

244. We have it, too, that they have had to work with one-half that number. What, approximately, do you think would be the loss to the contractors in efficiency from such a shortage of labour in this tunnel?—The contractor has all his management expenses, and all his outside arrangements got up to run nine men. If he is working with only half those men he is only getting half the result. He is limited to time, you see, and it takes nine men to get out the stuff which has to be got out if he is to get through with his contract in the time. If he has only got four men he is losing in both ways: he is not getting on at the pace he ought to get on at, and he has a penalty to look forward to.

245. *Mr. Okey.*] You want experienced men to run this machinery?—Yes, you want competent men.

246. *Hon. Mr. R. McKenzie.*] Is it not machinememen that you want to be experienced?—All the miners want to be experienced.

247. *Mr. Seddon.*] They soon acquire that experience, do they not?—Yes.

248. *Mr. Nosworthy.*] In these smaller tunnels that have been constructed by the Government on the co-operative system, has there been as good machinery used as McLean Bros. are using in the present tunnel?—I would not say it has been so good, but there was a very good drilling plant for the Midland Railway tunnels.

249. *Hon. Mr. R. McKenzie.*] Is it not the same class of machinery only on a smaller scale?—I think it is the same class—air-driven drills.

250. *Hon. Mr. Fraser.*] Were you at any time in charge of the works at the Otira Tunnel?—No.

251. Therefore, in your answers to Mr. McKenzie, you were not speaking from actual experience of that particular work, but from your general knowledge of what would be the case, and from your experience on other works?—Yes.

252. On questions of detail there are other officers who could give more precise information than you?—Certainly, regarding local details. My information is simply got in this way: I am in the Head Office, and I see what happens.

253. *The Chairman.*] Plant which has cost £73,000 Mr. McLean estimates to be worth £5,000 at the end of the job. Could you give us any information as to the depreciation of the plant to that extent?—Is that at the end of fifteen years? At the present time there is one-third of the tunnel done, and it has taken five years; so that would mean fifteen years for the whole job. At the end of fifteen years I should say the plant would be worn out.

254. *Hon. Mr. R. McKenzie.*] You examine the monthly reports that are sent in by the Resident Engineer in connection with this work?—I generally do.

255. So you are fairly familiar with the progress and the cost of everything as the work proceeds?—I am more familiar with the progress than with the cost. The money certificates do not come in to us, as a rule.

256. You mentioned something about the Makarau Tunnel?—Yes.

257. Will you explain the cause of the excessive cost of putting that tunnel through?—The tunnel was supposed to go through solid ground when the work was undertaken. We went on for about 8 chains in good hard sandstone and papa country, and then we struck a fault. It was like the face of a cliff on the sea-beach. We then ran into a deposit of mud. Apparently it was hard and required blasting out, but as soon as we opened it the air and the water made it run. We found then that the side walls were giving way, and we had to start and timber. It was a case of putting in a heavy invert and thickening the lining. We went on like that for some time, until one Christmas, when the tunnel was left for a week or two. This slackening process had evidently gone further than we expected, and there was a run, and it went right up to the surface.

258. There is no comparison between the conditions there and at Arthur's Pass?—None whatever.

259. Those tunnels that you referred to on the Westport-Inangahua section—can you tell us whether the contracts for those tunnels were taken at less than the Government Engineer's estimates or more?—More.

260. In every case?—Yes. The Government estimate was about £29 per lineal yard.

261. *Mr. McLean.*] Have you any knowledge of the cost of European tunnels, or Alpine tunnels, of the same length and dimensions as the Arthur's Pass Tunnel? You quoted the Mont Ceniz Tunnel, which I understand is nine miles long and is a double-track tunnel?—I have no particulars except those that I gave regarding Mont Ceniz, which is on this list of tunnels that I am handing in.

262. *The Chairman.*] You know of no five-mile single-line tunnels in Europe?—I do not.

263. *Hon. Mr. R. McKenzie.*] Do you know of any single-line tunnels in Australia?—I do not know the Australian tunnels.

264. *Mr. McLean.*] You were present at a conference that was held between myself and the men at the initiation of the work: do you remember a statement made by a man named Malloy that we had got £100,000 more than the Government estimate for this work, and that they were going to have it, or share in it?—I was at the Otira Tunnel—it was a Sunday, I think—and there was a special meeting got up amongst the men. They asked to meet Mr. McLean. This man Malloy—from the Reefton Miners' Union, I think it was—was there leading the men. He addressed you in the afternoon, and made a statement to this effect, following on from something else: "We have got a copy of the Government estimate from Wellington, and we know what they thought they could do the tunnel for, and we now see that you have got £100,000 over and above that estimate, which no doubt you look on as your profits; and we hope now to share with