

1281. Have you been practising since then?—Ever since.

1282. Do you produce your certificate?—I do.

1283. From what authority?—From the Secretary of State.

1284. Please look at the sequence shown on this plan (wall plan.) With this sequence and this cover, if water were allowed to accumulate in the submarine workings, would it have any effect in sustaining the roof or otherwise?—The water would have a tendency to uphold the roof and sides according to the vertical height of the water.

1285. Do you think that the effect of the water, if allowed to accumulate, would be to raise the fireclay floor as much as 2ft. in seven days in places?—No; I do not think so; but I have seen fireclay raised more than that from the superincumbent weight of the strata above pressing on the pillars. The smaller the pillars are the more would upheave.

1286. What would you think should be the average size of pillars and bords in this mine, with a cover of from 118 to 120ft., at the least, consistent with safety?—Forty per cent. would be the maximum amount of coal that should be taken out, consistently with the safety of the mine. The bords should be 4 yards and the pillars 6 yards.

1287. In these submarine workings do you think that allowing water to accumulate in the upper-seam workings would have the effect of accelerating a splitting or cracking of the roof overhead?—No; it would crack anyhow. The water would tend to stop it. But it would go on cracking whether water was left in or not. The water, however, would have a tendency to keep the roof up.

1288. Please look at this tracing (Bishop and Taylor's), what do you think of the workings as shown there?—It seems to be very irregular; in some places there are 4 yards, and in others 5 yards.

1289. What does this narrow bord scale?—About 8ft.

1290. Please look at this plan (Twining's): what do you think of that system of working?—More extensive working is shown on this plan. The narrow bord, according to this plan, scales over 15ft. in the broadest and 13ft. in the narrowest part.

1291. Are the workings as shown on this plan regular or irregular?—They are very irregular in some places; and, however well the rest of the system may be laid out, one weak spot would damn the whole concern.

1292. Please scale the south side of the workings?—It measures 90 yards for ten bords and ten pillars.

1293. Then, if there are ten bords at 14ft. each, what is left for the pillars?—130ft. for ten pillars, which makes the average width of the pillars 13ft.

1294. Taking the bolt-holes out of this, would you consider that sufficient for safe working?—No; it would be dangerous,

1295. With this system of working, what width of pillars would you leave for support?—I would leave 6-yard pillars, taking care to keep them regular and of a uniform width.

1296. *Mr. Chapman.*] You say you would keep them regular?—Yes.

1297. Can you always keep them regular in brown-coal?—I have had no experience in brown coal; but I should think it would make no difference.

1298. Looking at this plan (Twining's), can you imagine that it shows the correct workings under a prudent manager, who has his own capital in the mine?—No; I should not think so.

1299. Can you imagine a man having his own capital in the mine working it so as to show this state of things?—No; I cannot: it shows a want of foresight.

1300. You see a great deal of difference between these plans apart from the little detail of the particular bord which has been picked out for measurement: does this tracing (Bishop and Taylor's) show generally a sufficient width of pillars?—Yes; in a good many cases; but there are irregularities.

1301. In the 3ft. seam you do not require so much support, I suppose, as in larger seams?—Yes; almost as much.

1302. But there is not so much to fear from letting down the roof in a seam of this size?—Not so much as there would be in a larger seam.

1303. You were asked what width of pillars you would leave: you do not agree with a person who says it is necessary to leave 11-yard widths?—No; that would be excessive; but I should not have commenced working in the manner shown on this plan (Twining's).

1304. *Hon. Mr. Stout.*] You would have come back?—Yes.

1305. *Mr. Chapman.*] But it is safe to work the bords at an ordinary width in advancing?—Yes; but you had to fear losing the mine.

1306. But under prudent management, and leaving sufficient pillars, you might go on working the mine at a profit and getting coal in the advance workings?—Yes.

1307. You were asked with reference to the hydrostatic effect of water: that would be, if the water were unconfined, equal to the vertical weight of the water?—Yes.

1308. This would have no effect in keeping up the roof in detail?—Yes, it would; for it is a fact well known in mining that the fall of the barometer conduces to a fall of the roof.

1309. You have seen a floor swelling and coming through in the drives. Supposing you observed that, so long as the floor of the mine was kept dry, there was no swelling, but the moment that water was let in the floor began swelling as the water rose, should you not then attribute the swelling to the direct action of the water?—If I saw it I should believe it to be the case; but I should not think that it would have that effect. It would be a new experience to me.

1310. You do not know this particular mine?—No.

1311. Have you been mining in Otago?—No.

1312. You do not speak, then, with a local knowledge?—No.

1313. *Hon. Mr. Stout.*] What system of mining were you trained to?—Longwall, pillar, and stall systems.