities called for? *Ans.*—I must respectfully decline to answer this, as it is one of the questions disputed between them and the Resident Engineer, and now before the arbitrators. Of my own knowledge I know nothing of this, as it was in Mr. Vernon's time.

Do you know whether in the extras allowed to Reed Bros. any extras for dredging were included? *Ans.*—The Resident Engineer can best inform you on this subject.

Does the total cost of the Dock depend on a lump sum or on quantities? *Ans.*—The idea of the form of the contract adopted is, that a lump sum is named as a supposed limit of the cost and the prices of different materials are mentioned, specially in the bills of quantities, so as to arrange for giving or taking on such quantities should they vary from the estimates made of them.

In the event of it being all giving and no taking, are we to understand that the cost of the Dock will not in any event exceed the amount put down as a lump sum? *Ans.*—The rule is that it should not exceed the lump sum, because a certain sum, large or small as the case may be, is always inserted by the contractors to cover unforeseen contingencies.

Should that certain sum not cover the extra quantity of work on the dock, would the contractors be entitled to recover for the additional quantity of work? *Ans.*—I must respectfully decline to give legal opinions on oath.

If the contractors had been required by their contract to provide the cement, would the sum for contingencies be taken to cover the cost of extra cement whatever the amount might be, even to the extent of 4,400 tons above the estimate? *Ans.*—The clause in the contract already alluded to (Sec. 11) would meet this question; the contractor by it is required to satisfy himself fully of the correctness of the bills of quantities, and after his tender he, and not the Government, is responsible for any miscalculations which could have been seen by looking at the bills or the specifications.

If the total work done by the contractors on the dock contract should turn out less than that contained in the specifications, would a deduction from the total amount of the contract be made in favour of the Government? *Ans.*—Certainly, as the deduction would be taken from the \$25,000 set apart for contingencies; this sum being the amount fixed by the specifications to come and go upon. The sum is a large one and is in proportion to the magnitude of the work. The contractors might not be entitled to any of the \$25,000.

If the amount should turn out less than the amount of the contract, after deducting the \$25,000, what would then happen? *Ans.*—I can't at the moment tell, but such a question implies a very serious difference between the bid and the value of the work, not contemplated as likely to arise. The Engineers, for instance, on the Railway so manage their estimates as to bring them, when possible, within the lump sum mentioned in a contractor's agreement. Mr. Bennett's certificates are given for quantities and value of materials when used.

Do you think that the error in the estimate of cement would justify an assumption that proportionate errors may be discovered with reference to other quantities, that would make the \$25,000 for contingencies altogether an inadequate sum to cover them, and that the total cost of the dock might be increased through such errors to an amount never contemplated when dock construction was entered upon by the Province? *Ans.*—Engineers' mistakes are proverbial, but such errors as are referred to in the above question could hardly take place, except the Engineer making the estimates was most incompetent.

Knowing that Engineers' errors are proverbial, why did you not have borings and specifications examined? *Ans.*—I have already answered the question by reference to section 11 of the dock specifications.

Do we understand you that, whatever may be the errors in quantities or specifications, the dock contract cannot cost the Province more than the lump sum for which it was let? *Ans.*—I have already given as minute an answer to the substance of this question as I can.

GEO. A. WALKEM.

Witness—THORNTON FELL,
4th March.

SATURDAY, 4TH MARCH, 1882.

HON. MR. WALKEM.—*Continued.*

Did you know that additional cement would be required for the dock prior to 12th. November, 1881, when Mr. Bennett informed you that 4,400 tons would be necessary? *Ans.*—A few days prior to 4th October last, I told Mr. Bennett to take stock of the cement on hand, and report what was used. He did so, as appears by his letter of the above date, showing that 915 barrels had been used in a certain time, and that 1,800 remained on hand; and he also recommended that the City Corporation should be asked to return what they had borrowed. On the 8th October, he wrote to me in the following language:—

“SIR,—Referring to my letter of the 5th instant, calling your attention to the quantity of cement on hand, I respectfully suggest that it would be advisable to order 100 tons through Messrs. Kinipple & Morris, from England. The cement should be of the same quality as the previous shipment, and shipped in oak casks as soon as possible.

(Signed) “W. BENNETT, Resident Engineer.”

This was the same 100 tons, as I understood from him, which he had originally asked for as necessary beyond the total quantity first ordered, for the purpose of providing against any contingencies arising from springs that might be uncovered during excavation. It is also a repetition of a request made by letter of 18th February, 1880, from him to me, which is as follows:—

“18th February, 1880.

“SIR,—Anticipating the early commencement of dock construction, I have the honour to inform you I consider it advisable to order 100 tons of the best Portland cement from England. The quality, of course, to be subject to the approval of the Engineers in Chief, Messrs. Kinipple & Morris, and the cement to be shipped in oak casks.

(Signed) “W. BENNETT, Resident Engineer.”

I always understood from him in conversations, which he will admit, that down to his letter of October, 1881, he considered 100 tons only were necessary to complete the dock, and that even this quantity might not be required, provided the Corporation returned what was lent to them. (See Exhibit 7, now put in). About the end of October he called at my office and informed me that it would be safer if I ordered 200 tons instead of 100 tons, and advised me to get it at once. He called again on 2nd November and made the same request, and at my instance made enquiries about shipping facilities, which he reported in writing on the afternoon of the same date. (See Exhibit 8.) The letter of October the 8th, is the last letter from him fixing the amount of cement required at 100 tons. A few days after the above interview, on the 2nd of November, he called again, and asked me to make the order 300 tons instead of 200 tons. I had some discussion with him about these successive increases in the amounts, pointing out the amount of money involved. On the first occasion I went to Mr. Beaven's office and requested him to be good enough to come over with me and jointly talk the matter of the 200 tons over with Mr. Bennett; he did so, and can, therefore, state what occurred. I did the same on the second occasion, and Mr. Beaven was again present. I did so as a matter of precaution, as money was involved in the case. Mr. Beaven can, therefore, state what occurred on both occasions. At the second interview respecting the 300 tons, a number of questions were put to Mr. Bennett about his calculations, and the apparent discrepancy in them. On being pressed, he said he found that the cement was being used up more quickly than he had expected, and that the work would require more than he had thought. He also added that 400 tons might be required, and was asked what had changed his opinion again. I believe, but will not be positive, that in reply to a question from one of us, he said that he came to this conclusion after looking into the matter. I told him that this was becoming serious, as his last figures of about 400 tons would represent a mistake of nearly \$12,000. After further conversation, he said that we could not be wrong if we ordered the quantity originally sent out; this surprised me, and I therefore asked him if he knew what that quantity was, he said yes, about 750 tons; I said that means over \$20,000 in round figures; he then stated that he thought that the extra 750 tons would not be all needed, and that we could, therefore, easily sell what was over, as the article was good. He was asked if he had made a close calculation at all. I don't recollect his answer exactly. Mr. Beaven, or I, then asked him if the specifications would show the amount of cement required, and, if so, whether he could calculate the total quantity. He informed us that the bills of quantities would give the amount, and that it could be arrived at from them. He was then told that he had better make out an estimate, in writing, as soon as possible. He then left the office, promising to do so. During the interview, he made the remark, which I have overlooked, to the effect that the original cement had been ordered before his appointment as Resident Engineer; but he was asked, in reply to it, whether the specifications would not be sufficient to give information of the whole quantity wanted. He said they would, and that the balance required would, of course be shown. The above is the substance of what occurred at the interview. He, however, did state positively that 750 tons as originally ordered, if ordered again, would be more than could possibly be required. On the 12th November he sent me his letter, of that date, reporting that 4,400 tons would be needed to complete the work. This was the first intimation of any such quantity being wanted. (Vide Exhibit 5). I now have, which I place before the Committee, his detailed calculation of this estimate. I received it this morning. (Vide Exhibit No. 9.) I received a cablegram from the Chief Engineers in December, fixing the total amount of cement required by the specifications at 5,000 tons; from this the original lot of 700 odd tons is to be deducted. The cablegram was in reply to one sent by me. He was consulted when the Estimates for each of the calendar years 1880 and 1881, referring to the dock, were being framed. On each occasion provision was made for only 100 tons, being all that was necessary, as he informed me, to complete the dock and meet all contingencies.

Did it not occur to you when you engaged, on behalf of the Province, to provide all cement for the dock, that the amount purchased in 1874, and intended (as you have shown by your evidence) for a comparatively small preliminary work, could not possibly be sufficient for a large dock to be built so extensively of concrete, as is required by the specifications for the present dock, which were drawn in 1876 by Kinipple & Morris, and approved of by the Admiralty in September of that year? *Ans.*—I had nothing to do with any contract in the first instance to provide the cement. The specifications you (Mr. Smithe) refer to, were drawn by Kinipple & Morris when Mr. Vernon was Chief Commissioner of Lands and Works, and were reprinted here and issued by the Government, of which he was a member, with his name inserted in them and printed on the back of them. The plans also were drawn during his term of office. I never heard from him, or anyone else, that the original cement was insufficient. He must have known, if he knew anything about the dock at all, the history of its origin and all the facts connected with the order for cement. I don't wish by this remark to attach any more blame to him than there is to myself, for I consider that the Engineers should have pointed out the important fact to the late Government, that the cement on hand was largely insufficient for the main work. The calculations and management of such matters are duties attached to the Engineers' position, for which they are paid. The Engineers are employed to advise the Government, and it is not for the Government to advise them.

GEO. A. WALKER.

Signed, 6th March, in the presence of }
THORNTON FELL.

MONDAY, MARCH 6TH, 1882.

HON. MR. WALKER—*Continued*:

What contract do you allude to in your answer to the last question? *Ans.*—By the word contract there I mean the specifications and bills of quantities then drawn, not to any written document executed between the Government and any other parties. The specifications are so drawn as with very few additional words to form a contract. In speaking of them I generally refer to them now as the contract.

Inasmuch as you say, no more blame attaches to Mr. Vernon than yourself, will you inform the Committee what blame you consider attaches to you? *Ans.*—I consider, as the question is an engineering one, that the engineer is responsible, and therefore no blame attaches to me for the miscalculation of cement required for the dock. I consider, therefore, Mr. Vernon equally blameless. I might as well be held responsible for engineers' errors in calculating the amount of brass and iron work necessary, or of the quantities of excavation or blasting to be done.

In view of the facts that Mr. Vernon had nothing to do with the purchase of cement, the letting of the Cofferdam contract, the letting of the Dry Dock contract, or the agreement by which the Dominion Government, on failure of the Province to carry on the work satisfactorily, can take the dock in hand and charge the cost of completion against the subsidies of the Province, do you consider that Mr. Vernon and yourself bear equally the blame, or are equally clear of blame in this matter? *Ans.*—Mr. Vernon completed the arrangements for the construction of the Cofferdam, and signed the contract with Reed Bros., dated in January, 1876. He also received the plans, &c., approved of by the Admiralty in that year, and consequently must, to do him justice, have made himself thoroughly acquainted with all the information respecting the dock, and especially as the Cofferdam was let as a separate work. I am in a position to show that the question of sufficiency of cement was raised in presence of Mr. Vernon during his term of office, by one of his colleagues. It seems absurd to me to suppose that Mr. Vernon did not make himself acquainted with all particulars concerning the dock, especially as the preliminary step towards construction had been taken by him a short time after he took office. When he received the dock plans he must have acquainted himself with the agreement made with Kinipple & Morris to know what he should get from them. The mistake, I repeat, is an engineer's mistake, and I consider, as I have stated before, that the Chief Engineers are to blame as well as the Resident Engineer. This certainly would be the case if they were acting for a private company instead of a Government.

Please state the nature of the question raised in Mr. Vernon's time about the cement by one of his colleagues to which you have just referred? *Ans.*—The nature of the question was as to the quantity of the cement, and the discussion about it is alleged to have occurred between Mr. Vernon, Mr. Humphreys, and Mr. Bennett.

Was not the contract for the Cofferdam let by your Government to Hayward & Jenkinson, and was not the transfer of the contract from them to Reed Bros. settled by your Government before leaving office? *Ans.*—I can't positively state whether Hayward & Jenkinson executed a contract, but I think they did. Whatever occurred I don't think any transfer was executed to Reed Bros. It would have been unnecessary, for Reed Bros.' contract is a direct contract with the Government, with Mr. Vernon as Chief Commissioner of Lands and Works, and not an assigned contract.

Was the contract with Reed Bros. arranged with your Government? *Ans.*—I believe the contract was finally arranged between Reed Bros. and Mr. Vernon, in January, 1876, or later; I don't recollect what preceded the arrangement. I think the Sessional Papers will show it.

Did your Government consent to Hayward & Jenkinson retiring from the Cofferdam contract in favour of Reed Bros.? *Ans.*—I don't recollect. Even if they did, it would have been no excuse for Mr. Vernon's neglect to have informed himself of full particulars in connection with the Reed Bros.' contract and the dock before he signed the document.

Has the letting of the Cofferdam contract anything to do with the insufficiency of cement? *Ans.*—Nothing whatever, except that the late Government can't possibly plead ignorance of the requirements of a work like the dock, for which they were about to begin by construction of the Cofferdam.

You state, in a former answer, that no blame attaches to you for the miscalculation of cement required for the dock, will you inform the Committee when you made the miscalculation, or when any calculation or miscalculation was made prior to November, 1881; in other words when was the miscalculation made to which you refer? *Ans.*—The question is on the face of it a solecism. I made no calculation or miscalculation. The Resident Engineer seems to have assumed, up to a late period of 1881, that the 100 tons which he asked for by letter, would be sufficient to complete the work. When he found, in November, as I take it, that 4400 tons were required, of course it may be said that he had miscalculated the amount.

Mr. Smith—Did you ever before the letting of the Dry Dock contract, by which your Government undertook to furnish the whole of the cement, or before making the agreement with the Dominion Government, enquire in writing of, or obtain in writing from, Kinipple & Morris, the Resident Engineer, the Surveyor-General, or any competent authority whatever, an estimate of the quantity of cement required for the work? *Ans.*—Before the letting of the Dock Contract which provides, as in Mr. Vernon's former specifications, that the Contractors should be supplied with the requisite cement, I verbally applied to the Resident Engineer for an estimate of the whole cost of the dock. Tenders for the dock had to be in on 27th December, 1879. I see by the post-mark and office stamp on McNamee & Co's envelope, their tender arrived on the 24th of December. On the 29th December I opened all the tenders in presence of my colleagues, and took a list of them. I submitted the lowest figures to Mr. Bennett, asking him to advise me on them, and give me an estimate of the total cost of the dock. This estimate would of course include the cost of all cement required. Mr. Bennett, after referring to the Treasury books and other information, did so on a half sheet of paper, which he showed me. His figures, to the best of my recollection, were some \$618,000. The paper on which he had made them out was in his hand at the time, but not in an official form. He thereupon advised me

that McNamee's contract or bid was the most desirable, and was a good one for the Province. In the estimate, I recollect he had about \$10,000 for contingencies; in this sum was included about \$3,400 for all the extra cement which he thought would be required for the dock. On the 15th February, 1881, he asked my permission, as head of the department, to make out an estimate in writing of the total probable cost of the dock for Mr. W. Wilson, who was then Chairman of a Graving Dock Committee. He showed me the letter to Mr. Wilson when he had drafted it, and I made the remark that it was about a couple of thousand dollars more than the estimate he had made out in December, 1879. This difference was explained satisfactorily. I then authorized him to send the estimate to Mr. Wilson. The figures are as follows:—

Amount expended for Dock purposes from 19th July, 1872, to 30th October, 1880.	\$ 183,321 23
Kinipple & Morris, balance of Commission £4,000, less £1,350 (3 years' salary of Resident Engineer, at £450 per annum)—£2,650 @ \$4.85.....	12,852 50
Resident Engineer's salary from 1st Nov., 1880, to 30th April, 1883, 30 months, @ \$182.25	5,467 50
Contract price for completion of Dock	350,997 20
Insurance, 2 years, @ \$353.75	707 50
Storage, „ @ \$960.00	1,920 00
Probable cost of Caisson, freight, duties, erection, &c.....	54,853 50
Liabilities on working pump account.....	41 87
Contingencies	10,000 00
	<hr/>
	\$ 620,161 30

I did not ask for or get any estimate from any other person. The above estimate, like the one given to me in December, 1879, before we let the contract, includes of course all cement required. I did not venture to advise the letting of the contract without consulting Mr. Bennett, as stated, about the total cost of the work. I did not ask for nor did I get any estimate for the quantity of cement required from any person except the Engineer when I verbally requested him to write to the department, as he has done, stating the quantity of cement required. The letters put in, up to October, 1881, show that 100 tons only were required. This cement was to be used only in cases requiring quick setting or hardening in water, and, as I was informed, might not be required at all; hence, when written to by Mr. Bennett on 18th February, 1880, I did not order it, as I considered the necessity of the time for executing the order would depend upon the progress of the work, and especially the excavations. In other words there was no use ordering the cement before it was absolutely wanted.

Mr. Helgesen—Was it not the duty of the Resident Engineer to report as to the quantity of cement required to build the dock long before the contract was let? *Ans.*—Certainly, as well before as after, if needed; no other officer had charge of the matter. The department relied wholly on his advice, as the head of it was, as a matter of common sense, bound to do.

Mr. Galbraith—Why did you not dismiss Mr. Bennett when the mistake connected with the 4,400 tons was discovered? *Ans.*—Because in the present stage and condition of the work I did not consider that his services could, with any advantage, be dispensed with. Of course I am not competent to judge of his professional qualifications, but he was highly recommended by the Engineers in Chief. I have found him in matters of which I can judge, which have been under his control, to be a man of strict integrity, a very necessary qualification indeed in a work of this kind.

Mr. Helgesen—Has the Resident Engineer fulfilled his duty as a competent engineer? *Ans.*—Judging from the mistake in the cement, it is impossible to say that he could have done so.

Mr. Wilson—With your knowledge of the facts connected with the dock, do you now consider the Resident Engineer competent to advise the Government on all dock matters? *Ans.*—This is difficult to answer, because if the Engineer overlooks one matter he may overlook another; but his admission to me in presence of Mr. Beaven and Mr. Humphreys, at an interview in my office in December, after he wrote that 4,400 tons were necessary, that he had always understood that all the cement required was here, and had not made any calculation of it before the calculation we pointedly requested him to make in November last, and which he made out to be, by letter of November, 4,400 tons, showed that he understood his mistake.

Do you know whether the Resident Engineer ever before had charge of Dry Docks? *Ans.*—Not of my own knowledge, but he can tell you.

Mr. Smithe—Have you not always led the Legislature to believe that the cement originally purchased was sufficient to complete the dock? *Ans.*—Yes, because I was led in turn by the course pursued by the Engineers to believe the same thing. It was for this very reason that I explained my position with respect to the cost of the dock the other day in the House as a matter of privilege.

In Mr. Sproat's letter, dated 2nd January, 1874, a printed copy of which you have produced to us, the information was conveyed to the Government of which you were a member, that the cement was only intended for the Cofferdam, will you explain why that letter was not laid before the House with other Graving Dock papers? *Ans.*—The letter referred to does not state, as you allege, that the cement is only intended for the Cofferdam, on the contrary, it states that it was for the seawalls on each side of the intended entrance to the dock, which would, according to the letter, be a big affair, "probably 20 feet thick at base." The letter further states that "the idea would be not to have a long temporary Cofferdam, but to have a short one which would not be of concrete in front of the entrance." Again, I had not charge of the dock matter at the time. Mr. DeCosmos was then Premier, and Mr. Beaven Chief Commissioner, and Mr. Sproat's correspondence was conducted with Dr. Ash as Provincial Secretary. I can't say why the letter was not published, but in all probability it was because the publication of it, as well as several other letters, was considered unnecessary at the time, as they were not called for or required, as far as I know.

Mr. Smithe—Is not your answer to last question a quibble, inasmuch as the sea-wall spoken of in the letter was to have been in place of the Cofferdam, which has since been built? *Ans.*—The suggestion about its being a quibble is uncalled for and impertinent, because the first question, if answered without the explanation I gave, would lead the reader to suppose that the Cofferdam of concrete was to have been simply

a Cofferdam, and not a sea-wall on each side of a temporary Cofferdam at the entrance. I have explained this in former answers.

Mr. Smithe—What was the reason of Mr. Sproat's letter being printed; and how was it that a document conveying information of such vital importance, was not, after it had been printed, published with the Sessional Papers? *Ans.*—The letter has only been recently printed for your information, as I learned from Members of the House that the origin of the dock, although shown in the Sessional Papers of early years, was not understood. Mr. Beaven got the letter printed a few days ago when I spoke to him about it. It forms part of the correspondence of 1874, and as the scheme was changed, I suppose it was not then called for and printed, but I don't know whether it was or not.

Mr. Smithe—Is not the printing and publishing of this letter now, like locking the stable door after the horse has been stolen? *Ans.*—I don't see where the stable door is, or the horse either. The letter is printed, and has not been published beyond placing it before the Committee. It was printed to save the trouble of making copies of it for the Committee, as I thought each member might wish to see it, or have a copy of it. It would have been useful and probably called for in 1874, had not the dock scheme been changed. I saw Mr. Morris in London, after his return from British Columbia, and before he made his report of October, 1874, to the best of my recollection. In reference to the cement, he said it would be turned into the dock. Mr. Kinipple told me the same thing in November or December, 1874, and no intimation whatever was given to me then, or since, that any more cement would be required, until Mr. Bennett informed me of the fact in December, 1879, and subsequently, about the 100 tons, and afterwards about the further quantities needed.

Mr. Smithe—Would not the information contained in Mr. Sproat's letter of 2nd January, 1874, have been more valuable to the House last session, when it would have opened the eyes of Members to the knowledge that the cement ordered was not for the completion of the dock? *Ans.*—If the letter had been before the House it could have enlightened them very little, in the face of the fact that it had been determined, in a general way, by the Engineers that the cement was to have been turned into the dock, and that no more than 100 tons had been asked for by the Resident Engineer, and that no further quantity had ever been suggested as having been necessary by the Engineers in Chief. Though the letter, with all other documents connected with the dock, was under the control and in possession of the late Government for nearly eighteen months it does not seem to have opened their eyes. If it would have had that effect, they clearly never troubled themselves about looking into dock papers, for they never brought the letter before the House themselves, or referred to it in any way.

Mr. Smithe—Would not that letter have opened the eyes of the Resident Engineer to the true position of the cement question, inasmuch as that officer seems to have been as far deceived as the Legislature and the public, as to the true object of the original cement purchase? And is it not possible that he might have saved the Province from the deplorable position in which it now is, by advising the Government that the cement on hand was little more than a tithe of what really would be required for the whole dock? *Ans.*—This question, like some of the preceding ones, is very irregular. It contains statements which I respectfully submit are incorrect. A tithe of anything is a tenth, as you must be aware. The quantity sent here was over 700 tons, which amount is not a tithe, or a tenth, of 4,400 tons, or even 5,100 odd. The Province again has not been placed in a deplorable position by it, as will be seen when figures are entered upon. Furthermore, I can't say that it would have had the effect suggested in the question on the Resident Engineer, for the very good reason that I requested him a long time ago to get all the dock correspondence and papers in the different departments together, and he did so. Mr. Sproat's letter being amongst the letters. I know that he personally made the collection. This was done many months ago, and if he read the letter, as I suppose he did, it could not have made any impression upon him, because he never spoke to me about it. I might except from this correspondence the Lands and Works letters. My object in giving him the instructions was, to get what was in the Provincial Secretary's Office into the Lands and Works Office, so as to have the papers together, and, moreover, that he should make himself acquainted with them for reports when required. Mr. Bennett was entitled to access, at any time since his appointment, to all departmental documents connected with the dock.

Mr. Galbraith—Did the Resident Engineer know the exact quantity of cement on hand at the time tenders were called for, to build the dock? *Ans.*—I have no reason to doubt that he did. Moreover, when the dock specifications were being looked over by Mr. Beaven, Mr. Bennett and myself he gave us to understand that the only thing to be provided for (the cement being on hand), was the Caisson, which he advised should be let out in a separate contract. I am fully satisfied that, until last fall, Mr. Bennett considered that no more cement than the first quantity would be required.

Mr. Smithe—Drawing your attention to the clause in the specifications which obligates the Government to supply all the cement, I observe that it requires that the cement should be one month on the ground before use. As you have preceded on the assumption, apparently, that all the cement requisite was already on the ground, what need was there to insert a clause requiring cement to be a month there before use, and may it not be fairly inferred that when that clause was put there by Kinipple & Morris they were perfectly aware that the amount on hand was insufficient, and that you might by the exercise of an ordinary amount of intelligent observation have discovered what appears on the face of it to be so palpable? *Ans.*—Your question, like others, is, I respectfully submit, unfair, and more of a political speech than a question. The object of the enquiry is to get at the facts for public information, and not framing questions and answers to mislead the public. The condition as to cement being on the ground a month was a prudent one, in case any of the original quantity had been injured and unfitted for use, and therefore requiring a further supply to replace it. The specifications were drawn by the Engineers. This would be a fair construction if no further cement had been required. The bills of quantities, however, set the question at rest, and on them the Engineers, as well as the Resident Engineer, should have advised the Government, long ago, if more cement were needed. The same information which was before me was before the late Government.

Mr. Harris—Were such bills of quantities furnished? *Ans.*—Yes.

Mr. Wilson—When it was decided to substitute a wooden Cofferdam for the dam for which the cement was purchased, would it not have been best for the Government to have sold the cement on hand, instead of keeping it for the dock, and so save cost of storage for the cement and loss by depreciation? *Ans.*—It

would not have been prudent at the time to have done so, because the Cofferdam was to have been finished in nine months from the order to commence it, and it was not then known positively that the Dominion Government would not alter their resolution not to pay their \$250,000 as a free gift, as was virtually promised by their predecessors in 1873.

Mr. Wilson—Can you tell us what has been the loss to the Province on the cement stored at Esquimalt, in storage, insurance, interest, and depreciation? *Ans.*—I cannot at present, as I have had no calculation made out.

Mr. Wilson—How much, and, if any, what quantity of cement stored at Esquimalt has been, or is, unfit for use? *Ans.*—According to the Resident Engineer's information, a small fraction of the whole.

Mr. Wilson—Would not a Government shed on the dock grounds have saved thousands of dollars for storage? *Ans.*—It certainly would have saved something. Shortly after Mr. Vernon's retirement, I had a rough estimate made for the cost of a shed. It amounted to about \$1,200 or \$1,500, to the best of my recollection; but, on speaking to Mr. Bennett about it, it was considered that if the main dock work went on satisfactorily the shed would be unnecessary, as it was then anticipated by reason of the accession again to power of the Macdonald Administration, that they would carry out their former promise to grant us, unconditionally, \$250,000 in aid of the work. It was therefore concluded that the main dock work would be vigorously prosecuted, and the storage cease when the cement was used up. This is another fact, indirectly confirming the statement I have made that the Resident Engineer considered that no further cement than the 100 tons frequently mentioned would be needed to complete the work.

Is it the present intention of the Government to continue to pay \$80 per month cement storage until the dock is completed? *Ans.*—Not long ago I considered this question again, with Mr. Bennett, and we found it difficult to arrive at a conclusion, as the advisableness of constructing a shed would depend upon what McNamee & Co. (I mean the original and only contractors with the Government) intended to do, as I telegraphed to them some time in the summer to the effect that the then slow progress of the work could not longer be allowed to continue, which was of course a threat to take their contract from them. Messrs. McNamee & Co. wrote to me stating that one of the firm would be here, and asking me consequently to take no steps in that direction. I am speaking from memory and may not be quite correct, but the telegram and letter will speak for themselves. My telegram was dated 13th September, 1881. (Exhibit No. 10.) Messrs. McNamee & Co.'s letter was dated 14th September, 1881. (Exhibit No. 11.) Both now put in. They also telegraphed me that they had written to the local men here. My telegram reads as follows:—

“VICTORIA, 13th September, 1881.

“F. B. McNamee & Co., Montreal:

“Progress on dock very unsatisfactory and frequently complained of, but complaints have been disregarded here. Please attend to this as continuance of present delays cannot be longer permitted.

(Signed) “GEO. A. WALKEM.”

It has not been decided yet as to whether a shed will be built or not.

Mr. Wilson—Why, in the specifications, do the Government agree to furnish all the Portland cement, why was not the cement included in the contract the same as the stone, bricks and other material? *Ans.*—The Engineers drew the specifications; the first of them in Mr. Vernon's time. We were led to believe that this condition, that the Government should supply the cement, was because the Government had all that was required on hand. There was some discussion between Mr. Beaven, Mr. Bennett, and myself about this very matter, when the specifications were, prior to the dock being let, under critical examination, clause by clause.

GEO. A. WALKEM.

Signed 7th March, 1882, in the presence of }
THORNTON FELL.

WEDNESDAY, MARCH 7TH, 1882.

MR. WALKEM,—Continued:

Mr. Wilson—Was not the decision of the Provincial Government to supply the cement arrived at in 1874? *Ans.*—Yes, when Mr. DeCosmos was Premier it was decided to obtain the cement for the purpose already stated.

Do you know whether the decision was arrived at on the advice of Kinipple & Morris? *Ans.*—Judging from Mr. Sproat's letter of 2nd January 1874, which I now give in full, it would appear so:—

“LONDON, 4 LIME STREET SQUARE, E. C.

“2ND January, 1874.

“SIR,—Having the opportunity of conversing yesterday with Kinipple & Morris, I asked some questions based on the assumption, in my own mind, that the Government would, and could, build no more, during 1874, than the seawall of the Dock, thus leaving another year in which to decide the actual size and kind of Dock to be constructed.

“After mature consideration, the two partners agree that the walls on each side of the Dock entrance should be constructed of concrete, faced with ashlar.

"The seawall would be a big affair, probably 20 feet thick at base. It might take fully six months to build it, after everything was ready.

"The concrete should be made of Portland cement, which must be got in England, and be subjected there to strict weights and tests prescribed by the Engineer. I suggested, again, that we might find a substitute for the cement in the Province, but this would not do. The cement is a vital point, and Engineers will not apparently recommend anything that has passed tests in small quantities, unless it has been again and again proved suitable when extensively used.

"Suppose, then, that this letter reaches 10th February, and that by the end of February the Government appoints by telegram, or directs steps to be taken for the selection of an Engineer here, his movements, whether he be Mr. Morris or any other, will be much as sketched in my separate letter of this date.

"If, at the same time the cement is ordered by telegram, the Engineer, before leaving England, could examine the contracts for it. The cement *might* then be shipped by the beginning of May, though, if the demand is as in 1873, this will not be possible. It might be October, 1874, before the cement would be at Esquimalt.

"The Engineer would have arrived in Vancouver in middle of April. During May he would have settled matters, so that contracts could be given out for some preliminary work before the expected arrival of the cement, (getting stuff for the concrete, facing stone, &c.)

"The idea would be not to have a long temporary Cofferdam, but to dredge the bottom and lower down the blocks of concrete, sending a diver down occasionally, and thus build the walls; and afterwards have a short temporary Cofferdam in front of the entrance.

"Ordinarily, a contractor, if he took the whole job for the walls, would get his own cement from England, but as no one on the spot may do this, and arranging it might take time, and throw the beginning of the seawall into 1875, Mr. Morris suggests that a contractor should agree to take the cement which the Government may have ordered, and he thinks a contractor would gladly do this, as the Government could import the cement more cheaply than a contractor could, and it would have passed Mr. Kinipple's inspection here on behalf of the Government's Engineers.

"Somebody must find the following for the seawall work:

"Mill for grinding lime and cement; require 8 to 10 horse-power engine.

"Travelling crane for the blocks of concrete, etc.; (probably steam), depends on size of blocks.

"A house or means of dry storage (important to cement).

"Piledriver (steam?); piles only to be used in temporary work. Barges, Dredge.

"The permanent engines and pumping machinery would not be wanted till far on into 1875. It seems that the most vigorous action will not finish the seawall till about April, 1875, if then.

"Messrs. Kinipple & Morris, in giving information, quite understand that it is freely given on their part without counter-obligation on the part of the Government. I have conversed more with them than with others, merely because they seem to have their ideas well in hand, and have succeeded in recommending themselves to Col. Grant, of Quebec, who represents that city in some Dock business here.

"I have, &c.,
(Signed) "GILBERT MALCOLM SPROAT.

"To the Honourable the Provincial Secretary."

"LONDON, 4 LIME STREET SQUARE, E.C.,
"24th April, 1874.

"SIR,—I beg to annex some information about the use of concrete in the Aberdeen breakwater.

"I am, &c.,
(Signed) "GILBERT MALCOLM SPROAT.

"The Honourable the Provincial Secretary of British Columbia.

[COPY.]

"ABERDEEN, 22ND APRIL, 1874.

"On enquiring as to mode of operating with the concrete at our harbour works, we understand that the first layer upon the rocks is in bags, then large blocks are dropped down upon a flat surface, and when thus raised to low water mark something like a Cofferdam is formed, and the concrete formed in liquid state, to the extent of several hundred tons in the course of one tide, and which immediately becomes solid. This season it is in contemplation to form, and lower at once, blocks of 100 tons weight." [Vide Exhibit No. 2.]

Mr. Helgesen—Did Kinipple & Morris then arrive at the full quantity of cement that would be required to complete the dock? *Ans.*—They could not have done so then for the present dock, as a smaller one of a different character, costing about \$400,000, was then under consideration, it being expected that the Dominion would contribute \$250,000 and the Province \$150,000. Imperial aid had not, to the best of my recollection, been promised as early as January, 1874. The Sessional Papers will show the date when Mr. DeCosmos got the promise of £30,000.

Mr. Smithe—Did the Engineers, on their own responsibility, insert the clause in the specifications which obligates the Government to furnish all the cement, or were they instructed to insert that clause, and, if so, when were they so instructed, and by whom? *Ans.*—The specifications were drawn when Mr. Vernon was Chief Commissioner, by Kinipple & Morris, in January, 1877, which date is attached to them opposite their signature. I don't know whether they got any instructions from Mr. Vernon on the subject. The specifications were received in the Land Office here in 1877. I was not in office until the last half-year of 1878. As the specifications alluded to had Mr. Vernon's name in them, and as a different provision had to be made for payment of the contractors, after the Dominion agreed to advance \$250,000 as the work progressed, I was obliged to amend them in 1879, by changing the Chief Commissioner's name and inserting the terms upon which the contractors should be paid, according to the Dominion agreement. I also went over all the specifications, clause by clause, and took the precaution, amongst other things, of adding a provision to clause 106 referring to the cement, that the contractors should be obliged to give ample notice to the Government

of the quantity of cement which they would require and the time when required. I amended several of the clauses verbally. The late Chief Commissioner should never have accepted the specifications sent to him. They were carelessly drawn, unintelligible in many important places, and of this I informed the Engineers in Chief when sending them the amended copies with my name as Chief Commissioner in them. They made no reply, but the specifications were adopted by the Engineers and tenders invited in England upon them. I have seen several sets of building specifications for docks and other works, set out in legal cases, but the specifications received by Mr. Vernon were unquestionably the worst I have ever seen. It cost me very considerable labour to set them right as far as possible.

Mr. Wilson—I notice in Mr. Sproat's letter of January, 1874, he stated that "Mr. Morris suggests that a contractor should agree to take the cement which the Government may have ordered," also that "ordinarily a contractor would get his own cement from England." Why was not Mr. Morris' suggestion adopted by your Government when the dock contract was to be let? *Ans.*—The result was practically the same in accordance with his advice, as the contractor has taken over the cement but not charged for it. Apart from this, it more directly appears, as I have stated over and over again, that Mr. Morris and his partner drew the specifications, containing of course the provision that the Government would supply the cement. This would naturally not require any tender for cement from a contractor for the whole work.

Mr. Wilson—If the contractors had to pay the Provincial Government for the cement, would not the tenders for the dock have disclosed the fact that at least 5,000 tons of cement would be required for its construction? *Ans.*—Certainly, but we are not dealing with suppositions, but with facts; these being that the Engineers drew the specifications, and never intimated in the slightest way since they were drawn that more than the cement originally purchased would be necessary, or that Messrs. McNamee & Cos.' contract figures of about \$350,000 would be exceeded by anything more than the cost of the caisson, as I learned from Mr. Bennett they thought it a good bid; and in connection with this it must not be forgotten that they had expressed their opinion professionally, that the present structure would not cost more than \$500,000. I have reason to believe, from a conversation with Mr. Kinipple in November or December, 1874, that this amount would, in their opinion, even have covered the expense of a dock entirely of granite obtained here. I know he changed this latter view afterwards, and spoke of sending stone fully dressed either from Cornwall or China. This idea he seems to have abandoned also, as I objected to it and told him that it was desirable to throw as much of the work as possible into local hands. Mr. Sproat was present, and agreed with me.

Mr. Helgesen—Are you aware that Kinipple & Morris had prepared bills of quantities and cost of dock at the time of your conversation? *Ans.*—They had made their report of October, 1874, (Exhibit 3) to the Government, but no bills of quantities that I know of were made out prior to those sent to the Land Office in 1877.

Mr. Smithe—When you amended the specifications, after examining them critically clause by clause as you have stated, why did you not amend the cement clause so that the cement would be provided by the Contractor? *Ans.*—In the first place because I was as ignorant as every member of your Government appears to have been of the fact that more cement was required. In the next place, with the exception of providing for the payment of the work through the Dominion, I did not feel myself justified in departing from the general character of the specifications, which, up to that time, had not been questioned. The cement question was discussed then, as you will evidently see by the provision I added in the two last lines of the cement clause (No. 106), which was intended to protect the Government from sharp practice, if attempted by any Contractors. Mr. Beaven will speak for himself, but our object was that everything connected with the work, and wanted in any way for it, should be included in the specifications, so that we should have nothing to pay but the contract price. Mr. Bennett, however, thought the Caisson should be dealt with separately, and we took his advice. I think I can safely say that our joint belief then was that not another pound of cement would be required. We had no intimation whatever, though the bills of quantities were drawn, that it could be otherwise than as we understood it. All the facts of this long examination, repeated over and over again, simply tend to prove the one issue, that 100 tons was the only quantity ever referred to or thought of as being necessary since the first purchase, until the error as to 4400 tons being required was discovered by the Resident Engineer in November last.

Mr. Smithe—Could you not see when you examined the bills of quantities that, right under the clause which obligated the Government to supply the whole of the cement, over 25,000 cubic yards of concrete are specified, of which at least one-eighth part or over 3000 cubic yards, or in other words over 3000 tons, was all cement? *Ans.*—I decline to be answerable for your calculations. No such calculations appear in the bills of quantities. In addition to this, I never interfered in any way, by revision or otherwise, with the bills of quantities. I left them wholly to Mr. Bennett, as he will recollect. I did not touch them because I did not understand them, and don't pretend to do so.

Inasmuch as you state that the specifications made by Kinipple & Morris were unquestionably the worst you had ever seen, how was it that you relied so implicitly upon them in the matter of cement, involving so great a sum of Provincial money, while you made such extensive alterations in what we must regard, in a money point of view at least, as quite minor matters? *Ans.*—The answer is very simple. As a lawyer, I only undertook the responsibility of reshaping badly worded clauses, so as to make them as far as possible intelligible. This is part of my profession, and I left the Engineers to theirs in arranging bills of quantities of concrete, excavations, masonry, brickwork, ironwork, brasswork, and other matters. It is easy for any member of the late Government, or even of the present one, to see an error after it is pointed out to him, or to make a calculation on a matter which he probably never understood before, after he was shown how to do it. I don't think that either my examiner or any other gentleman lately in the Government with him could tell this moment how much cubic space a bushel of cement would take up, or how much it would weigh.

Mr. Galbraith—Have you any knowledge of engineering, or calculating cement or concrete? *Ans.*—I unfortunately understand as little about it as I do about surgery.

Mr. Galbraith—You have referred to an estimate in writing given last year to Mr. Wilson by Mr. Bennett. Have you got it, and, if so, give it in full? *Ans.*—I have given the figures in full, but I should like to give the letter in full here. It is as follows:—

“ENGINEERS’ OFFICE, ESQUIMALT, B. C.,
“15th February, 1881.

“Wm. Wilson, Esq., M.P.P.,

“Chairman, Graving Dock Committee, 1881, Victoria.

“SIR—Herewith I beg to submit, approximately, the probable total cost of the Graving Dock.

Amount expended for dock purposes, 19th July, 1872, to 30th October, 1880..	\$183,321 23
Kinipple & Morris, balance of commission £4,000, less £1,350, three years salary of Resident Engineer, @ £450 per annum, = £2,650 @ \$4.85.....	12,852 50
Resident Engineer's salary, 1st November, 1880, to 30th April, 1883, thirty months, @ \$182.25	5,467 50
Contract price for completion of Dock (Contract No. 3).....	350,997 20
Insurance, two years, @ \$353.75.....	707 50
Storage, two years, @ \$960	1,920 00
Probable cost of Caisson, freight, duties, &c., and erection	54,853 50
Liabilities on working pump account.....	41 87
Contingencies, say	10,000 00
	<u>\$620,161 30</u>

“I have, &c.,

(Signed)

“W. BENNETT,

“Resident Engineer.”

Mr. Galbraith—Why was the estimate given? *Ans.*—Mr. William Wilson, who is now Chairman of this Committee and moved for it, was also Chairman of the Dock Committee in 1881, which considered the important question of substituting granite for sandstone. Mr. Bennett informed me that he was requested by Mr. Wilson to make the above estimate, which he accordingly did, with my sanction. The Committee eventually reported on the matter of granite and sandstone; and to make that report so as not to mislead the House or the public, it must be inferred that they went into the question of total cost of the dock most thoroughly. The matter of cement, caisson, &c., being necessarily included in this cost.

Mr. Wilson—What was the recommendation of the former Dock Committee of 1881? *Ans.*—It is shown in their report of the Session of 1881.

Mr. Helgesen—Did you ever learn from Mr. Wilson, or any other person, that the estimate was incorrect, and that the quantity of cement was insufficient? *Ans.*—No; not until Mr. Bennett's estimate in November, 1881—about eight months afterwards.

Mr. Smithe—Since it came to your knowledge that such an enormous quantity of cement beyond the original amount purchased, would be required to build the dock, have you remonstrated with Messrs. Kinipple & Morris for their alleged neglect in not having advised the Government of the quantity of cement required, and have you asked for an explanation of that negligence? *Ans.*—A draft letter to them has been sometime lying unfinished, which I have not had time to complete; I wished it to go to them at the same time as I sent my report on Reed Bros' account, which is finished and ready to forward.

Mr. Helgesen—Do you know if Kinipple & Morris are aware of the mistake? *Ans.*—I do not of my own knowledge. I have given my answer to this in preceding question. I told Mr. Bennett that I would notify them of it.

Mr. Helgesen—Do you not consider that they are to blame and also accountable for the mistake in cement? *Ans.*—I certainly think they are to blame. A private company so treated by them would have good grounds for complaint. As to whether they are legally accountable I do not wish to offer an opinion on oath.

Mr. Wilson—Do you know whether in Great Britain it is customary for cement to be excluded in dock contracts? *Ans.*—Of my own knowledge I cannot say. Nor do I know what proportion of cement or stone is used there. The Chatham Docks, which I saw, are of stone.

Mr. Wilson—Have you received from Mr. Bennett since his November cement estimate of 4,400 tons, any communications relating to cement? *Ans.*—Yes. On the 24th November, 1881, he wrote the letter produced (Exhibit No. 12), being a kind of report, contradicting assertions made by the dock contractors in their letter to me of 21st November, 1881, that the cement furnished them was unfit for use. Other assertions contained in their letter are also excepted to, and Mr. Bennett's reasons given for his contention. On 5th December he wrote again with respect to the cement and Mr. Muir's treatment by the contractors. (Exhibit No. 13.) Mr. Muir has charge of the Government pumping machinery. On the 23rd February, 1882, he advised me by letter (Exhibit No. 14) that on 31st December, 1881, there were 160 tons of cement in the store house, none of which was used until 7th February, 1882, and that since the last date about 72 tons had been used. He refers to the height of the harbour quay wall and the work required to be done to finish it, and advised me to order 50 tons from San Francisco. He further states that he had tested the Portland cement there, which was manufactured by White Bros., of England, and had obtained a most satisfactory result. He also states that he recommends the purchase, “more as a matter of precaution than necessity,” as he believed there would be sufficient cement to complete all that could be done at present. He mentions in a foot-note to his letter of 24th November (Exhibit No. 12), that he had continuously made tests of the cement during the progress of the works, and had found its quality excellent. This cement is part of the first lot. In some of the above letters he has stated positively that he has never allowed any worthless cement to be put in. Some of the cement in the fir casks he admits deteriorated, but he provided against this fact in the work. On the 28th February, he wrote a further letter (Exhibit No. 15) explanatory of his connection with cement, after I had explained my position in the House.

Mr. Wilson—What purchases of cement have been made; please give dates and quantities? *Ans.*—228 tons, per “Tropic,” early in December, 1881; 300 tons, per “Bodrhyddon,” early in February, 1882; 200 tons, per “Queen of the Bay,” in February, 1882. There is some more I think which I have not a memo. of before me. I also obtained from the Corporation, about 12 or 14 days ago, about \$1,566 for cement they

had borrowed, and gave an order to procure cement to that amount from San Francisco by last steamer, to replace the borrowed cement; this I did instead of ordering 50 tons on Government account as suggested in one of the letters mentioned above. I have not received the invoices of last lot. The total, I think, is under 1,000 tons.

Mr. Wilson—What are the freight rates from England to Esquimalt, and who are the shippers? *Ans.*—Messrs. Rithet & Co., and Turner, Beeton, & Co., are the shippers. Freight rates are each 40 shillings, and I have, confidentially, had an offer since at 30 shillings. The above rates include primage, which is 5 per cent. in England and 10 per cent. here.

Mr. Wilson—Have you ascertained from the Hudson Bay Co. their rates of freight? *Ans.*—No. The above offers when made were considered, I found by conversation, low.

Mr. Wilson—What is the estimated cost, laid down, per ton of the cement ordered from England? *Ans.*—About \$27.30 in oak, and \$26.63 in fir. From this is to be deducted in Turner & Co's. order, \$1.50 per ton for freight from London to Liverpool, as their vessel sailed from London. This will reduce the figures for cement in oak to \$25.80, in fir \$25.13 per ton. Some of the order is for cement in oak and some in fir. The lowest of the last tenders sent to the Engineers in Chief, in about November last, for cement itself in barrels was 48s. 8d., but Gibbs' of 49 shillings was selected by the Engineers, as they were ready to deliver it, the others were not. The manufacturers' cost depends on the price of fuel, which is said to be cheap now. If a tender were asked for a large quantity of say 2,500 or 3,000 tons, to be delivered from time to time as ordered, within a fair limited period, it seems reasonable to conclude that the cement may be had for 3s. 6d. to 4s. a ton less. The shipping charges are 1 shilling per ton. Insurance 1s. 4½d. per ton. Looking at the above, the cost for future cement laid down here may be materially reduced, and, as will appear by calculation, the whole sum for cement and the Caisson be brought nearly within the balance of the subsidies of \$500,000 unexpended since they were granted.

Mr. Smithe—What are the quantities of cement ordered through Turner, Beeton & Co. and Rithet & Co. respectively? *Ans.*—Turner & Co., 200 tons, and Rithet & Co. the balance of about 600 or 700. When Rithet & Co. got their orders, Turner, Beeton & Co., as Mr. Turner told me, either had no charters or were not prepared to ship cement when these last orders were first given, and he informed me also that the rate of 40s. without primage was very low.

Mr. Wilson—Was the low offer of freight at 30s. received before or after you gave the above orders? *Ans.*—It was received afterwards, and was not taken advantage of because not required.

Mr. Smithe—What was the date of your arrival in England in 1874? *Ans.*—About 26th or 27th July.

Mr. Smithe—What was the date of the first purchase of cement? *Ans.*—I cannot tell you, because I gave it no attention then, as I was busy on railway matters, which was the whole object of my mission. The dock matter came up before me merely incidentally, some months afterwards. I had no instructions whatever to deal with them, as I was not Chief Commissioner and Mr. Morris, I think, had either then or shortly afterwards left London and proceeded to British Columbia. I don't think I ever saw Mr. Morris until after his return in about October, 1874.

Mr. Smithe—You were in England when the first cement was purchased, were you not? *Ans.*—I really can't tell you without referring to the invoices, although I saw the cement works of Messrs. Gibbs, but when I can't state. The cement was ordered, as I have stated, by the Provincial Secretary when I was Premier, under authority of an Order in Council of June, 1874, already referred to. Its cost was never mentioned to me then, but its quality was. Whether this referred to cement shipped or to be shipped I cannot tell you.

Mr. Wilson—Has the Government any intention of ordering any more cement than the 900 to a 1000 tons already ordered, without first obtaining the sanction of the Legislature? *Ans.*—It is intended to get another 100 tons to place any question as to delay with the contractors beyond chance. I spoke of this this morning. The Government has already legislative authority for all the orders given and for any further ones, provided that their amount does not exceed the scope of the Graving Dock Act, 1879.

Signed, 8th March, in the presence of }
THORNTON FELL.

GEO. A. WALKEM.

WEDNESDAY, MARCH 8TH, 1882.

HON. MR. WALKEM.—*Continued.*

Mr. Smithe—You state in your last answer, and you stated also in answer to a question I put to you in the House, that you had legislative authority for the purchases of cement you have recently made: will you explain how you interpret the Graving Dock Act, 1879, which authorizes expenditure of moneys that Dominion Government may pay on account of Graving Dock at Esquimalt, as giving you such authority, and will you put the Act in as an exhibit? *Ans.*—I produce the Act, being Chap. 20, 1879 (Exhibit No. 16). In your question you have construed the Act yourself and given a wrong interpretation to it. The Act is in one clause, which is as follows:—

"In the event of the Government of the Dominion of Canada carrying into effect the provisions of 37 "Victoria, Chap. 17, section 1, Statutes of Canada, it shall be lawful for the Lieutenant-Governor in Council "to award such contracts, construct such works, and make such payments, as may be necessary in his discretion, to secure the construction of the Graving Dock at Esquimalt."

This clearly means that if Canada should agree to pay the Province \$250,000, as the work progressed, the Lieutenant-Governor in Council should have a Statutory power by the above Act to either construct the dock under the direction of His Honour in Council, or to have it constructed by contract; and further to

make any and all payments necessary for either purpose. Had this Act not been passed, a Legislative vote and authority from the House in its Bill of Supply would have been required. In England and Canada many payments—for instance salary of Judges, &c.—are authorized by special Statute and the expenditure is afterwards placed before the House under the head of Statutory payments, so as to show the total expenditure of the year. The amounts expended under this Act would, following this practice, be shown in our local Bill of Supply. In England or Canada authority for the payments are not, and in my opinion cannot, be questioned as long as the Acts giving the authority are unrepealed. The very object of the Dock Act was to enable the Lieutenant-Governor in Council to carry on the work, hence in the Estimates of 1879 no amount was inserted for construction because the amount could not, of course, be known or anticipated.

Mr. Smithe—You say that I have construed the Act and put a wrong interpretation to it. As I only quoted the marginal note and as I have always understood that the Attorney-General of the Province is responsible for the marginal notes of all Acts passed in his time, will you state whether the marginal note to the Graving Dock Act, 1879, was not your interpretation of the Act at the time it was made? *Ans.*—As a member of long experience, and of the late Government also, you should, I respectfully submit, have known better than to rely on a marginal note to any Statute. The marginal notes, as you must have been aware during your term of office, are inserted by the printer. Errors sometimes occur in marginal notes of English Acts; but no lawyer or other person construing an Act ever construes it according to its marginal note. The Attorney-General reports upon the Bills as they leave the House and are assented to, and only reports upon the object of the Acts or their substance, and would not report upon any mistake in a marginal note which is virtually not a part of the Act. The House does not pass the marginal notes, and he is only called upon to report on what the House does pass. You have evidently, from your question, construed the Dock Act to mean that unless the Dominion Government paid over money on Graving Dock account, His Honour in Council could not pay out any money or undertake any of the responsibilities cast upon him by the Statute.

Is it not a first principle of constitutional government that no money should be paid, and no liability incurred without the vote of Parliament on the estimates for the service of the year? *Ans.*—Certainly, where the House has not conferred a statutory power to do so. For instance, if the House did not hold a complete Session within the year, or vote estimates for the year, the Statutes authorizing payments would be carried out as long as they remained unrepealed. The Statutes are passed with that object by the House.

Are we to understand that there is no limit to your Government's power to incur expenditure on Graving Dock account? *Ans.*—The Act speaks for itself. It would be imprudent for any Government to assume unlimited power under it, although it is very general in its terms, nor is it proposed in any way to do so.

Are not the advances made by the Dominion Government as work progresses on the Dry Dock made under the authority of an order of the Privy Council of Canada, dated 12th February 1880, an Act of the Dominion assented to on 7th May, 1880, and in accordance with our own Graving Dock Act of 1880, and not made as our Graving Dock Act, 1879, provides, under the Dominion Act of 1874. And is not, therefore, your contention that our Act of 1879, gives you authority to purchase cement, untenable? *Ans.*—No. The first Dominion Graving Dock Act of 1874, provides that advances not exceeding \$250,000 might be made to the Province. Owing to the late Dominion Government putting a narrow construction on the word advances, and construing it to mean moneys to be advanced and charged against the Province instead of being advanced as a free gift, the Dominion passed their Act of 1880 to show that the advances mentioned were intended as grants of money in aid of the Dock, hence the Statute of 1874 was not repealed by the Dominion Act of 1880. The Statutes of 1874 and 1880 are, in my opinion, practically one Act. The Act of 1880 also was considered necessary to give the Dominion some protection or security for making the advances or gift to the extent of \$250,000. The Dominion Acts do not for a moment contemplate any interference with our local Statute of 1879, which is also unrepealed. The local Legislature further passed their Act of 1880, which is similar to the Dominion Act of 1880, according to the agreement between the two Governments set out in the Act. Again, the advances made by the Dominion Government under their Act, are in accordance with their own views as to how they should pay the money, but have nothing to do with the views of the Legislature here, as expressed in their Act of 1879, as to what steps would best secure the final completion of the Dock within a reasonable time. The members of the Dominion Government with whom the agreement for payments to the Province on Dock account was made, informed me that the Act of 1874, would not be repealed, as it was virtually their statutory authority for introducing the Act of 1880 explanatory of it. The Dominion Act of 1880 introduced a provision to provide against any possible waste of their money, a provision that they might have insisted upon without a Statute at any time as to moneys paid under the Act of 1874 or any other Act. The main object of the Dominion Act of 1880 was to clear up the doubt expressed as to whether the word advances meant payments in advance to be charged to the Province, or payments which should not be charged against the Province and should therefore be treated as a free gift. I stated in the House that the authority for buying the cement was under our Dock Acts of 1879 and 1880, treating them as the Dominion treated their Acts of 1874 and 1880, as one Act on the same subject. I am borne out in this view by the fact that the Act of 1874 is mentioned in the preamble of the Dominion Act of 1880, which is cap. 15, as one of the authorities or reasons given for the passage of the Act of 1880 by the Dominion Parliament.

Mr. Helgesen—Who attended to the cement part of the business in London, in 1874? *Ans.*—Mr. Sproat did, and as far as I saw during my stay in London, gave every attention possible to the business of the Province, and acted with zeal, for which I gave him credit in my report to the Government, made on my return from England.

Mr. Galbraith—Had you any interest, directly or indirectly, in the purchase of cement in 1874? *Ans.*—None whatever, directly or indirectly.

Were the estimates for the Dock, as far as you can find, received by your predecessor in the Lands and Works Department from Kinipple & Morris before your term of office commenced in 1878? *Ans.*—It would appear that they were by the following letter:—

“LANDS AND WORKS DEPARTMENT,

“Victoria, B. C., July 21st 1877.

“GENTLEMEN,—I beg to inform you that I have received three complete sets of the necessary plans, estimates, working or detailed drawings, quantities, specifications, bonds, &c., for the Cofferdam, “Graving Dock and all necessary machinery complete, and now have the honour to accept the same in accordance with the letter of agreement, dated 2nd November, 1874. In a letter of even date I have forwarded draft for the sum of £2,500.

“I have, &c.,
(Signed) “F. GEO. VERNON.

“Messrs Kinipple & Morris.”

I now produce the cheque for the amount, which is as follows:—

“LOCAL GOVERNMENT OF BRITISH COLUMBIA.
“No. E03408. VICTORIA, V.I., July 21st, 1877.
“The Bank of British Columbia.
“Pay to the Manager Bank of B. C., or bearer,
Kinipple & Morris' Draft,
“Twelve thousand two hundred and fifty dollars.
“JAS. JUDSON YOUNG,
“\$12,250. “Dep. Tr.”
(Countersigned across the face)

“WM. SMITHE,
“M. F.”

It will be observed that, though the cheque is for so large a sum, it is carelessly made out to bearer instead of to order. It will be further observed, by Mr. Vernon's letter, that all former questions about the size or character of the dock, or the cement required for it, or the specifications or bills of quantities, were swept away or finally settled, as he states, without any qualification that he accepted the plans, specifications, and bills of quantities as he received them, and therefore agreed, on behalf of the Government, to the cement clauses amongst other things in the specifications and bills of quantities, and he was so satisfied with them as to pay \$12,250 for them. This having been done, it amounted to an admission that everything, including the provisions for cement, was correct and satisfactory. I can't find, though search has been made, what has become of the estimates which Mr. Vernon states he received. The agreement with Kinipple & Morris required them to furnish the plans, estimates, specifications, and bills of quantities, as stated, before they could be paid anything on account. The Government would be bound by the plans, &c., except changed by proper authority as defined in the specifications. The above letter is printed on page 551, Sessional Papers, 1878. Their agreement is referred to on page 424, Sessional Papers, 1876.

Mr. Wilson—Did not your Government, in 1874, make the agreement with Kinipple & Morris and instruct them to prepare plans, &c., for the dock, and was not the sum of \$12,250, paid by Mr. Vernon under the terms of that agreement? *Ans.*—Yes; but the Engineers, as their agreement states, were not to be entitled to any payment except the plans, specifications, and bills of quantities, &c., were accepted in writing, as they were by the Chief Commissioner, then Mr. Vernon.

Mr. Wilson—Were not the plans, &c., made by Kinipple & Morris subject to the approval of the Admiralty, and were they not duly approved, and is not the Imperial subsidy dependent upon the plans being accepted by the Admiralty according to the agreement made with the Imperial Government? *Ans.*—The Admiralty were to approve of the plans, and did so, but they of course had nothing to do with the question of who was to supply the cement.

Mr. Helgesen—Who has had charge of the cement or concrete mixing, on the part of the Government, during the progress of the dock works? *Ans.*—Mr. Humber, under the Resident Engineer.

Mr. Helgesen—Has his duty been carried out to the satisfaction of the Government without hindrance by any other parties?

Ans.—There have been no complaints against him; but nearly ten or eleven days ago, when the new cement arrived, the moulds were wanted for testing it, as required by the Specifications, but could not be got as they had been taken away without authority of the Resident Engineer or Mr. Humber or the Government, by Mr. Johnson Robertson, and were ascertained last Saturday, I think, by me to be in Mr. Wm. Wilson's store on Government street. I wrote him a letter on that day requesting him to return them immediately, as he had them in his store as he admitted to me.

Mr. Wilson—Will you furnish the Committee with your calculation showing in detail how the prices of \$27.30 for cement in oak and \$26.63 in fir are arrived at?

<i>Ans.</i> —First cost per ton.....	£	s.	d.
Freight to Liverpool	2	9	0
Shipping charges	0	6	0
Freight to Esquimalt	0	1	0
Duty	2	0	0
Insurance	0	9	9½
Landing charges.....	0	1	4½
	0	2	0

£ 5 9 2

Say at \$5 = \$27.30, less 3s. 6d. per ton in fir (say 87c.), balance, \$26.63
MEMO.—Freight of 6s. to Liverpool would have to be deducted on shipments from London.

Mr. Wilson—With your present knowledge of dock matters, will you oblige us with your calculations in detail of probable total cost of the dock? *Ans.*—This is a matter which the Resident Engineer could best inform you of. It is an engineering estimate, and I would not venture to make it.

Mr. Wilson—Would you procure for the Committee an approximate estimate of cost of dock as above referred to? *Ans.*—Yes.

Mr. Wilson—Was not the Graving Dock Act of 1879 brought in to enable the Government to let contracts, conduct works, and make payments on dock account out of the Dominion subsidy of \$250,000, and out of that subsidy only? *Ans.*—The Act was passed to give the Government the power stated provided the Dominion would pay the \$250,000 as a gift and not as an advance. It was not contemplated, then, that the cost of the dock would exceed the subsidies from Canada and England.

Mr. Wilson—Can the Provincial Government pay for the 900 odd tons of cement ordered out of the Dominion subsidy of \$250,000? *Ans.*—Without looking into the Act I cannot say, but the question would hardly arise under any circumstances as McNamee & Co.'s contract is for nearly \$351,000; or \$100,000 beyond the Dominion subsidy. The Act, however, speaks for itself, and I can give no fuller opinion upon it than I have done.

Mr. Wilson—Does the Graving Dock Act, 1879, deal with any other money than the Dominion subsidy? *Ans.*—The Act is unconditional in its terms, and in brief language virtually provides that if the Dominion will agree to give instead of advance \$250,000, the Lieutenant-Governor in Council shall have the powers stated in the clause. It does not confine the expenditure to the Dominion subsidy in any way.

Mr. Smithe—Will you give the dates upon which you contracted with Messrs. Rithet & Co., and Messrs. Turner, Beeton & Co., for cement freights? *Ans.*—Yes; I shall get the information for you.

Mr. Smithe—When? *Ans.*—As soon as possible.

Mr. Smithe—How soon do you think it will be possible to get those dates for the Committee? *Ans.*—As soon as I get liberty to find them. (Subsequently)—The agreement with Rithet & Co. was about 14th November, 1881, for the first lot; for the second lot, 12th January, 1882, and with Turner & Co. for third lot, 6th February, 1882.

Mr. Galbraith—When were notices calling for tenders for Main Dock first issued? *Ans.*—Instructions to call for tenders were asked by letter of 28th February, 1877, from Kinipple & Morris to Mr. Vernon, for the Caisson. I will give you a reply as to the dock after looking at the correspondence. I find that on 12th July, 1877, Mr. Vernon sent Kinipple & Morris forms of notices of tenders for dock to be inserted in the English newspapers when Kinipple & Morris were telegraphed to by the Department. I produce a copy of the letter, which is as follows:—

“LANDS AND WORKS DEPARTMENT, Victoria, B. C., 12th July, 1877.

“ESQUIMALT DOCK.

“GENTLEMEN,—I beg to enclose a form of notice calling for tenders for the Main Dock Works at Esquimalt, which you will please to cause to be inserted in such English newspapers as you may deem advisable, on the receipt of a telegram from this Department to that effect. The dates will also be set forth in the message.

“This course has been adopted so as to enable the Government to call for tenders for the said work simultaneously in England and British Columbia, when they are prepared to undertake the work.

“Messrs. Kinipple & Morris, I have, &c., (Signed) F. GEO. VERNON.
“3, Westminster Chambers, London, S. W., England.”

Mr. Galbraith—On what specifications were these notices drawn? *Ans.*—On the specifications accepted by Mr. Vernon, and which I had afterwards to revise. I may remark that had I not made the revision, the Government might have been at the mercy of the contractors at any time as to cement supply.

Mr. Galbraith—When did the plans arrive, and how do you fix the date? *Ans.*—The plans must have arrived about the 31st July, 1877, as Mr. Vernon acknowledged their receipt by a letter of that date, which I have quoted in full in my evidence to day.

Mr. Helgesen—Has the Government ordered or contracted for a Caisson yet? *Ans.*—No. Tenders were invited in England in 1877 by Kinipple & Morris, under Mr. Vernon's instructions by letter of 2nd May, 1877. None were invited here. The matter of constructing the Caisson and of inviting tenders for it here as well as in England has been decided upon, but owing to the slow progress of the dock work, notices have not yet been issued, as no approximate time can be calculated as to when it will be required. I had also to revise the clauses of the Caisson specifications so as to make some of them intelligible.

Mr. Helgesen—Were Kinipple & Morris instructed to call for tenders for the Caisson in 1879? *Ans.*—They were invited to do so, but the bids were not accepted when we found that local contractors could do the work, and the first set of specifications has been so far reshaped by me as to give local men an opportunity of doing the work. I completed the revision of the Caisson specifications, as far as I could venture to do so, in July, 1881. There are clauses with respect to the control of workmen, &c., which might apply in England but would not be satisfactory here as I have found. Whether these may be changed or not so that local men shall not be embarrassed by them will be decided hereafter by me and my colleagues.

Mr. Helgesen—Will you please inform the Committee of the amount of the bids sent in? *Ans.*—I would respectfully suggest that they should not be announced. Mr. Kinipple advised that the bids I refer to should be called for, but they have not been acted upon in any way, as the work is to be open to local bids. This was decided upon long since.

Mr. Wilson—How many dock tenders were received by the Government? *Ans.*—Exclusive of English tenders, which to the best of my recollection were out of the question, seven tenders were received at the Land Office or Public Works Department, Ottawa, on or before 27th December, 1879, the last day for tendering. They are as follows:—

1. Robert Ewing, San Francisco	\$ 799,991 00
2. Kinsman, Styles & Hayward, Victoria	535,317 42
3. Nicholson, Robertson, Nightingale & Nicholson, British Columbia	476,589 00
4. Forbes, Huntington & Haynes, Tacoma and British Columbia	440,348 67
5. Macdonald, Charlevoix, Shamly, McCrae & Malette, Montreal	388,789 47
6. J. G. & H. Macdonald, New Brunswick	381,195 22
7. F. B. McNamee & Co., Montreal	350,997 20

I can give you the figures of the English tenders from Kinipple & Morris' letters. I was in Ottawa when they reached here.

Mr. Helgesen—To whom was the contract awarded? *Ans.*—To the lowest bidder, McNamee & Co.

Mr. Helgesen—Does the Government recognize any other Contractors in the Dock than McNamee & Co. of Montreal? *Ans.*—No. So far from this being the case I had McNamee & Co.'s contract, which is published in the Sessional Papers, re-executed on or about the 4th October, 1880, so as to bring the contract under all the Dock Acts passed in the Dominion and Province. The first contract, according to my recollection, had a clause in it of a contingent character whereby the agreement or contract was to be subject to Legislative sanction here, of the Dominion agreement or propositions of 1880 contained in their Act of that year. The contract of October, 1880, was taken to Canada by Mr. McNamee and re-executed there by him and his partners, and the bonds for \$25,000 also re-executed to make it complete, the \$10,000 deposit mentioned in the first and second contracts having been paid by McNamee & Co. of Montreal to the Bank of British Columbia here, where it now stands, I believe, to the credit of the Government as part of McNamee & Co.'s security for the fulfilment of their contract. I think Mr. McNamee asked me before the October contract was drawn whether I could consent to relieve his firm and their bondsmen and agree to hold local men if he saw his way to transfer the contract to them. I refused to do so or afterwards to acknowledge in any way a change of the responsibility of the Montreal firm to complete the work.

Mr. Helgesen—Who are the bondsmen on the contract? *Ans.*—I forget their names for the moment, but when the bond was returned I was quite satisfied that the names were good, as they were some of those I had in a long list submitted to me when I was at Ottawa, and about each one of whom I made enquiries at the Public Works Department, and through Dun, Wymond & Co.'s published report which the Department had, and was guided by it as Mr. Chapeau told me.

Mr. Helgesen—When did McNamee & Co. sign the contract? *Ans.*—Speaking from memory only, for I have not had occasion to look at it for many months, on or about the 4th October, 1880, as the deed will show.

Have you any interest, direct or indirect, in the contract? *Ans.*—I have not, and never had, in this or any other contract in connection with any Government matter. McNamee & Co., besides, have been threatened, as I have already stated and shown by telegram of September, 1881, with the loss of their contract, and the \$10,000 deposit as well as \$25,000 security to which they are parties with the bondsmen. I am glad of the opportunity of answering this on oath, as slanderous statements, utterly without foundation, have been openly made to members of the House, as I am informed, and to members of the community here that I was interested with McNamee & Co. These statements I declare on oath to be false, and as I have reason to believe, malicious.

Mr. Helgesen—What position do Messrs. Huntington, Nicholson and others, occupy in the Dock? *Ans.*—I believe they are in with the Montreal firm as partners in the work. When Mr. McNamee was here, he told me, I think in August or September, if he was here in August, that he could not begin excavating until the Spring of 1881, when Mr. Nish could probably be spared to come out and take charge. I informed him that the delay could not be allowed, and that he must arrange for commencing work at once; he said he would try and do so. He afterwards had interviews with Mr. Johnston Robertson, at my office, and subsequently informed me that the only way he saw of arranging matters was to take them in as local partners, as I refused to let him sub-let or in any way relieve his firm from their contract. He then said he would see the late Mr. Robertson about it. As I afterwards learned, an agreement was drawn up between them. I have never seen it or any draft of it, nor do I know its contents, or how it was signed. I told him that the local men could not draw any moneys on the contracts here, as the vouchers would have to be signed by him, or one of his Montreal firm; he said afterwards that Mr. A. R. Robertson had suggested that a power of attorney should be given by the Montreal firm to Mr. John Nicholson. This I agreed to. He told me his reason for selecting Nicholson was that he seemed to stand well here as to character. Mr. McNamee saw me the night before he left about the fresh contract of October, 1880, which he said he would have executed. In the course of conversation I asked him if he could make it convenient when he went back, to see Sir John Macdonald at Ottawa, with a view of convincing him of the importance of further railway construction from Yale downward, and on the Island; and apprise him of the strong feeling there was on the subject here; and as Mr. McNamee spoke very favourably of the country, and had visited Yale, and as I recollect, Nanaimo also, and had gone through Saanich, I requested him to state to Sir John the very favourable impressions which he, Mr. McNamee, entertained of the country. He said that although he was living in Montreal, and moving about occasionally, he would be glad to do so, if I would return the compliment by dropping him a line if I saw anything going wrong with the management of the work here, and assist him in any way until Mr. Nish could get out, which he then thought would be probably in March, 1881. I, of course, promised to do so. He subsequently telegraphed to me asking me to be good enough to see what the trouble was about some powder he had ordered for the work; I did so, saw Mr. Huntington and told him I had such a message. I met Mr. Huntington in the street; we went to Mr. Ebert's office to see about it. I told Mr. Eberts that I had not seen their agreement, which he had, and on his offering to show it to me I declined to see it, and I told them they must settle their own business. According to Mr. Huntington's story he seemed to be in the right in the dispute between him and McNamee & Co., of Montreal, but of course I had not heard the other side. To the best of my recollection the powder was either seized or detained on account of non-payment of duties. I telegraphed to McNamee that he had better get some one here to attend to his business, and suggested Mr. Rithet, whom I knew he was acquainted with before he left. I heard nothing more of what became of the powder until about four days ago (since the sitting of this Committee), when I asked Mr. Finlaison, of the Custom House, on James Bay Bridge, what became of it, and he informed me that it had been sold for non-payment of duties. To the best of my recollection the dispute about the powder occurred either late in 1880, or early in 1881, but I really can't say. Further, Mr. McNamee wrote to me that a sum of \$15,000 either was, or would be, due to the firm in Montreal, and asked me if I would do him the favour of getting a note for them for the amount, I forget for what period. I told Huntington that I had received such a letter, and that it was not my business to interfere in such matters, and that he could do what he thought fit. I consequently never made out or presented any note to him for signature. I wrote to Mr. McNamee himself that these

were matters I could not deal with or interfere with, and that he must get some one else to attend to his business, and I have heard nothing more of anything in connection with this matter since, and know nothing of it. The next communication I had with McNamee & Co., was my telegram to them at Montreal on 13th September, 1881, virtually threatening to take the work from them. I saw Mr. Nish and Mr. Stewart when they were here lately (Mr. Nish is one of the Montreal firm); they called at my office a day or two after their arrival. Mr. Nish asked me some questions about the work; I told him that he had better go down and look at it for himself as he would then be unbiased by me in any opinion he might form of it; he did so. Some few days afterwards he saw me again at the office, when he told me that the work was in a bad state, and that the excavations should have been finished long before; that outside of the Government pump nothing like the amount of plant that was required in a work of that kind was on the ground, and that the money payments of some \$30,000 were the best gauge to show how little had been done. He then told me what I heard for the first time, that they, meaning the Montreal firm, had power to put an end to their agreement with the local men by giving them twenty or twenty-four hours' notice, I forget which, if the work was unsatisfactory to the Government. He asked me what to do; I told him I could give him no other advice than to push the work forward. He asked me if I could recommend any legal gentleman to him, and I referred him to Mr. Hett. I told him he had better read all the correspondence down at the office on the Dock work. Subsequently he told me that he had done so, and also had looked at the specifications. I asked him what he thought of the correspondence, and especially as to the ridiculous part of it as to alleged delays respecting the change from sandstone to granite; he said "I told the man with the spectacles, the 'clerk, that we had not a leg to stand on as we were bound by the specifications to proceed with the 'contract, except stopped by an order from you, and that a change of materials required an order in writing 'from you, which I saw had not been given. I made this remark to the clerk because he was talking to 'me about damages against the Government for delays." The above, as nearly as possible, is what he said. I then told him that he and his firm were the responsible parties for all this, and that they would be held to their contract; he asked me if I could so terminate the contract as to let the bondsmen go on with the work so as to save their securities. I refused to do so; he then asked me if I could take the work over and give it to them back again, so as to save time and a lawsuit which Mr. Hett advised him would have to be commenced against the local partners. I told him that the idea was absurd, that it would be taking the contract from McNamee & Co. and giving it to McNamee & Co., and that he must do the best he could as no longer delay beyond the then week would be allowed; and, further, that the Dominion Government had given notice that they would step in and take the work if better progress was not made. At the end of the week, which was February 18th, 1882, I received a report of progress from the Resident Engineer of an unsatisfactory character. Mr. Hett came in to ask me if possible to take no steps for a few days; in fact he had written me a letter on behalf of McNamee & Co., of Montreal, asking me not to carry out the threat of forfeiting the contract, as his clients, he thought, would be able to arrange for more rapid progress in a few days. This was the effect of the letter. On his visit to the office on the 18th, above-mentioned, he told me that Mr. Nish was about to call on me, or he would get him to see me, to ascertain what could be done as the week was up. I told him I intended writing a letter to the firm, which I did on that day. The letter was directed, as usual, to the Esquimalt Graving Dock Works. Mr. Hett remarked at the same time that the letter would be of value to him and asked me to be good enough to attend to it at once. When Mr. Nish came over I gave it to him; he made a remark to the effect that he was between two fires, and hardly knew what to do, but he was about to apply to the Court for an injunction against the local contractors so as to get possession of the work, and he hoped that I would not take any harsh measures until the question was decided. This ended the interview. I met him in the street afterwards and told him that a Dock Committee would be appointed, and asked him if he had any objections to appear if he was required; he said no, but that he did not know what good he could do except with respect to any evidence given by the local contractors, and he would like to hear what they had to say. I never saw him afterwards, and knew nothing of his movements until I saw by the newspapers that he and Mr. Stewart had left. I put in a copy of the letter above referred to, of 18th February, 1882, given to Mr. Nish:—

"LANDS AND WORKS DEPARTMENT,

"Victoria, February 18th, 1882.

"SIR,—I am in receipt, this morning, of a report from the Resident Engineer, in effect stating that the progress of the dock work has been, and continues to be, most unsatisfactory.

"I have therefore to inform you that I consider that your contract is not being carried out in accordance with its terms, and that I feel bound to draw your attention to the clauses of the specifications empowering the Government to take possession of the works on failure of the contractors to properly carry out the contract.

"I may also observe that the Dominion Government have notified the Government here some time ago that the progress of the work was unsatisfactory, and intimated that this notice was given in accordance with the Statute of 1880, relating to the dock, which empowers them to take possession of the works and complete them in the event of their being carried on as they have been. I have, &c.

(Signed) "GEO. A. WALKEM,
Chief Commissioner, &c.

Messrs. McNamee & Co.,
Contractors Esquimalt Graving Dock, Esquimalt.

GEO. A. WALKEM.

Signed, 9th March, in the presence of }
THORNTON FELL.

THURSDAY, MARCH 9TH, 1882.

WILLIAM BENNETT:—

Mr. Wilson.—Are you in the employ of the Provincial Government? *Ans.*—I was sent out here in 1875 by Messrs. Kinipple & Morris; my engagement with them being for three years, or possibly four. My salary was to be paid here by the Government of British Columbia, and the amount deducted from the commission due to the Engineers in Chief under their agreement with the Government. As there was considerable delay in starting the works, and as the works progressed so slowly, the Engineers in Chief informed the Government that as the works were incompleting through no fault of theirs, they considered themselves only responsible for my salary for three years. My salary, since the expiration of the three years, has been paid, as it was before the three years expired, by the Government. I have not, however, received a formal appointment from the Provincial Government.

Mr. Wilson.—In what position were you sent out here by Kinipple & Morris in 1875? *Ans.*—In the position of Resident Engineer of the Esquimalt Graving Dock.

Mr. Wilson.—Have you ever acted in that capacity before? *Ans.*—I was articled to the Engineer of the Bute Docks, Cardiff, South Wales, in 1864, and after passing through a three years' pupilage, was appointed on the staff, and I remained there for eleven years, and for the last six was chief assistant, superintending very extensive dock works there, among which was a Graving Dock of larger dimensions than the one now in course of construction here. I left there in June, 1875, and received my present appointment from Messrs. Kinipple & Morris at once. I left England in July, 1875, and arrived here in August.

Mr. Wilson.—When appointed by Kinipple & Morris as Resident Engineer of the Esquimalt Dock did you receive any instructions in writing defining the duties of your position? *Ans.*—I wish my answer to this question to stand over until I can refer to my agreement with Messrs. Kinipple & Morris. [Subsequently Mr. Bennett read his agreement with Messrs. Kinipple & Morris, and put in a copy as Exhibit 18.]

Mr. Wilson.—Have you received any written instructions from the Provincial Government defining the duties of your position? *Ans.*—No.

Mr. Wilson.—Had you any verbal instructions from Kinipple & Morris defining your duties as Resident Engineer of the Esquimalt Dock? *Ans.*—Merely that I was to act as Resident Engineer. They told me that possibly the work would be done in small separate contracts, such as contract for excavations, for the supply of materials, and for putting the same together, as it was probable that no local men would be found willing to undertake the job as a whole, and that therefore I should not only have to be Resident Engineer but Contractors' Engineer as well.

Mr. Wilson.—What do you consider, speaking generally, are the duties of your position? *Ans.*—To see that the work is executed according to the plans and specifications, and to make measurements of the work executed for certificates as they become due.

Mr. Wilson.—Have you ever acted as Government Engineer and Contractors' Engineer at the same time at Esquimalt? *Ans.*—No; although the Cofferdam was completed by men in the employ of the Government under my immediate superintendence, and I may state the work was done for a much less sum than if the contractors had finished the job.

Mr. Helgesen.—Is it not your duty to report, from time to time, to the Government upon the quantities of materials, &c., required for the work? *Ans.*—Yes; and I have done so already as regards the work in progress.

Mr. Wilson.—Have you charge of all dock material, including cement, belonging to the Government at Esquimalt? *Ans.*—I presume I have general charge. The contractors have charge of certain plant, such as the auxiliary pump and concrete mixer lent to them by the Government under the terms of the specifications. The cement is in charge of Mr. Selleck, in whose warehouse it is stored. The rest of the pumping machinery is stored in a building belonging to the Government which was built for the purpose.

Mr. Wilson.—Are not some of your duties defined in the specifications of the Esquimalt Graving Dock drawn up by Kinipple & Morris? *Ans.*—Yes.

Mr. Wilson.—I notice in clause 106 of the specifications, which deals with Portland cement, that "at least two tests will be made by the Resident Engineer, one at the time of the delivery of the cement, and another on the tenth day after delivery, or at such other times as in the opinion of the Resident Engineer may be deemed advisable; the tests are to be made from samples taken from every 25th bushel." Have you made the tests according to the above clause of the specifications? *Ans.*—This clause evidently refers to works going on at home where the cement comes from the makers to various public works in quantities as required. As the cement here has been delivered at the works for so long a time, I have not made tests from every 25th bushel as there would be no particular object in my doing so. Moreover, I have not sufficient moulds; but I have made numerous tests ever since the work started, and as often as I deemed desirable.

Mr. Wilson.—Have you kept a record of the tests made by you? *Ans.*—Yes.

Mr. Wilson.—Will you produce it? *Ans.*—Yes. [Record produced as Exhibit 17.]

Mr. Wilson.—When did you make the first test? *Ans.*—22nd December, 1876.

Mr. Wilson.—Did you find any change in the quality of the cement from time to time as you tested it? *Ans.*—I find the cement takes a longer time to set than it used to do, but that the test bricks after being allowed to remain in the air for a longer period than they used to before being immersed in water for seven days, give almost as good a result now as they did in 1876, and in some cases quite as good. I did not make many tests in the years 1876, 1877, 1878, and 1879, as no cement was being used; since then I have made tests more frequently, and since dock construction started, when cement was used, almost continuously. I cannot say cement improves by keeping, and consider the deterioration to be about 20 per cent. on the average. Some of the tests are not very satisfactory. The cement in the fir casks not being as good as that in the oak, but in the test bricks very often air holes and small pieces of grit are found, and this makes a very considerable difference in the result of the test.

Mr. Wilson.—What strain did the bricks stand in 1880 on an average? *Ans.*—About 600 lbs.

Mr. Wilson.—Was there much difference between the strength of the bricks made from the cement in the oak and fir casks in 1881? *Ans.*—Fir, about 450 lbs., and the oak and fir mixed, about 600 lbs., and oak

alone about 600 lbs. I did not, however, make many tests of oak alone, as the cement in oak and fir casks has been used mixed together principally since construction of dock commenced.

Mr. Wilson—What quantity of the original cement ordered came in fir and what in oak? *Ans.*—I do not know how much came, but 1486 oak casks and 1155 fir casks have been used from 12th August, 1880, to 4th March, 1882.

Mr. Wilson—What is the standard of strength the cement should stand as required by clause 106 of the specifications? *Ans.*—750 lbs.

Mr. Wilson—In what year was the bulk of the cement stored at Selleck's first used in the Dry Dock? *Ans.*—In 1881.

Mr. Galbraith—Are not test bricks made of new or fresh cement subject to air holes and grit? *Ans.*—Yes.

Mr. Wilson—During the year 1881, when large quantities of cement were being used, did you make tests from every 25th bushel? *Ans.*—I have already stated that I did not.

Mr. Wilson—How much of the cement bought in 1874 or 1875 remains on hand? *Ans.*—About 25 oak casks, which have only had their tops removed; 13 oak casks filled with cement that has been crushed and put back into barrels, and a heap containing about 65 more oak casks partially caked, and another heap containing about 40 oak barrels of hardened cement.

Mr. Wilson—Are there any fir barrels of cement on hand? *Ans.*—In the 25 casks referred to in my last answer, there are five included which I am not quite sure are fir or oak, as they are covered over with a heap of old staves, but the inspector informs me he knows there are five barrels there.

Mr. Wilson—How many tons of cement in all are there on hand of the old lot, and what is its condition? *Ans.*—About 23 tons, good enough to mix up with fine cement, and about 15 tons which would have to be re-calcined and ground before being used.

Mr. Wilson—Have you, during the progress of the dock work, increased, as required by clause 106 of the specifications, the proportions of cement to be used in proportion as the tests fall below the standard of 750? *Ans.*—Yes.

Mr. Helgesen—Have you any account of the extra quantity of cement it has taken to make up the deficiency in strength caused by deterioration? *Ans.*—About 20 per cent.

Mr. Galbraith—Can the cement on hand all be used in the construction of the dock? *Ans.*—I do not think so, some being so hard as to render it useless.

Mr. Helgesen—Can you inform us how much the 20 per cent. amounts to in weight? *Ans.*—I can hardly tell.

Mr. Smithe—Do you know that Engineers' errors are proverbial? *Ans.*—I cannot say that I do.

Mr. Smithe—Then you do not agree with the Chief Commissioner of Lands and Works on that point? *Ans.*—No.

Mr. Smithe—You state in your letter to the Chief Commissioner of Lands and Works, dated 28th February, 1882, which letter has been put in as an Exhibit (15), that your former memos. on the probable total cost of the dock were based on the assumption that all the cement required was here; will you inform the Committee upon what that assumption was based? *Ans.*—The cement, with other materials, such as concrete mixers, pumping machinery, were ordered prior to my connection with the works, and I concluded that the Government in ordering one article as well as another had made provision for what they wanted.

Mr. Smithe—Do you consider it possible to make an exact estimate of the quantity of cement required to complete the dock? *Ans.*—The quantity will be dependent upon the quality of the cement, I therefore think any estimate will be but an approximate one. Assuming the cement to be up to the full standard required, a closely approximate estimate can be made.

Mr. Smithe—Will not the character of the materials used with the cement in making concrete, such as rubble-stone, sand, and shingle, also affect the estimate of the total amount of cement requisite to complete the dock? *Ans.*—The concrete has to be made of fine shingle, coarse sand, and fragments of broken stone, of approved quality, and the quantity of cement in the concrete is calculated on the supposition that the concrete is so made. If large stones are thrown in to the concrete when it is in a green state, and as is allowed, the more that are thrown in to the concrete the less cement will be used, as the bulk of concrete will naturally be increased by the quantity of stone so used.

Mr. Smithe—Does not, then, your answer indicate that in making any estimate of the total quantity of cement for the completion of the dock the quantity of stones so thrown in will materially affect the calculation, and that unless you know the exact quantity of stones that will be so used in the concrete you cannot possibly calculate the exact amount of cement that will be necessary, and that at best the estimate can be only approximate? *Ans.*—The estimate should be based on the grounds that no stones are to be thrown in. Care will be taken that not too many stones are so used, and any saving of cement that there may be in consequence will be a set-off against any cement that does not come up to the full standard, which quantity of course cannot be arrived at till the cement has arrived here; and unless the exact amount of stones to be thrown in to the concrete is specially stated the estimate of the total quantity will be an approximate one.

Mr. Smithe—Will 5 cubic yards of fine shingle and coarse sand, with one cubic yard of cement, which, according to the specifications, make the concrete, measure 6 cubic yards when made into concrete? *Ans.* No.

Mr. Smithe—How much would it make? *Ans.*—I cannot say precisely, as I have not finished the experiment. I have, however, tried it in the proportion of 4 to 1, and I find that, instead of making 5 parts, the result is 4, the loss of bulk being 20 per cent.

W. BENNETT.

Signed 10th March, 1882, in presence of }
THORNTON FELL.

FRIDAY, 10TH MARCH, 1882.

WILLIAM BENNETT.—*Continued.*

Mr. Helgesen—Have you received any further instructions from your principals, on dock matters, since the date of your first agreement? *Ans.*—I have, from time to time, in their correspondence with me, which has generally had reference to the works and to any small alterations in design; and when requested by them to communicate any suggestions to the Government have always done so.

Mr. Helgesen—After the specifications arrived in 1877, was it not your duty to make yourself fully acquainted with them? *Ans.*—I read them over at the time, and of course obtained a general insight as to the character of the work.

Mr. Helgesen—Was it not your duty to make yourself fully acquainted with the bills of quantities and all other matters when the dock was about to be built? *Ans.*—To a certain extent I did.

Mr. Helgesen—Did you make a calculation of the amount of cement and concrete required by the bills of quantities? *Ans.*—The amount of concrete is specified in the bills of quantities. I did not consider it necessary for me to go into the matter of cement, as I was under the impression that that had been already provided for by the Government, and the fact of no suggestion ever having been made to me by the Engineers in Chief that it would be advisable to have further shipments from England, confirmed my belief that the supply had been provided for.

Mr. Helgesen—Did you ever, at any time, make an accurate calculation of what quantity of cement was required in all, under the bills of quantities; if so, at what time? *Ans.*—Early in October, 1881, when I found the stock in hand was quite inadequate to complete the work, I suggested the desirability of getting further supplies from England, and on the 12th of November, 1881, I made a calculation of the amount required and sent it to the Chief Commissioner of Lands and Works. My estimate in all amounted to 5,060 tons.

Mr. Helgesen—Was it not your duty as Engineer in charge to have done so before, in order to provide against mistakes? *Ans.*—I made my estimate as soon as I was requested to do so. I had no knowledge what arrangements might have been made between the Government and the Engineers in Chief as to the cement required, and, as I have already stated, I considered that matter had been settled.

Mr. Helgesen—Did you know the quantity of the original cement on hand, and when did you find it out? *Ans.*—I was informed that there was about 700 tons after the arrival of the last shipment from England in 1875 or 1876.

Mr. Helgesen—Did you ever calculate how much concrete it would make and how far it would go towards completing the work? *Ans.*—The idea never entered into my head to do so, as I supposed provision for the full amount had been made.

Mr. Helgesen—Had you always a copy of the specifications and bills of quantities in your possession? *Ans.*—Yes.

Mr. Helgesen—Had you not ample time to become thoroughly acquainted with the bills of quantities, &c.? *Ans.*—I have stated that I had made myself generally acquainted with the bills of quantities, and also that the reason I did not go into the question of cement was because I believed the matter had been provided for.

Mr. Helgesen—Did it never occur to you at any time that the quantity of cement on hand was insufficient to complete the work? *Ans.*—Believing, as I did, that the total quantity had been provided for, it did not occur to me, until construction started, that the quantity was insufficient.

Mr. Helgesen—At what date did actual construction of dock work commence? *Ans.*—The first of the bricks were laid in August, 1881; excavations commenced in September, 1880.

Mr. Helgesen—Did you make a full calculation of what cement was wanting at the time you advised the Government to get 100 tons? *Ans.*—I had not at that date.

Mr. Helgesen—Did you do so at the time you advised the Chief Commissioner of Lands and Works to get 200 tons? *Ans.*—In a conversation with the Chief Commissioner of Lands and Works when I advised that 200 tons should be ordered, I was, I believe, asked how much more would be wanted. My reply was that I could not say for certain, but that a great deal more would be wanted, and that I had written to the Engineers-in-Chief as to how much they thought would be required. At a subsequent date I was asked to make an estimate as approximately as I could, and this estimate I sent in on 12th November, 1881. The Engineers-in-Chief have not replied to me as to the quantity of cement required, but the Chief Commissioner of Lands and Works informed me that he had received a telegram from them stating the amount would be 5000 tons. Such is my recollection of what occurred on the question relating to the further supply of cement.

Mr. Helgesen—Did you advise the Government at any time that 300 tons were wanted to complete the dock; and if so, upon what did you base your calculations? *Ans.*—The amounts of 100, 200, and 300 tons or more referred to, were amounts mentioned by me not as quantities which would be sufficient to complete the dock, but merely as amounts that would be required in the immediate future to carry on the construction of the dock. It was evident to me that this amount would be wanted by the way the stock on hand was being used up.

Mr. Helgesen—How could you properly advise the Government as regards the quantity of cement wanted, without making yourself thoroughly acquainted with the details of the bills of quantities? *Ans.*—I made my estimate up from the bills of quantities themselves.

Mr. Helgesen—Did you not lead the Chief Commissioner of Lands and Works to believe that up to October, 1881, only 100 tons more of cement were wanting to complete the dock? *Ans.*—The 100 tons referred to was placed on the estimates at my request as a quantity that might be wanted in case running water was met with in the excavations, when freshly imported cement would be better to use than that

which had been on hand for some time; and when that sum was placed on the estimates I told him it might not be wanted, as I then believed that the full supply of cement had been provided for.

Mr. Smithe—In making your estimate of 5,060 tons in November last, did you fully recognize the shrinkage of 20 per cent. in the concrete referred to by you in a former answer, and did you make due allowance therefor? *Ans.*—I allowed 15 per cent. for loss of bulk and waste, and took into consideration the quantity of large stones that would be deposited in the concrete, which I put down at 10 per cent. This would allow a small margin over; but the estimate was made upon the assumption that the cement would be up to the full standard. I did not make any allowance for the deteriorated quantity on hand, as 20 per cent., my allowance for deterioration on the 700 tons, is but a small matter on the full total.

Mr. Smithe—Have you, then, either from considerations of shrinkage, caused by the absorption of cement in making concrete, waste, or any other consideration whatever, had any reason to doubt the sufficiency of your estimate of 5,060 tons already referred to? *Ans.*—I think perhaps I might have given a more liberal allowance to the compos for brick work and stone, but I do not consider I can be very far out, as the estimate of the Engineers-in-Chief, with all their large experience in these matters, closely agrees with mine.

Mr. Smithe—Would not the Engineers-in-Chief estimate the amount of cement required from the specifications, embracing fine shingle, coarse sand, and cement, and make no allowance for stones thrown in, as you say you have done to the extent of 10 per cent.? *Ans.*—I have no means of knowing how they made their calculations, but suppose they also took into consideration the question of stones thrown in, as is allowed by the specifications.

Mr. Smithe—Do you know whether any other Engineers have made calculations of the quantity of cement required to complete the dock; and, if so, do you know how their estimates compare with yours? *Ans.*—I have heard that estimates have been made by other gentlemen, but I have not heard what the amounts are.

Mr. Wilson—Can you inform us why, in your calculation of the brickwork, you have only 244 cubic yards of four to one compo and 256 cubic yards of three to one compo, when the specifications show over 6000 yards of brickwork in compo? *Ans.*—I see, since my attention has been drawn to this point, that my estimate will require revision.

Mr. Wilson—Referring to the granite and sandstone calculation, will you inform us whether $\frac{3}{4}$ -inch joints to every cubic foot of stone equals one thirty-second part of cement compo? Is it a known rule, or calculation of your own. *Ans.*—It is a calculation of my own.

Mr. Wilson—In calculating the total quantity of cement for the dock, you have reckoned 21 bushels of cement to the cubic yard, and the bushel as weighing 113 lbs.; how did you arrive at these figures? *Ans.*—The contents of a bushel is stated, in Mouldsworth's Engineering Formula, to be 1.28 cubic feet, which, divided into 27 cubic feet or one cubic yard, gives 21, approximately, as the result. The weight of the cement from England had to be 113 lbs. per bushel, according to the contract entered into with the cement manufacturer.

Mr. Wilson—As soon as you have finished the measurements you are now making of the total quantity of work done on the dock up to date, will you, taking the quantity of cement used and the work done, calculate for the Committee the total amount of cement the dock will take? *Ans.*—I will try and get at the result. Subsequently, estimate put in as Exhibit No. 19.

Mr. Smithe—Did the Government at any time before entering upon dock construction submit to you, for your professional opinion, the question of the sufficiency of the cement on hand for the work to be done on the dock? *Ans.*—No.

Mr. Smithe—If you had been asked to do so, could you have made as accurate an estimate of the quantity of cement required, before the McNamee contract was entered upon, as you were able to do in November last, when you estimated that at least 4400 tons beyond the original amount purchased would be required? *Ans.*—Yes.

Mr. Smithe—Do you consider that you or your employers (Messrs. Kinipple & Morris) are in any way responsible for the Government undertaking to furnish all the cement for the dock? *Ans.*—The Engineers-in-Chief drew up the specifications which contain the clause to the effect that the Government would supply the cement. I do not know at whose suggestion the clause was inserted.

Mr. Smithe—Can you, professionally, say that the clauses in the specifications requiring the Government to supply the cement mean, that the supply was to be without cost to the contractors, or will they not bear the construction that in order to insure a standard quality of cement which might be submitted to tests in England by the Engineers, as was done when the first purchase was made, the Government are simply made to undertake to supply the cement to the contractors at cost, or at a fixed price, as is shown by Mr. Sproat's letter to have been suggested by Mr. Morris in 1874? *Ans.*—I have not read Mr. Sproat's letter, and therefore do not know what Mr. Morris suggested. I should infer that the cement would be provided free of cost from the fact that no mention is made of cement in the bills of quantities beyond that the Government would furnish it, and that where extra strength of compo parts were more particularly described in the specifications, that the increase of strength will not affect the price of the brickwork, as the cement would be found by the Government, and that no space is left in the bills of quantities for a price to be filled in by the contractor at which he would buy it from the Government.

Mr. Smithe—In Mr. Sproat's letter, referred to in the last question, Mr. Morris suggests "That a contractor would agree to take the cement which the Government may have ordered, and he thinks that a contractor would gladly do this, as the Government could import the cement more cheaply than a contractor could, and it would have passed Mr. Kinipple's inspection here on behalf of the Government Engineers." Do you not think that that suggestion might have been acted upon to advantage? *Ans.*—I think it would have made no difference, for if such had been done the cost of the work would have been equally as large, as contractors would have simply added on to their prices the value of the cement to be used in the works.

Mr. Smithe—Would it not have disclosed more fully the whole responsibility the Province was assuming before entering upon construction? *Ans.*—Yes.

Mr. Smithe—Would not that have been an advantage? *Ans.*—Probably.

W. BENNETT.

Signed 11th March, 1882, in the presence of }
THORNTON FELL.

SATURDAY, MARCH 11TH, 1882.

MR. BENNETT—*Continued.*

Mr. Smithe—Was your letter to Mr. Walkem, dated 18th February, 1880, advising the order of 100 tons of cement, written by you at the suggestion of Mr. Walkem or any one else? *Ans.*—I think not. I have no recollection at all of it.

Mr. Smithe—Why did you not, in that letter, give your reasons for advising the purchase of that 100 tons of cement; and did Mr. Walkem accept the advice without question as to the necessity of it? *Ans.*—I state in that letter that it was advisable to order 100 tons because I anticipated the early commencement of dock construction, when I fancied—although I do not so state in the letter—that it would be desirable to have some freshly imported cement in case of any running water being found in the foundations. The cement, however, was not ordered at that time.

Mr. Smithe—You have given your reasons now for giving the advice you did in that letter; but my question was, why did you not at the time give your reasons to Mr. Walkem? Was it that you had so poor an opinion of his knowledge on dock matters that you thought it was not worth while? *Ans.*—I believe I did tell Mr. Walkem the reason why I suggested the desirability of ordering the cement—viz., on account of the probability of finding running water in the foundations. I consider Mr. Walkem's opinion on dock matters a very good one, and therefore he could appreciate my suggestion. I cannot say why I omitted adding in the letter what I believed I told Mr. Walkem verbally.

Mr. Smithe—Did Mr. Walkem, at any time, assist you in any way, either verbally or otherwise, in shaping your correspondence on dock matters? *Ans.*—As head of his department, I have, of course, consulted with him on matters pertaining to the dock, and he has at times suggested slight alterations from my original drafts.

Mr. Smithe—Is that the full extent of the assistance he has given you, and has not your correspondence sometimes been made to order? *Ans.*—I have received but little assistance from the Chief Commissioner of Lands and Works in the way of correspondence, and can safely state none has been made to order, that is, to write what I did not mean. The Chief Commissioner has, however, often requested me to make reports to him.

Mr. Smithe—In your letter to Mr. Walkem, of 28th February, 1882, you state that the several amounts of cement mentioned by you in your letters to him were merely what would be required in the immediate future, and not the total amount for the completion of the dock. Does that statement apply equally to the quantities Mr. Walkem, in his evidence, said you had verbally recommended him to get? *Ans.*—I believe my recommendation to obtain further supplies of cement were made by letter only as regards the amount lent to the corporation, and 100 tons besides. The remaining quantities referred to by Mr. Walkem I recommended verbally should be ordered, as I was quite sure the amount would be required, although at that time I had not made a calculation of the full amount required, and at that time too I was expecting to hear from the Engineers in Chief on the question, to whom I had written.

Mr. Smithe—Is it a fact that you told Mr. Walkem, in October or November last, that 750 tons of additional cement would not be needed to finish the dock, but that it could not be wrong to get that amount as what would be over could easily be sold, the quality being good. *Ans.*—I remember when the matter was discussed, Mr. Walkem asked me how much more would be required. I said I did not know for certain, but that as much again as the original stock, which I suppose is the 750 tons he refers to, would be wanted. I certainly do not remember that I ever said 750 tons would not be needed, nor do I remember any remark being made about selling what might be left.

Mr. Smithe—As a practical Engineer, can you give a practical reason why the Government should in the first instance have made the purchase of cement they did, or why the supply of that article should not have been part of the contractor's obligations? *Ans.*—I can give no reason why the Government undertook to supply the cement any more than why they purchased the pump, or why the cofferdam and dock were not let as one job. This answer, I beg to state, is taking a practical view of the matter. There may, however, have been strong and good reasons, that I know nothing of, for taking the course adopted.

Mr. Smithe—Then, as a practical Engineer, you think that if the whole work had been let in one contract and the contractor required to provide all material, subject, of course, to proper inspection and supervision, the dock could have been much more economically built, than under present arrangements it can or will be? *Ans.*—It is hardly fair to expect me to say what a contractor might have offered to do the whole work for; possibly the dock might have cost more than it will, but I think it would have been far better if the dock could have been let as a whole.

Mr. Harris—As an Engineer, with your intimate knowledge of the Esquimalt Graving Dock, what is your estimate of the sum for which the dock could have been completed had it been let in one contract, and how much will it cost as it is now being built? *Ans.*—I wish this question to stand over.

W. BENNETT.

Signed, 13th March, in the presence of }
THORNTON FELL.

MONDAY, MARCH 13TH, 1882.

W. BENNETT,—*Continued.*

Mr. Galbraith—Who provided the pumping machinery for the dock? *Ans.*—The Government.

Mr. Galbraith—When was it landed on the dock site and stored? *Ans.*—The first shipment was landed on the 23rd November, 1876, and the remainder on the 24th February, 1877.

Mr. Galbraith—Have you had it overhauled; and, if so, when was this first done, and how often has it been done since? *Ans.*—I had the machinery thoroughly cleaned immediately on its being landed, and it has been kept constantly in good order since by the Engineer in charge of the auxiliary pump.

Mr. Galbraith—Have you had it checked by the invoices; and, if so, have you found it correct? *Ans.*—Yes. The only thing which was reported to me as missing was a few short bolts.

Mr. Galbraith—When did you first check it? *Ans.*—On its arrival.

Mr. Galbraith—If you considered it your duty to check it—viz., the machinery—with the invoices and see that it was in order and complete for the dock, why did you not take a similar precaution with the cement? *Ans.*—Because I was present when the machinery arrived and saw the invoices, whereas the greater portion of the cement was here before I arrived, and I did not know how much had been ordered or how much was in stock.

Mr. Galbraith—Did you ever enquire as to the amount ordered? *Ans.*—I did not.

Mr. Galbraith—Was it not your duty as Resident Engineer to find out the exact quantity ordered? *Ans.*—I did not consider it to be so.

Mr. Galbraith—For what reason? *Ans.*—Because I never thought one way or the other about the matter, the order being given before my arrival.

Mr. Galbraith—Was it not your duty to see that everything was ready and complete for the construction of the dock? *Ans.*—I thought everything was ready.

Mr. Galbraith—If you wish to build a large dock, such as the present, on your own account, and had the machinery and all the cement supposed to be necessary given to you gratis, would you not, as a matter of ordinary prudence, check off the cement and machinery with your specifications, bills of quantities, and invoices, to see if they (the cement and machinery) would be sufficient, before you incurred any risk, so as ascertain what the work would cost you? *Ans.*—I most probably should do so.

Mr. Galbraith—Where are the estimates of the Chief Engineers which Mr. Vernon acknowledges the receipt of in his letter dated 21st July, 1877, which appears in Sessional Papers of 1878, page 559? *Ans.* I was not aware Mr. Vernon had ever received an estimate of the cost of the dock. I never heard of the receipt of it, and do not think there was one.

Mr. Galbraith—Do you not know that the dock correspondence to the Provincial Secretary was in the portfolio in the Land Office? *Ans.*—I am aware that there was some correspondence in the portfolio, but I never went through all the letters.

Mr. Galbraith—Had you not free access to the letters and papers in the portfolio? *Ans.*—Yes.

Mr. Galbraith—Have you not had leisure time during your six years here to carefully go over all the dock correspondence? *Ans.*—I have, no doubt, had plenty of time.

Mr. Galbraith—Can you give any reason why you did not carefully go through all the dock correspondence? *Ans.*—There was no reason for my doing so, as I had nothing definite to find out, excepting on one occasion, when Mr. Walkem asked me to hunt up a letter with reference to the midship section of one of H.M. ships of war.

Mr. Galbraith—Was not the first set of dock specifications or conditions sent out by Kinipple & Morris revised and settled by Mr. Vernon? *Ans.*—The original draft was sent out when Mr. Vernon was Chief Commissioner. I remember some slight alterations were made and the draft was returned to Kinipple & Morris. The letter enclosing the draft reads as follows:—

“LANDS AND WORKS DEPARTMENT,

“Victoria, B.C., 18th March, 1876.

“Messrs. Kinipple & Morris,

“3, Westminster Chambers, London, S.W.

“ESQUIMALT DOCK.

“GENTLEMEN,—I have the honour to inform you that I have this day returned the conditions for the carrying out of the main dock works. I have made a few alterations in pencil on pages Nos. 7, 10, 11, 12, 15, 17, 24, 25, 65, and 66.

“I have, &c., (Signed) FORBES G. VERNON, C.C.L. & W.”

Mr. Galbraith—Why did you not go over the specifications when you made out the estimate for Mr. Wilson? *Ans.*—Because I thought the question of the supply of pumps and cement was settled.

Mr. Galbraith—Has not Mr. Walkem, from time to time, asked you to assist the contractors as far as possible, and until lately? *Ans.*—Yes.

Mr. Galbraith—How has he expressed himself to you with respect to assisting the local contractors? *Ans.*—He has always said that he wished to help them along as much as he could.

Mr. Galbraith—Has he ever, directly or indirectly, given you orders, or even hints, to embarrass or cramp the contractors? *Ans.*—He has neither done one nor the other.

Mr. Wilson—When did the Provincial Government inform you that the cement purchased in 1874 was bought for the Cofferdam and sea-wall, and not for the dock? *Ans.*—The Government have never informed me that such was the case, and the fact I learned for the first time from a remark made by Mr. Beaven a very short time since.

Mr. Wilson—Had you been informed by the Government that the cement at Esquimalt was not bought to complete the dock, would you have made a calculation of the quantity of cement the dock would take?

Ans.—If I had not always been under the impression that the cement required for the dock was here, I should most probably have done so.

Mr. Wilson—Were you in ignorance of the existence of Mr. Sproat's letter concerning cement until it was produced before this Committee? *Ans.*—I was.

Mr. Wilson—When the question of including the cement in the dock contract was considered by you and Messrs. Walkem and Beaven, did either of those gentlemen inform you that Mr. Morris had suggested when the cement was purchased that the cement should be included in the contract? *Ans.*—I do not remember anything being said about Mr. Morris in the matter. The clause stating that the Government would provide the cement was in the original draft of the specifications.

Mr. Wilson—If the Provincial Government had acted on Mr. Morris' suggestion to sell the cement to the contractors, just as they acted on his suggestion to buy the cement, and had fixed a price per ton for it in the bills of quantities, were not Kinipple & Morris' bills of quantities so made that tenderers could have figured the cement in their tenders for the dock? *Ans.*—The bills of quantities need not have been altered, with the exception of the notes stating the Government would supply the cement. The body of the specification would also have had to be altered in this respect.

Mr. Wilson—Will you tell us what increase in the quantity of cement you have made on the dock work done? *Ans.*—The 5 to 1 I changed to 4 to 1 when the work started, as this was the most important, being the 9-inch skin over the bottoms of the foundations, and the lining to all walls. The filling in of the cellular pockets was of 7 to 1. Soon after the sea-wall started, I changed the 7 to 1 in it to 6 to 1, and all the 5 to 1 in it has been 4 to 1; and I may add that I have not ordered a reduction of the quantity of cement used in the concrete amounting to 1-7th part, which I might have done by clause 115 of the specifications, wherein it is stated that if the cement is mixed by machinery that amount might be dispensed with.

Mr. Wilson—Are the cement tests made by you as the specifications require; if not, in what do they differ? *Ans.*—The clause states the brick shall be put in water after being 12 hours in the open air. This would be the proper time if the cement was used, as it is at home, quite fresh; but as, from its age, it does not set as rapidly as it should, the bricks are kept out of water for a longer period, and lately they have been kept out 36 hours, for by that time I consider the cement is in the same state of hardness as it is at home when the cement has been made up 12 hours.

Mr. Wilson—Will not cement bricks 10 days old bear a greater strain than bricks 7½ days old? *Ans.* I think perhaps they would.

Mr. Wilson—Who are the makers of the late shipment of cement from San Francisco? *Ans.*—White Brothers.

Mr. Smithe—What tests of that cement have you made, and what is the result? *Ans.*—I have tested a sample sent by them; on 29th November, 1881, the average of three bricks gave a result of 564; again, on December 3rd, 1881, I tested three more, the average being 676. On December 13th, 1881, I tested three more, the average being 529½. I may add, there is a great difference in the result sometimes, owing to the way in which the bricks are made up, and bricks made out of the same barrel I have known to vary as much as 300 lbs. The standard required by the specifications is 750 lbs.

Mr. Wilson—In making up the quantity of cement to bring it up to the required standard, did you act on the advice of the Chief Commissioner, on the specifications, or on your own opinion? *Ans.*—On my own opinion.

Mr. Wilson—How often did Mr. Walkem examine your record of tests? *Ans.*—I don't think he has ever seen the book.

Mr. Smithe—Did you ever report to Mr. Walkem the amount of cement you ordered to be added, from time to time, towards making up the standard required by the specifications? *Ans.*—No.

Mr. Smithe—Did he never require you to do so? *Ans.*—No.

Mr. Smithe—Did he ever ask you how much cement you were adding on account of deficiency of quality? *Ans.*—No.

Mr. Smithe—Did he know that you were adding any cement to make up that deficiency? *Ans.*—I don't know whether he did or not.

Signed, 14th March, in the presence of }
THORNTON FELL.

W. BENNETT.

TUESDAY, 14TH MARCH, 1882.

WILLIAM BENNETT—Continued :—

Mr. Smithe—When you submitted your estimate of 4,400 tons as being the additional cement required to complete the dock, did Mr. Walkem get you to check your estimate more than once, and did you do so and assure him that you could not possibly be wrong? *Ans.*—When I reported that at least 4,400 tons would be wanted, Mr. Walkem was much astonished at the large quantity which I estimated would be wanted. He asked me to go over my figures again, which I did more than once, and I felt quite sure that I had not over-estimated the amount required.

Signed, 14th March, in the presence of }
THORNTON FELL.

W. BENNETT.

ARTHUR STANHOPE FARWELL:—

Mr. Helgesen—Are you connected with the Graving Dock at Esquimalt? *Ans.*—Yes, I am acting as Engineer for Messrs. Nicholson, Robertson, & Huntington.

Mr. Helgesen—Is that work progressing satisfactorily? *Ans.*—I consider that the work has gone on satisfactorily under existing circumstances.

Mr. Helgesen—In your opinion as an Engineer, how long will it take to finish the dock at the present rate of progression? *Ans.*—It will never be finished at all, taking into consideration that the contractors are out of cement.

Mr. Helgesen—Can you give any reason why the work is not progressing at a faster rate? *Ans.*—I consider the work has been prosecuted as fast as the supply of cement justified.

Mr. Helgesen—Have the contractors ever been detained, on the part of the Government, at any time, by reason of want of cement and other materials required for construction? *Ans.*—The only material to be supplied by the Government was the whole of the cement. The contractors used up the last of the cement considered fit for use, on the 4th March last; and since then all stone laying and concreting has been stopped.

Mr. Helgesen—Did the Resident Engineer condemn the cement you speak of as unfit for use? *Ans.*—I have no recollection of having any conversation with him about it.

Mr. Helgesen—How do you arrive at the conclusion that the cement on hand is unfit for use? *Ans.*—Mr. J. J. Robertson informed me on the 4th March last that Mr. Humber stopped his (Mr. Robertson's) using the balance of the cement, as it ought to be mixed with fresh cement.

Mr. Helgesen—Do you know if the Resident Engineer has condemned the cement here spoken of? *Ans.*—Not to my personal knowledge.

Mr. Helgesen—Did not the Government land the recent shipment of cement at the Dock before the other was exhausted? *Ans.*—As I said before, the contractors used up all the cement that was considered fit for use, on the 4th March. Between 70 and 80 barrels of cement were placed in Mr. Selleck's warehouse on the 6th March, about 9 or 10 o'clock in the morning.

Mr. Helgesen—How could the contractors, then, be detained by reason of the want of cement? *Ans.*—Clause 106 of the specifications will explain that. The clause states that "the cement will be deposited 'upon the works at least one month before it will be required for use, and at least two tests will be made 'by the Resident Engineer, one at the time of the delivery of the cement, and another on the tenth day after 'delivery, or at such other times as in the opinion of the Resident Engineer may be deemed advisable."

Mr. Helgesen—Has not the recent shipment of cement been within three miles of the works for many months, and how can that shipment affect clause 106 of the specifications? *Ans.*—I believe the last shipment of cement was landed at Victoria on Sunday, the 5th March last, and between 70 and 80 barrels of cement were taken round to Esquimalt the same day.

Mr. Helgesen—Has there been any extra work done by the contractors not provided for in the specifications? *Ans.*—I believe the site of the dock has been moved to the south 43 feet 6 inches. This alteration entails more excavation and decreases dumping space.

Mr. Helgesen—Will the local Government have to pay for this extra excavation, and what will it cost? *Ans.*—The contractors are paid a fixed sum per cubic yard for excavations and fixed sums per yard for depositing in different places. I have not calculated the difference the moving of the dock site will make in the excavating.

Mr. Helgesen—In your opinion what time will it take to execute this extra work with 25 men? *Ans.* I can't say.

Mr. Harris—Did you, when in the employ of the Provincial Government, ever make an estimate of the total cost of the dock? *Ans.*—No.

Mr. Harris—Were you ever asked to do so by the Chief Commissioner? *Ans.*—No.

Mr. Wilson—Was it understood in the Land Office, when you were in the Government employ, that all the cement required was on hand? *Ans.*—That was my impression.

Mr. Wilson—Did you know that the 716½ tons of cement were ordered for the Cofferdam and sea-wall, and not for the main dock? *Ans.*—I always considered the 716½ tons of cement were intended for the construction of the main dock work.

Mr. Wilson—Have you seen Mr. Sproat's letter of 2nd January, 1874, stating that such was not the case? *Ans.*—I never saw or heard of Mr. Sproat's letter, with reference to using the cement in the Cofferdam, until I saw it mentioned a few days since in the newspapers.

Mr. Wilson—Was the dock correspondence in the Lands and Works Office at that time? *Ans.*—It was supposed to be there.

Mr. Wilson—Did you see most of it? *Ans.*—In all probability I read it all.

Mr. Wilson—Is it your impression that Mr. Sproat's letter was not with the dock correspondence in the Land Office when you were in that department? *Ans.*—It could not have been.

Mr. Wilson—Were you in the Land Office when the main dock contract was let? *Ans.*—No; it was let a long time after I left the Government service.

Mr. Wilson—Did the specifications, bills of quantities, and estimates of the main dock arrive from Kinipple & Morris whilst you were in the Land Office? *Ans.*—Three complete sets of the plans, a number of specifications and bills of quantities were received in my time (1877). I have no recollection of any estimate being received at that time.

Mr. Wilson—Did you ever see any detailed estimate of the probable cost of the dock made by Kinipple & Morris? *Ans.*—My impression is there was such a document, but I can't say positively; the Land Office letter registers ought to settle that question.

Mr. Wilson—Were the plans, specifications, and bills of quantities, received by Mr. Vernon, drawn by Kinipple & Morris under instructions from Mr. Vernon? *Ans.*—The Land Office letter books will answer that.

Mr. Wilson—Do you know if Mr. Vernon amended the dock specifications? *Ans.*—I have some recollection of going through the conditions to be appended to the dock specifications with Mr. Bennett the

Resident Engineer, and jointly making some trivial alterations. The Land Office letter books will show what the alterations were.

Mr. Wilson—When did you first go on the dock works as Contractors' Engineer? *Ans.*—On 29th of August, 1881.

Mr. Wilson—When did you first discover that the cement at Esquimalt was insufficient to complete the dock? *Ans.*—I think about the end of September.

Mr. Wilson—Did you, at that time, make any calculations or estimate of the amount of cement required to complete the dock? *Ans.*—Mr. J. J. Robertson and myself made a rough estimate about that time.

Mr. Wilson—What was the amount of the estimate? *Ans.*—I have not the figures with me, but will produce them.

Mr. Wilson—Have you recently made a calculation of the amount of cement required to complete the dock; and, if so, will you give the figures? *Ans.*—I have made several. The amount of my last calculation is 6795 tons. As about 601 tons have been used, the quantity still required will be 6194 tons of 2240 lbs.

Mr. Wilson—Is it, in your opinion, possible to substitute stone for concrete in dock work, without diminishing the stability of the structure? *Ans.*—I am not prepared to say.

Mr. Wilson—Would such a change, if practicable, reduce the cost of the dock, viz., if rubble stone was substituted for concrete? *Ans.*—Yes; but how much I cannot state, without going into figures.

Mr. Smithe—Has any cement of an inferior quality to your knowledge gone into the dock? *Ans.*—I don't know; I never tested it.

Mr. Smithe—Has any additional amount of cement been put into the concrete beyond the proportions required by the specifications? *Ans.*—The cement has been entirely under the control of Mr. Bennett. In conversation Mr. Bennett informed me that the proportions had been changed from 7 to 1 to 6 to 1, and from 5 to 1 to 4 to 1, but I forget on what date.

Mr. Smithe—Have you observed in the work any evidence of inferior cement having been used? *Ans.* I can't say that I have.

Mr. Smithe—Do you consider that if cement up to the standard required by the specifications had been used in the sea-wall, it would be necessary, after three months have elapsed since it was laid, to prevent contractors from dumping against the back of it? *Ans.*—I think that would be an unreasonable time under favourable circumstances.

A. S. FARWELL.

Signed 15th March in the presence of }
THORNTON FELL.

WEDNESDAY, MARCH 15TH, 1882.

ARTHUR STANHOPE FARWELL—*Continued.*—

Mr. Galbraith—How much higher has the east quay wall to be raised, and how much cement would it take to bring the wall up to its full height, and if there had been 1000 tons of cement on hand when work stopped in March, where could cement have been used excepting on the sea-wall? *Ans.*—A short piece of the east quay wall is up to the height to receive the two feet coping; other portions of the wall are several courses lower; there is a break left in the wall for the purpose of admitting water to test the caisson. The west end of the wall is also racked back. I think about 25 tons of cement will carry the wall up to the coping level, with the above exceptions. The Contractors, I imagine, have regulated their conduct of the work to suit the quantity of cement on the works.

Mr. Galbraith—As regards detention on account of want of cement, was there not sufficient to keep on with till Saturday night (March 4th)? *Ans.*—I left Esquimalt about 5.30 on the evening of March 4th, and believe there was sufficient cement to finish the day's work, and no more; this, Mr. Robertson can inform you on more positively.

Mr. Galbraith—Leaving out the question as to the supply of cement, do you consider bricks were supplied in sufficient quantities to carry on the brickwork in time to finish the dock within the specified time? *Ans.*—Taking into consideration the inclemency of the winters here, I think the time specified for the completion of the dock—viz., 28 months—unreasonably short. As regards the quantity of bricks made, I consider the Contractors have done all they could be expected to do. A new brickyard had to be opened, and last year was an exceptionally bad one for brick making.

Mr. Galbraith—When did the first cargo of sandstone reach the works; and how many cubic feet have been delivered? *Ans.*—On the 15th of January, 1882. A second cargo was delivered on the 28th January. The rough measurement of both cargoes was about 4500 cubic feet.

Mr. Galbraith—How long was construction on the sea-wall delayed for want of sandstone? *Ans.*—I consider there is no delay attributable to the Contractors.

Mr. Galbraith—If the sea-wall had been brought up to the height it is now, at an earlier date, would not the ground of complaint, that the Resident Engineer would not allow the wall to be backed up with filling, have been groundless? *Ans.*—I imagine the Resident Engineer holds an opinion as to how long the sea-wall should stand and dry out before any backing is placed against it; what that length of time is, I do not know. At whatever time the sea-wall was finished, I suppose the Resident Engineer would consider a certain time necessary to permit the wall to dry.

Mr. Galbraith—Have you had any experience in backing of dock walls, and do you know the danger of tipping against walls just built? *Ans.*—I have had no experience in dock building. I have a general knowledge of retaining walls, and I am well aware that caution should be exercised in placing any heavy weights against them when in a very wet or green state.

Mr. Galbraith—Could not the dock walls have been in course of construction now, if the excavations had been in a further advanced state? *Ans.*—I don't consider it would have been a reasonable and advantageous way of conducting the work. If the excavation had been carried on to the extent necessary to admit of the walls of the dock being built simultaneously, the material excavated would have to be handled more than once by the Contractors, entailing expense and loss.

Mr. Galbraith—If they had been, would there not have been more room for dumping? *Ans.*—Of course there would.

Mr. Galbraith—If more men had been employed, would not the excavations have been further advanced? *Ans.*—I am not prepared to say.

Mr. Galbraith—Do you consider sufficient men have been employed, and sufficient quantities of bricks and sandstone supplied, to complete the works within the specified time? *Ans.*—I consider, as I said before, that the contract time is unreasonably short; the Contractors, to the best of my belief, received no instructions as to what stone material was to be used in the dock up to about September last. I consider the Contractors prepared as large a quantity of bricks as could be expected under the circumstances I have above referred to. I believe the Contractors have employed all the men they could obtain; they are prevented by the terms of the contract from employing Chinamen.

Mr. Galbraith—What stone is mentioned in the specifications, and have the Contractors ever been notified not to use sandstone? *Ans.*—Granite and sandstone are mentioned in the specifications. The correspondence between the Chief Commissioner and the Contractors will answer the latter part of the question.

Mr. Wilson—Had the contractors a supply of sandstone on hand when the supply of Government cement was exhausted? *Ans.*—Yes.

Mr. Wilson—Which do you consider was behindhand, the contractors in supplying the stone, or the Government in supplying the cement to lay the stone? *Ans.*—The Government.

Mr. Wilson—Do you know whether the cement at Esquimalt was in good order, or whether it required pounding, crushing and sifting before it could be used? *Ans.*—Since I entered the employ of the contractors I believe the greater portion, if not all, the cement, was pounded up and sifted.

Mr. Wilson—Do you know whether the contractors were notified by either the Engineer or the Government that the site of the Dock had been shifted after the contract for the Dock was entered into? *Ans.*—I don't know, the work was laid out prior to my engagement with the contractors.

Mr. Wilson—Had you any conversation with Mr. Nish when that gentleman was here, and please state the nature of it? *Ans.*—I was introduced to Mr. Nish, I think, on the 4th February last, in the contractors' office, at Esquimalt. Mr. Nish only stopped a short time on that day, and I had no special conversation with him, that I remember. On the 10th February Mr. Nish again came to the office at Esquimalt, for the purpose of reading over the correspondence between the Government and the contractors. Mr. Nish read about half of it, and I read the remainder. Mr. Nish appeared struck with some of the letters, and remarked that there was a clear case of delays and damages, or words to that effect. I offered no remarks that I remember, except such as politeness demanded. The conversation was conducted by Messrs. Robertson, Nicholson, and Huntington.

Mr. Smithe—Do you think that you are "the man with the spectacles, the clerk" referred to by Mr. Nish in his conversation with Mr. Walkem? *Ans.*—Yes.

Mr. Smithe—Did Mr. Nish ever tell you that the contractors, embracing "himself and Messrs. McNamee, Huntington & Co., had not a leg to stand on" with regard to the claims of the local contractors against the Government for delays, &c.? *Ans.*—No.

Mr. Galbraith—Do you know why the position of the Dock was moved south? *Ans.*—I don't remember ever hearing any reason given for the alteration. The work was laid out before I was engaged by the contractors.

Mr. Galbraith—When did the contractors inform the Government that the cement was insufficient? *Ans.*—I don't know.

Mr. Galbraith—Did they give ample notice to the Government for further supplies as required by clause 106 of the Specifications? *Ans.*—The correspondence, I presume, will show what notices were given.

A. S. FARWELL.

Signed 16th March in the presence of }
THORNTON FELL.

THURSDAY, MARCH 16TH, 1882.

W. S. GORE, Surveyor-General:—

Mr. Wilson—Have you had anything to do, as Surveyor-General, with dock matters? *Ans.*—Nothing beyond replying to letters occasionally, by instructions from the Chief Commissioner.

Mr. Wilson—Have you ever been asked to make a calculation, from the dock bills of quantities, of the amount of cement required for the dock work, and, if so, when? *Ans.*—Yes, I was asked to do so by Mr. Walkem, about the beginning of last week.

Mr. Wilson—Have you made the calculation, and, if so, will you produce it? *Ans.*—I have. I produce it (Exhibit 20). I give two totals in it, according to the weight of the cement. The amount is, estimating it at 83 lbs. to the cubic foot, 5421 tons, or, at 96 lbs. per cubic foot, 6216 tons.

Mr. Smithe—How do you arrive at the weight of 83 lbs. to the cubic foot? *Ans.*—All the books of tables that I have been able to consult, give the weight of Portland cement per cubic foot from 81½ to 83 lbs.: and more,

Mr. Smithe—How do you get at the other figures you have used, of 96 lbs. per cubic foot? *Ans.*—I understood from a member of the committee that it weighed that by actual test.

Mr. Smithe—Are you aware that Mr. Bennett has stated in his evidence that the weight of the original cement from England had to be 113 lbs. to the bushel? *Ans.*—I may have read it in the report of his evidence, but do not remember.

Mr. Smithe—Are you aware that in Trautwine's table of specific gravities and weights; that the weight of English hydraulic Portland cement manufactured by Gilmore, is given as ranging from 81 to 102 lbs. per cubic foot? *Ans.*—Since you have pointed it out to me, I see that it is so.

Mr. Smithe—Is it not then, in your opinion, probable, that to make an accurate estimate of the weight of cement for the whole dock, that the weight of a cubic foot ought to be taken at higher figures than 83 lbs.? *Ans.*—No, for the authority quoted in the previous question gives the weight per cubic foot as low as 76 lbs.

Mr. Smithe—If the lowest weight per cubic foot of Portland cement is given in the table quoted at 76 lbs., and the highest at 102 lbs., would not the average be considerably over 83 lbs.? *Ans.*—It would be six pounds more.

Mr. Smithe—If, then, the average weight per cubic foot, according to that table, be 89 lbs., what reason do you give for assuming that 83 lbs. is the correct weight of a cubic foot upon which to base your estimate of the quantity of cement required? *Ans.*—Having a choice of weights, I take 83 lbs. for facility in calculation, that weight making a cubic yard and a ton synonymous.

Mr. Smithe—Do you not think that accuracy of estimate is a much more important matter than mere facility of calculation? *Ans.*—I do, but I do not consider my calculations are inaccurate. I consider that my estimate would be nearer correct than the average mentioned above would give, when large quantities of new cement are weighed.

Mr. Smithe—But, when you find that the actual weight, as determined by this Committee, of the old cement at Esquimalt, and the new cement that has just been imported from San Francisco, is 94½ lbs. per cubic foot, and that, according to Mr. Bennett's evidence, the cement at the works in England had to weigh not less than 88 lbs. per cubic foot, are you not inclined to admit that 83 lbs. must, under the circumstances, be taken as too little? *Ans.*—No, I can't say that I am inclined to admit that it is too little. Paswell gives the weight of English cement at 81.25 lbs. per cubic foot, and I take it that the weights arrived at are the result of repeated experiments, and that the weight arrived at by this Committee is only a limited test, and that it is possible the weight may be greater than it should be as shown by the engineering formulas referred to.

Mr. Smithe—Is it not a fact that light cement is not considered to be of as good a quality, or as strong, as the heavier grades? *Ans.*—I believe that pound for pound they are equally strong, though measure for measure they might not be.

Mr. Smithe—What do you suppose was the reason for originally requiring the cement to be up to the weight of 88 lbs. per cubic foot, if it were not an advantage to have it over say 83 lbs.? *Ans.*—I really can't say what Kinipple & Morris' reasons were for anything they did.

W. S. GORE,
S. G.

Signed 17th March, 1882, in presence of }
THORNTON FELL.

FRIDAY, 17TH MARCH, 1882.

HON. J. W. TRUTCH :—

Mr. Wilson—Have you anything to do with the Esquimalt Graving Dock? *Ans.*—As the Agent of the Dominion Government I have.

Mr. Wilson—What are your duties in connection with that work? *Ans.*—According to my instructions from the Minister of Public Works, my duty is to watch the construction of the works, to examine the quality of the materials used in its construction, to see whether the plans and specifications are complied with in all respects, with a view mainly to my being in a position intelligently to determine whether or no to countersign the certificates of progress estimates of the Resident Engineer, and to report from time to time to the Minister.

Mr. Wilson—Has the cement so far used on dock work been up to the standard required by the specifications? *Ans.*—I consider it has not.

Mr. Wilson—Do you know whether the quantity has been increased in proportion, to make up the deficiency in quality, as called for in the specifications? *Ans.*—I know it only from Mr. Bennett's assurance to me that it has.

Mr. Wilson—Have you been satisfied so far with dock construction, or have you had to make complaints concerning it? *Ans.*—With the general character of the work done I have had no reasons to make any representations adversely, but as to the progress of the work I have.

Mr. Wilson—Did those complaints take the form of written communications to the Dominion Government? *Ans.*—Certainly, by reports to the Minister of Public Works.

Mr. Wilson—Was any action taken by the Minister of Public Works on your report? *Ans.*—I have reason to believe that communication on the subject was made to the Government of British Columbia.

Mr. Wilson—Can you give us the substance of it? *Ans.*—I did not see it.

Mr. Wilson—Do you know whether delay of dock construction last summer arose from the Provincial Government not having decided whether to construct the dock of sandstone or granite? *Ans.*—I do not; but I have no reason to suppose that any delay was occasioned by such indecision, if any existed.

Mr. Wilson—Do you mean by that, that at that time stone work could not be proceeded with? *Ans.*—Certainly it could not, as the completion of the excavations was delayed, in my judgment, far beyond the period prescribed by the requirements of the specifications; to that in the first place I attribute the retardation of the work.

Mr. Wilson—Has any communication passed between the Dominion Government and the Provincial Government which can be construed into a three months' notice to take possession of the dock, under the terms of agreement by which the Dominion pays the Province \$250,000 on dock work? *Ans.*—I think you can best obtain an answer to this question by getting the correspondence.

Mr. Wilson—Do you know whether the cement at Esquimalt is sufficient to complete the dock work? *Ans.*—I don't know how much is there.

Mr. Wilson—Have you made any calculation, at any time, of the quantity of cement required to complete the dock? *Ans.*—About a fortnight ago my attention was directed to the subject by the appointment of this Committee, upon which I directed the Assistant Engineer in my Office, Mr. Gamble, to make as careful a calculation of the whole amount required for the construction of the dock as he could; that calculation I have carefully gone over and verified, and in my judgment it is as close an approximation to the fact sought to be ascertained, as can practically be arrived at.

Mr. Wilson—What does Mr. Gamble's calculation show? *Ans.*—I produce it as Exhibit No. 21. The amount is 6010 cubic yards. I wish to state that, in my opinion, it is impossible to calculate exactly the amount of cement that will be used in the construction of the Graving Dock at Esquimalt; because, in the first place, the specification is so indefinite as to the composition of the various descriptions of concrete to be used, so much in each case being left to the discretion of the Engineer, and very properly so, and particularly as regards the greatest bulk of the concrete, viz., that mixed in the proportions of 7 to 1, where it is specified that fragments of rock may be inserted or put into the concrete after it is deposited *in situ*; and secondly, because, in order to obtain such exactness of calculation, it would be necessary to determine by admeasurement and weighing what each cubic yard of Portland cement will weigh at the time it is used, and further, the exact nature and quality of the other materials with which it is to be admixed must be ascertained and considered. The calculation, therefore, now exhibited to the Committee is not to be taken as an exact one. In the result it may be found that the quantity of cement used upon the dock work may either exceed or be less than the amount stated. Taking the cubical contents of the concrete to be as stated in the bills of quantities attached to the agreement, which quantities have not been checked in my office, and basing an estimate upon the established experience of engineering authority generally, we have arrived at the estimate which I have given you.

Mr. Wilson—Is it customary for Resident Engineers to check the bills of quantities in large contracts? *Ans.*—I should think not. I should take it for granted that calculations made in such offices as that of Kinipple & Morris would not require to be further checked.

Mr. Wilson—Is your opinion in accord with that of the Chief Commissioner, that Engineers' errors are provable? *Ans.*—I suppose that the Chief Commissioner, if he said that, said it chaffingly; but if he said it seriously, then I say that there are many other proverbs that are equally as untrue as that one. Mistakes are made by Engineers as well as others, and they have to bear the burden of their own mistakes as well as those of other people sometimes. I should have preferred not to have had this question asked or answered, as in my opinion it does not bear on the matter under enquiry.

Mr. Wilson—Have you had any other calculations made than the one made by Mr. Gamble? *Ans.*—Yes, by three of the senior Engineers employed by the Dominion Government on the Canadian Pacific Railway. The lowest of these estimates arrives at very nearly the same result as that which I have given you, the others are higher in amount, the highest being about 6800 tons.

Mr. Wilson—If Engineers were in the habit of making mistakes, would it not be prudent for the Committee to have Kinipple & Morris' bills of quantities examined, before expressing any opinion on their accuracy, or making any estimate of the probable cost of the dock? *Ans.*—I have seen no ground for doubting in the least degree the correctness of Kinipple & Morris' estimate and bills of quantities. I am not aware of any mistake that they have made. I therefore take it for granted that they are correct. If I were a contractor about to tender for the work, then I should certainly check over all their figures; as it is I assume them to be absolutely correct. If the Committee, however, have detected any mistake made by the Engineers, it might be a good ground for them to have the whole calculations and work gone over. The calculations would have been checked two or three times before leaving Kinipple & Morris' office.

Mr. Wilson—Do you know whether as strong work can be made with rubble stone as with concrete? *Ans.*—*Ans.*—I should not think so. The substitution of rubble masonry for concrete, and concrete for rubble masonry, depends upon what part of the work it is to be used in.

Mr. Wilson—Can rubble masonry be made here cheaper than concrete from imported cement? *Ans.*—I should say yes; but it depends a great deal in the nature of the masonry. Mr. Kinipple is a man of infinitely greater experience and knowledge in dock work than I have any pretension to. I should, therefore, not dispute the correctness of his opinion as to the proper material to be used in the separate parts of the dock.

Mr. Wilson—Have you ever had any calculation made of the probable total cost of the dock? *Ans.*—I have not had any calculation made.

Mr. Galbraith—From your long departmental experience in former Governments, would you have any objection to state, whether it was the Chief Commissioner's duty or not, to rely upon the advice of the Resident Engineer on all questions relating to material or construction of the dock, especially as the Resident Engineer was the appointee of the Engineers-in-Chief? *Ans.*—In the day that I was Chief Commissioner I held myself and was held responsible, officially and professionally, for the proper conduct of every work under my charge in all respects. Since Confederation, and the incumbent of the office of Chief Commissioner of Lands and Works having become not necessarily a professional man, the circumstances of the position are changed, and I can only give you my individual opinion, if it is desired, upon the point involved in the question.

Mr. Galbraith—Please give your opinion? *Ans.*—My opinion is that, under present circumstances, the Engineers for the dock, viz., Messrs. Kinipple & Morris, should be held responsible for all purely professional

matters connected with the construction of the work. The official responsibility for that, equally with all other Provincial works, attaches to the Chief Commissioner of Lands and Works.

Mr. Galbraith—Was it not Mr. Walkem's duty to rely on the Resident Engineer's advice in dock matters, relating to material and construction? *Ans.*—I can't say on two points. I don't know what the position assigned by the Chief Engineers to the Resident Engineer was, *i. e.* whether the duty and responsibility of professionally advising the Chief Commissioner of Lands and Works had been specially delegated to him, and also, the question is indefinite in respect of the expression "advising on material."

Mr. Galbraith—Look at the agreement with the Resident Engineer and his principals, and be good enough to state what you think his duties are? *Ans.*—The agreement shown to me furnishes no guide to my mind as to what the instructions were, it only refers to instructions which had been at that time given, or were to be given. It contains no special instructions as to the duties intrusted to Mr. Bennett; it simply appoints him Resident Engineer. The duty of a Resident Engineer, in general terms and under ordinary circumstances, I can give you my idea of. Such duties would be to lay out and superintend, in all respects, the construction of the works, to see that the material furnished and the work done was in all respects in accordance with the plans and specifications, to take steps to insure that an adequate supply of materials of all descriptions necessary for the construction of the dock were brought upon the ground in time to secure compliance with the time limit in the contract, and also to compel the contractor, by the means prescribed in the contract, to make such progress as should insure completion of the whole work within the time prescribed. These in general terms should, I think, be the duties of the Resident Engineer.

Mr. Galbraith—If an approximate estimate of the total cost of the dock were required from the Resident Engineer, would it not be his duty to go over the specifications and bills of quantities carefully, and ascertain what was wanted? *Ans.*—If such an estimate were asked of him by proper authority, that is by the Chief Commissioner of Lands and Works, it would certainly be his duty, in my opinion, unless prevented by instructions from his immediate chief, *viz.*, the Engineers in chief, to make such estimate to the best of his ability and judgment, which would necessarily involve careful examination of the specifications and bills of quantities.

Mr. Galbraith—If he made such calculation from the bills of quantities, would he not have seen how much cement was required for the whole work? *Ans.*—Yes certainly, he should have seen.

Mr. Smithe—If the Chief Commissioner of Lands and Works knew that the cement originally purchased by the Provincial Government was not intended for the main dock, but for a sea-wall only, was it not the duty of the Chief Commissioner to inform the Resident Engineer of the fact, in asking him to make out an estimate of the total cost of the dock? *Ans.*—I can't answer that question. I don't know what the duties of the Chief Commissioner of Lands and Works are. Under the existing system of responsible Government he defines his own duties.

Mr. Smithe—Would you consider the Engineers responsible for the Government undertaking to supply all the cement for the dock? *Ans.*—I should say that, if the Engineers so advised the Government or the Chief Commissioner, all the professional responsibility for that course being adopted must rest with the Engineers, but the official and financial responsibility must still belong to the Government in adopting that advice.

Mr. Smithe—Do you consider that it is better that the cement should be furnished by the Government than that it should have been included in the contract as part of the contractors' obligation? *Ans.*—Economically, I don't see why it should make any difference. The cement if delivered here at the proper time when required direct from England ought to cost the same whether consigned to the Government or to the contractor, but in another view it might be better that the cement should be purchased in England by the Government to insure its being of the proper quality, but that could have been provided against by its being required to be subject to test on its arrival here before use.

Mr. Smithe—If the Engineers recommended the Government to furnish the cement to contractors at cost price agreed upon, instead of free of cost, should not the Government have acted on the advice of the Engineers? *Ans.*—I don't see any reason why they should not have acted upon such advice if given. I think such a course would have been preferable for the Government, thus relieving them of all responsibility in relation to the cement from the time of its arrival until used.

Mr. Smithe—When Mr. Bennett ceased to be Kinipple & Morris' Engineer and accepted an appointment from the Provincial Government, should not the Government have instructed him as to his duties? *Ans.*—If Mr. Bennett ceased to be the representative of Kinipple & Morris and became the servant of, and solely responsible to the Chief Commissioner, then he should have received fresh instructions from the Chief Commissioner.

Mr. Smithe—If Kinipple & Morris no longer hold themselves responsible for the payment of Mr. Bennett's salary as Resident Engineer can he still be said to be their representative and employee here, and if he is not Resident Engineer representing Kinipple & Morris and has not received any appointment or instructions from the Provincial Government, can he be said to have now any status in connection with the Esquimalt Graving Dock? *Ans.*—Unless Kinipple & Morris' letter to Chief Commissioner dated 14th May, 1879, has been revoked, which I have now seen for the first time, I am clearly of opinion that subsequent to the date named therein, *viz.*: July, 1879, he has not been in the employ of Kinipple & Morris as their Assistant Engineer. Whether he has been employed directly by the Provincial Government or no, I have no knowledge. If not so employed by the Provincial Government it is impossible to say what is his position.

JOSEPH W. TRUTH.

Signed, 17th March, in the presence of }
THORNTON FELL.