

The accomplishment of the preceding, during the working season of 1884, is dependent upon the manner in which the concrete walls (auxiliary dam) withstand the effects of the winter, and if, next spring, they are capable of withstanding a pressure due to a head of 30 ft. and also upon the perfectness and solidity of the concrete flooring, to which reference has been made herein.

The supposition of the Engineers who prepared the plans of this dock was that the wing walls at the entrance, the coffer-dam between them and the close-piling driven along the eastern face of the Government wharf, would together form a coffer-dam and the area enclosed could be pumped out and the whole of the works of the dock be proceeded with almost simultaneously.

This supposition was based on the information they had obtained that the foundation on which the wing-walls, etc., were to be built was *clay*, and this word appears on the contract plans.

Had this been the case, I have no doubt but their supposition would have proved correct; but in reality only *fine sand* was found, and, though this was known prior to the commencement of any work, no changes were made to suit this marked alteration in the nature of the foundation, and the works, as designed, were carried out, and, as might have been anticipated, they were found to be utterly useless to act as a coffer-dam, and all attempts to "pump out" were fruitless, and thus the construction of "extra works" became a necessity.

With respect to the western wing wall, which has settled forwards some distance out its true line and is badly cracked in several places, I have to state that to-day a mass of clay and stone is piled against and around the pile foundation on which it stands, which must be removed next year; and, judging from appearances, I have formed the opinion that, after this has been done, failure will take place, and to such an extent as may necessitate the rebuilding of the whole of the wall. This, of course, is a surmise which may, or may not, be verified in the future, but it is a surmise held by those who have had to do with the building of this wall and have watched its action since its completion.

In item 3 of Mr Kinipple's memorandum the following statement is made..... "the face of the outer invert where the dock proper commences and is founded upon rock".....

With respect to this it has been shewn that rock does not exist at that point, at least has not been reached by any of the works already built.

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