

of mining tailings which I obtained from the battery. It consisted principally of grains of quartz, some clear and some milky, very fine and very angular.

23. What power did you use—under what objective?—Principally with an inch objective.

24. You said tailings or slimes?—No; similar to the sands from the battery. None of it was fine enough to be classed as slimes.

25. You have examined the slime under the microscope dry: what is its characteristic?—I have not examined slimes.

26. I understand you have examined battery tailings or sands which have gone through a 90-mesh?—Yes, practically the whole of them go through the 90-mesh—those taken from the battery.

27. *Mr. McVeagh.*] So the position is that the artificially produced sand from the battery is identical in character, in your estimation, with that produced by nature in the pumice sand at the Gordon Bridge?—Yes; the portion that is found in the bed of the river is practically identical with mining tailings. The quartz in it is identical.

28. And there are other substances present which distinguish it?—Yes.

29. Have you made any estimation as to the proportion of quartz contained in the sand taken from the Gordon Bridge?—No.

30. What I mean is this: You might in that sand obtain a large quantity of other material, and only a speck here and there of quartz: I want to know, is quartz a predominant or minor factor?—The quartz is predominant.

31. Does that refer only to 11 and 12, or are there a number of other samples?—Yes, I think there are about nine series.

32. And what you are saying now applies to other samples besides 11 and 12?—Yes, I think it applies to most of them.

33. It is a general statement in regard to the whole of the Te Aroha samples?—Yes.

34. That evidence all goes to show that in midstream, where the current is, the fine stuff shifted further and the coarse stuff is left?—Yes.

35. I suppose you cannot give particulars of the total quantity of mining tailings turned into the river?—No, I have not the figures.

36. Nor are you able to give figures as to the area occupied by the bed of the river, and the corresponding thickness which the silt would occupy when spread over the river bed and banks?—No.

37. It is perfectly clear, with such very large deposits visible and traceable, that a very little proportion can be left lying on the bed on the bottom; but you have not prepared any figures to cover that?—No.

*The Chairman:* Has anybody prepared figures to cover that?

*Mr. Hanna:* We shall be able to supply a great deal of that information for you.

38. *Mr. Moresby.*] I understand you did not take any of these samples yourself?—No.

39. Nor have you, I presume, for the purpose of giving evidence at this Commission, examined the river yourself?—No.

40. Your tests have been simply laboratory ones for the purpose of determining the amount of quartz material in the sands which have been submitted to you?—For the purpose of determining, if possible, the amount of mining tailings in the samples submitted.

41. I believe that you are aware that in the batteries at Waihi, where you live, the companies at the present time are grinding to slime?—Yes.

42. What do you call grinding to slime: through what mesh would the stuff have to pass, in your opinion, before it became slime?—I think the usually accepted definition of slime is material which will pass a 200-mesh sieve.

43. Did you obtain any standards from the mines in order to get a guide to start with and to compare the other samples with, as to the percentage which would be slimes and the percentage which would pass the various meshes?—No.

44. Do I understand that you did not try to find slimes in the tests you made?—No slimes were present in the material obtained from the Waihou River below the Junction.

45. *The Chairman.*] Why did you say that?—In examining grade D under the microscope the material was all of an even grade which would just pass the 90-mesh sieve and no more. There was no very fine stuff in the samples taken from the bed of the river.

46. *Mr. Moresby.*] What about the samples taken near the banks of the river?—With the exception of three that were taken on the banks there were no slimes. I think Nos. 1, 2, and 7 consisted of very fine stuff.

47. Referring to this sample D, you have not told us the percentage that passed the 90-mesh?—Column D is the percentage.

48. You have not determined what would go through 120- or 200-mesh?—No.

49. Why did you not supply that information?—I did not see what use it would be.

50. *The Chairman.*] You examined these three samples microscopically, and you are satisfied they were slimes?—I stated at the end of the report that I was unable to determine what was mining tailings and what was natural.

51. You cannot give us any estimate of the relative proportion of quartz to other materials in that 100 per cent.?—No. Quartz was the predominant mineral.

52. *Mr. Moresby.*] Above Waiorongomai you get a river which contains nothing but pure river-sands?—Yes.

53. Can you give us the percentage out of that river which passed the 90-mesh?—I think that information is supplied. It varies from 1·9 to 70·8 per cent.

54. So you had some high percentages that did pass the 90-mesh, in the clean river?—Yes.

55. I understand you did not take this any further, and did not see if any would go through the 120- or 200-mesh?—No.