

1182. Are you aware that in one year half of the mining accidents in the colony took place in the Shag Point Mine?—Yes; I am aware of that; and I know of a reason for it. A great many more than half the accidents that happen in the mines in the colony are not reported. In many instances I have reported things that were trivial; I have been very particular. I have never had a man hurt through carelessness in managing the mine; all the accidents have been attributable to the men's own carelessness.

1183. *Mr. Macandrew.*] I understand that you are a partner in this mine, as well as manager?—I am.

1184. You have therefore a direct personal pecuniary interest in seeing that it was properly worked, and so as not to prejudice its safety?—All I possess is in the mine.

1185. You would have sacrificed your own interest had you allowed any irregularity?—Certainly.

1186. How many men were employed in the mine?—From eighty to one hundred and thirty.

1187. Did they at any time express a fear of danger?—Never. At the time they were thrown out it was a matter of great discontent that they were obliged to come away from such good-paying work.

1188. If the mine had not been stopped, you would have had no difficulty in getting any number of men to work?—No; I can get men as fast as any man in the colony.

1189. *The Chairman.*] Why were not the matters concerning Mr. Twining, which are referred to in your letter of yesterday and now before the Committee, spoken of when Mr. Twining was here?—I was not here when he gave his evidence.

1190. Were you informed of what his evidence was?—I was.

1191. How was it that these matters concerning Mr. Twining and his surveys were brought up by you now, after he has gone away: was it because you did not remember to speak of them before?—On thinking over the matter I thought about his report; but when giving evidence I did not think of it.

1192. Do you not think it has a look of prejudicing Mr. Twining somewhat for new matter to be brought in after he has left?—It does look like that; but there are many things besides that I did not think of in giving my evidence.

1193. It did not occur to you to make this reference to the Committee while he was here?—No.

Dr. HECTOR, examined on oath.

1194. *Mr. Reid.*] You have had considerable experience with reference to coal-mining generally?—Yes, I have, all my life, as a geologist.

1195. Have you examined the Shag Point Mine?—Not for many years; I have no knowledge of recent workings.

1196. You have reported on the action of Inspector Binns with reference to closing the mine?—I wrote some minutes on it; I have not made a formal report.

1197. Are you aware of the action taken with reference to closing the mine?—Yes; so far as I remember, Mr. Binns closed the upper workings of the submarine portion on account of its being unsafe.

1198. Please look at the sequence shown on this map (on the wall) to show the nature of the cover of the submarine workings. Will you tell us whether, in your opinion, it would be a wise thing to let water into this mine, with that cover of 118ft. to 200ft.; or whether the water would give any support to the roof?—As far as I remember, from the case as formerly explained to me, there is no object in preventing the roof from collapsing, because there is no working below. My first idea was that it was intended to work the coal from beneath, in which case it would be wrong to allow water to stand in the upper seam. I was formerly labouring under a misapprehension when before the Committee. I do not know what object you could have in keeping up the roof. The best thing in an old worked-out mine is to let the roof subside.

1199. Would the water if allowed to accumulate in the mine give any support from its hydrostatic pressure?—It would support the roof generally. The support would be greatest at the lowest part of where the water is standing, and would vanish in the upper part. The support would increase about half a pound per square foot for every vertical foot you descend. The roof could only subside as a whole by displacing the pressure of the water. But in the ordinary sense, supporting a roof in a mine means supporting bad portions of the roof. Now, the water would not do that, because the specific gravity of water is not increased by pressure upon it. A stone becoming loose would fall with equal velocity through water whatever the pressure on that water.

1200. Suppose the water were kept out of this working, would the air have a disintegrating effect on the roof equal to that of water?—Damp air would disintegrate shales with iron pyrites in them more rapidly than water. It would do this by the formation of alum salts, and the expansion of the clays, by the crystallization of such salts in them, would cause disintegration.

1201. *Mr. Chapman.*] Does this roof contain shales with iron pyrites in them?—As far as I can remember, some of the shales have iron pyrites in them.

1202. *Mr. Reid.*] Do you think, from your knowledge, that the action of water standing in the mine would have so disintegrated the roof as to bring the sea in?—No; it would be only the immediate roof that would disintegrate. Long before it would disintegrate all through, the expansion of the hydrated strata would completely fill the underneath space.

1203. As a matter of science, taking water out after it has been allowed to accumulate does more damage than anything else?—Yes; it is in the drying of strata that have been saturated with moisture that all the cracks and fissures occur.

1204. What would be more likely to bring the roof in than allowing water to accumulate in underground workings?—Anything that tended to disintegrate the strata.