

generally. It would avail to him, that whatever you consider the price, that 37 cents per cubic yard for earth is above what would be a fair price on the difference of 244,138 yards and 1,657,429. The rock, whether solid or loose, is not affected by the change in any way. Then the contractor advantages by every stick of low-priced timber that is left out.

Q. You speak of earth being more easily obtained than was anticipated?—Yes.

Q. Do you get the earth you wanted in the cuts, or has it to be borrowed?—The major portion of it would have to be borrowed.

Q. What is the nature of the soil?—It is a sandy soil.

*By the Honorable Mr. Macpherson:—*

Q. How long would the haul be?—In some cases very long.

*By the Honorable Mr. Haythorne:—*

Q. Is the soil calculated to make good solid embankments, and bind well?—I think so.

Q. You are not afraid of subsequent subsidence in the lakes, if you fill in between side walls with earth?—No; I think the rock sides will thoroughly protect it against subsidence. It has taken such an immense quantity of rock to make those side walls, as compared with what the depth of water and mud showed it to be, that I am satisfied the rock has gone down and obtained a solid hold on the bottom, so that there is no danger of the walls spreading when the earth is put in. The rock walls have gone down at a slope of two to one, instead of one to one, and consequently have found a very firm basis for the subsequent earth filling.

*By the Honorable Mr. Macpherson:—*

Q. The chief cause of the increased cost is the increase of quantities over the schedule quantities?—Yes.

Q. And that the surveys were not sufficiently advanced to enable you to take out the exact quantities?—No.

Q. I suppose all parties on the line, engineers and contractors, have been expecting that the proposed system would be the one adopted?—Yes; we have hoped so, because we thought that it was the best. I now produce the letter of instructions that I wrote to the division engineer on the departure of Mr. Smith:—

Copy.

WINNIPEG, 3rd November, 1877.

DEAR SIR,—I am in receipt of yours of the 28th October. Mr. Smith left for the east yesterday afternoon. He will submit the whole question of making up the banks with earth, and doing away with trestle-work, to the Government.

In the meantime he has authorized me to have the banks across lakes made up in the manner we proposed—that is with a narrow rock bank on each side, brought up to 3 feet over high water level, placed wide enough apart to carry the sand embankments, and leave a berm of 2 feet outside. I shall telegraph you to this effect so soon as the line is working.

The area of the section for tunnel I sent you, was about 3 feet in excess of that of a 12 feet circle. I now enclose you one which will be the same (and from which you will work), or so near as to be practically the same. You will return the quantities as per this section.

The contractor must furnish stringers in accordance with the drawings.

Truly yours,

(Signed) JAMES H. ROWAN,

H. CARRE, Esq.,

Division Engineer, Contract 15.