

50. Is it correct that he was sent to the Otago Central Railway on account of his being a specially skilled inspector?—Yes.

51. Indeed, he was selected as about the best man in the department for the work?—Just so.

52. As regards the slips, from your inspection of the one you have seen, and from your perusal of the engineers' reports giving particulars of the slips and of the nature of the ground, are you of the opinion that they are due to steepness of slope?—I certainly consider steepness of slopes had nothing to do with the slips.

53. On the other hand, do you think they were due to deficient drainage?—Well, I cannot speak from personal knowledge. I have only seen this one, and that was simply an ordinary fall of a small quantity of earth.

54. A "pocket," so to speak?—Yes; a lot of stuff came down just off the point of the cutting.

55. You are familiar with the plans and specifications of the Makarau contract?—Yes.

56. Can you tell the Committee whether there is anything on the plans or in the specification with reference to borings?—Nothing at all on either plan.

57. Is there anything in the specification or on the drawing to indicate the particular nature of the soil the tunnel would pass through?—Nothing at all.

58. Is it usual in Government specifications to indicate this?—No; I have only known one case where borings were shown for a tunnel in my experience of thirty-six years. That case was the Catlin's River Tunnel.

59. Then, we may safely come to the conclusion that borings are not usual in New Zealand?—Just so.

60. In Australia are they usual, do you know?—Not for tunnels, only for convenience. We bore for convenience here—not for the information of contractors, but for the information of the Engineers—to find out the structure he has to build on, so as to enable his design to be carried out.

61. You mean to say it would not be safe to build a bridge unless it was founded on rock or sandstone?—Yes.

62. But for a tunnel it is not usual to bore?—No.

63. As some questions may arise in this matter as to the qualifications of Mr. Vickerman, will you tell the Committee what you know of his qualifications?—He is a trained Engineer, trained under the Public Works Department, and he has had, I think, about eighteen or nineteen years' experience. He was here almost from the first, and he has all the time been employed on important works. First, I think he was employed in Otago as a cadet, and, as an Assistant Engineer, he was in charge of works on the Lawrence Railway, and generally on the railway-works in the Otago district.

64. Do you know whether he had ever had any experience in tunnelling?—Yes; he had charge as Assistant Engineer—that is, he had executive charge—of the Round Hill Tunnel on the Lawrence Railway.

65. That was before he went to Auckland at all?—Yes, it was. He went to Auckland about the year 1878.

*Mr. Graham* here objected that the evidence now being given was of a secondary nature, as when Mr. Vickerman was called he would himself be best able to furnish answers to such questions.

*Mr. Morrison*, however, held the contrary opinion, saying that if the qualifications of Mr. Vickerman were called in question, they had now got the authority of the Engineer-in-Chief in the matter; the man himself would not be an accepted authority.

*The Chairman* ruled that the witness could proceed as before.

66. *Mr. Blow*.] Mr. Vickerman was an Assistant Engineer under you when you were District Engineer in Auckland?—Yes.

67. Therefore you have had exceptional opportunities for observing his capabilities?—Yes.

68. You had no hesitation in recommending Mr. Vickerman to be made Resident Engineer in charge of the Auckland section?—None whatever. Mr. Vickerman is one of the most qualified practical engineers in New Zealand. He thoroughly understands his profession, and his experience has been so large that he is thoroughly competent to take charge of any work, no matter whether it be railways, roads, buildings, or public works of any description.

69. Then, if any imputation of inexperience on Mr. Vickerman's part has been made before the Committee it is unjustifiable?—It is.

70. Do you know anything of Inspector Witheridge?—He was Inspector under me all the time I was in Auckland—about eleven years.

71. Had you any opportunities of observing his qualifications?—Oh, yes. When I first went to Auckland he was Inspector on a contract which was right below the office, and I saw him almost every day. I am quite prepared to say that Mr. Witheridge is a competent man.

72. Is he acting as Inspector under the department now?—Yes.

73. And you have not the slightest hesitation regarding him in that position?—Not the slightest.

74. And if a contract required an Inspector would you employ him?—I would employ him without the slightest hesitation.

75. *Mr. Crowther*.] We heard just now that there was a claim of £750 for slopes—extra work done—and Mr. Blow has got Mr. Hales to say that he is only conscious of one slip called a "pocket" slip. We know sufficient now as to what the specifications are: that the greatest slope—if I am right—is 1 in 1½—

*Mr. McKenzie*: That is in sand.

76. *Mr. Crowther*.] The greatest slope, then, is 1 in 1 and 1 in 1½, or 1 in 2 generally, Mr. Hales. Supposing this "pocket" slip had been at a slope of 1 in 3, would it have slipped?—I would not guarantee that it would not, and I would not like to say that it would.

77. Is it probable it would have slipped if it had been 1 in 3?—Yes, it is probable. I have seen a slip of 1 in 10, and even of 1 in 50.