

prised at the allowances made for solid and loose rock. In nearly every case where the cuttings were not entirely all ledge the estimate given for solid rock is double, or more than double, what it should be.

In fact, the specifications had been entirely ignored and an excessive allowance made, not by reason of an error in judgment, but, as I understand, by special instructions from the assistant district engineer.

Let me give you some illustrations:

Take the cutting from stations 5818 to 5826, estimated 71 per cent solid rock and 29 per cent loose rock, slopes taken out $1\frac{1}{2}$ to 1. Very little ledge in this cut. Some large boulders, but a very large percentage is common excavation.

Station 5842 to 5860.—Classified 94 per cent solid rock, 6 per cent loose rock. Slopes taken out $1\frac{1}{2}$ to 1. Solid rock over-classified at least 100 per cent.

Station 5866 to 5875.—Estimated 80 per cent solid rock, 20 per cent loose rock. No rock in place in this cut. Many large boulders, but a large amount of earth.

Station 5882 to 5901.—Estimated 78 per cent solid rock, 22 per cent loose rock. A large amount of this cut wasted with slip scrapers, and ploughing being done with two horses. There are hundreds of yards of earth here without a stone, large or small.

And yet there is not a foot of common excavation in that. They plough with two horses, and where it can be ploughed even with six horses it is common excavation. But it is all classified as solid rock and loose rock.

Station 6030 to 6046.—Estimated 40 per cent solid rock, 10 per cent loose rock. This is the large sand cut west of O'Brien's camp. Of the 95,000 yards moved to August 31 in this cut, at least 80,000 yards was pure sand.

Station 6071 to 6078.—Estimated 99 per cent solid rock, 1 per cent loose rock. Very little solid rock in place. Slopes taken out $1\frac{1}{2}$ to 1.

So that the solid rock might crumble down.

West of St. Maurice river.

Station 6391 to 6394.—Estimated 46 per cent solid rock, 33 per cent loose rock. Sand cut with few boulders, and possibly 1,500 yards ledge in bottom of cut not yet taken out.

Station 6493 to 6504.—Estimated 20 per cent solid rock, 49 per cent loose rock. No evidence of ledge and very few large boulders; nearly all sand.

Station 6506 to 6512.—Estimated 16 per cent solid rock, 44 per cent loose rock. This is purely a sand cut, with very few boulders. Upper slope nearly 100 feet high, material wasted into river. Certainly not 10 per cent of this should be classified.

I may say that it is only 'classified' when it is solid rock or loose rock. Ordinary excavation is not 'classified.'

Mr. HAGGART. Do the specifications declare what is loose rock?

Mr. LENNOX. Yes, they state the nature of each class of material.

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Mr. J. T. SCHELL. May I ask is that an estimate of the quantities taken out, or an estimate of what they were before the work was begun?

Mr. LENNOX. This has reference to the returns actually made by the engineers upon the work to the Transcontinental Railway Commission. The engineer of the Grand Trunk Pacific Company is pointing out how ruinous and absolutely unjustifiable this classification is. And I am reading for the purpose of showing what these men propose the country shall pay for.

Station 6522 to 6548.—Estimated 26 per cent solid rock, 49 per cent loose rock. This is borrowed material from the side. Very little solid rock shown, except what was used for blind drains, but some large boulders not placed in embankment.

On account of heavy rains we were not able to go west of station 6600, but we understand that classification is made about as noted above.

In every case where cuttings were not entirely in ledge we find the material over classified very largely. Mr. Armstrong has been over this work at different times, perhaps quite as often as the assistant district engineer. His estimate and my own are not very different as to the amount of classified material, and until he received detailed quantities he had no intimation that such heavy classification had been given. In many cases, particularly in sand and gravel cuts, he had supposed that no classification would be given, except perhaps for a few boulders as loose rock.

I am informed also that on the work east of the St. Lawrence river heavy classification is being made in borrowed material where ploughing is done with one team and material moved in slip scrapers.

As before stated, these over-classifications are made through error in judgment, not upon the decision of the resident or division engineers, who are fully acquainted with the character of the work, but by arbitrary orders from their superior. To such classification as mentioned above, increasing the cost of the work to such alarming extent, we most seriously protest, and respectfully request that either yourself or the assistant chief engineer visit the work and pass judgment upon the classification as made. Please note that the percentages given above indicate the work done to August 31. We are not advised what the September estimate will show.

Yours truly,

(Sgd.) H. A. WOODS,

Assistant chief engineer.

Now that letter, I thought it well to read in full, because every word of it is important. But I can economize time in relation to the others. Mr. Lumsden took action. He wrote a letter on October 18 which will be found in the printed evidence at page 395. I need not read the letter but merely refer to it for the purpose of showing that at that time it appeared to Mr. Lumsden, from statements made by District Engineer