

Strontia	...	...	...	trace
Insoluble in acids, silica chiefly, and a little clay	...	...	...	34.93
Carbonic acid	..	...	...	24.78
Sulphuric acid	...	...	...	nil
Phosphoric acid	...	...	...	trace

The insoluble matter consists almost entirely of coarse sand.

DISCUSSION.

Mr. W. Shellshear stated that the material referred to in the Paper possessed good qualities for manufacture of cement; but there were some difficulties to consider. One was that the briquettes commenced to crack and blow after standing a short time, showing that there was a large amount of free lime in their composition.

Mr. W. D. Cruckshank asked whether the cement, after having reached its maximum strength, would maintain that strength? He would also like to ask why hydraulic lime was so named? Could the cement be profitably manufactured here to compete with the imported article?

Mr. Haycroft pointed out that cement cost 2/- per barrel more in freetrade Sydney than in Melbourne. No comparison could be made between hydraulic and fat lime, as the latter was only used as a cushion to prevent inequalities in building.

Mr. Seaver considered the most important point touched on was the slaking of cement. At Home this was always done. He must disagree with Mr. Haycroft's statement concerning fat lime, as he (the speaker) believed that it made one of the strongest cements, which could be proved by work still in existence in old castles.

Mr. W. E. H. Nicolle, referring to the spreading of cement, stated that at the new dock at Cockatoo Island, the cement

was spread for twenty-one days, during which time it was repeatedly turned over, and even then he remembered having seen it crack and blow.

Mr. A. D. Nelson complimented Mr. Henson on his Paper, and considered the subject one of great importance to the colonies. So far, the Cullen Bullen Co. was the only one that had invested capital in the manufacture of cement in the colony, and it was to be regretted that it had made a very common mistake in adopting machinery which was altogether unsuitable for the purpose, a flour mill plant having been brought into service. Otherwise, from the opinion of contractors, he was pleased to be able to state that the cement manufactured by the Cullen Bullen Co. compared most favourably with the imported article.

Mr. Henson, in reply to the various remarks on his Paper, stated with reference to the expression, *hydraulic lime*, that this name had been given to it in consequence of its peculiar property of setting when immersed in water. It was another name for the old one of *water lime*. If a local cement were properly manufactured there would be a large margin for profit. The railway rates to Sydney for cement had been reduced, and were now the same as for lime, or about one-third of what they were before the Commissioners came into power. Regarding fat lime, if given time it would form carbonate of lime; but the process was far too slow for ordinary constructive operations. He was aware of the conditions of the specification regarding the spreading of the cement for the new dock at Cockatoo Island, and considered it a very necessary precaution to take under any circumstances.

Mr. Cruickshank: "About what time does it take to attain its full strength?"

Mr. Henson replied that it continued to increase in strength year by year, and stated that he had seen a sample which appeared as if the various parts were melted together.