

143. Will you give us the distance widened out?—Yes, to full size: 1 mile 35 chains 89 links at the Otira end, and 23 chains 65 links at the Bealey end, giving a total of 1 mile 59 chains 54 links. The concrete lining: 1 mile 30 chains 49 links at the Otira end, and 23 chains 65 links at the Bealey end, giving a total of 1 mile 54 chains 14 links completed.

144. What proportion of the total work will that represent?—I took the proportion out in decimals: the bottom heading, 0·42; top heading, 0·36; excavation, 0·33; concreting, 0·32.

145. *The Chairman.*] Not one-third?—It is practically a third of the work, taking them altogether.

146. *Hon. Mr. R. McKenzie*] Do you know how much of the contract-money has been paid?—Yes; the return was made out on the 1st August and is up to the 31st July. At that date there had been £249,358 paid.

147. How much of that amount has been paid for plant?—£58,925.

148. That leaves still available for finishing the work?—The difference between that sum and the contract price of £599,794.

149. You have to take the outside work off?—Yes. There is £31,777 of outside work: that leaves £568,000 for the tunnel.

150. Take £249,358 and £31,777 from the £599,794, and it leaves £319,000-odd, does it not?—That is about it.

151. Do you think it possible, under ordinary conditions, such as the Department has experienced in its other tunnel work, to finish this tunnel with the amount of money now available?—No.

152. How much more do you think it should cost?—We had it that about £150,000 is the estimate. I cannot see anything else for it if labour is going to be like it is.

153. In connection with the Whangamomona Tunnel and the trouble you say existed there, was not the heading through before the trouble started?—Yes.

154. Was not the excavation of the tunnel practically completed before the trouble started?—No, it was in the final excavation that the trouble started.

155. How much of the excavation was to be done?—They had the bottom heading through, and they had to enlarge from the bottom heading out.

156. Was there not a considerable proportion of the enlargement finished, and the lining too?—Yes, at each end; but there was the middle to be finished up. I could tell you exactly how much of the tunnel remained to be finished when this trouble occurred if I got a statement properly made out.

157. Did the men discontinue work there, do you know?—They did. They struck, and they were put on again by the Engineer at a higher rate.

158. How long were they off work?—I do not know. The Engineer put them on again without getting authority from Wellington.

159. Are you sure of that?—I understand so. It was so on the papers, any way.

160. Are you sure he had no authority?—I could not say what authority you gave him.

161. Do you know how long it was after the contract was let before work was started at the Otira end of the Arthur's Pass Tunnel—I mean, the driving of the heading?—The driving of the heading was started about January, 1908.

162. And when was the contract let?—On the 1st August, 1907.

163. Can you tell us when the driving of the heading was started at the Bealey end?—I cannot from memory. It was a good deal later.

164. Would it be a year, or two years?—It would be nearer two years, I suppose.

165. Do you know any reason why those headings should not have been started within a month or two of the contract being let?—Only the reason that you mentioned just now—that Mr. McLean went to England to see about tunnel arrangements.

166. Was that a good reason why they should not be started?—He might have discovered something in England that would have greatly facilitated work; he waited until he had visited England.

167. What do you mean by saying he might have discovered something?—It was his first long tunnel, I suppose, and he went to some of the long tunnels of the world to see how the work was done.

168. Do you think the length of the tunnel affected the starting of the work at each end in any way?—I should have been inclined to do what Mr. McLean did. If I thought of going to England I should go there first and see what I could find out.

169. Have you not already told the Committee that there was no economy in using rock-drills in tunnels, except that the work was done faster?—I have.

170. Could not those headings have been driven, to the extent of, say, 20 chains at each end, by hand-drilling as cheaply as by rock-drills?—Yes, I should think so. I should think he could have gone on with hand labour.

171. Do you think there is any special reason, then, why the Bealey heading should not have been started till about two years after the contract was let?—That was largely on account of the want of men, I think. Men were not plentiful.

172. You say that you think so: do you know as a fact?—I do not know it for a fact, but I venture to say that that had a good deal to do with it.

173. Do you think this work could be done cheaper if the two lower headings were connected?—You could not wait to do that before you went on with the other work.

174. Could you not drive the heading from the Bealey end and let the rest of the work stand?—It would not pay you to drive the heading right through and not do the other work at the same time, because you have not got the time.