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DEEP TRENCHES FOR RESERVOIRS

UNCERTAINTY IN EXCAVATION WORK OFTEN THE CAUSE OF TROUBLE AND EXPENSE—NOTES ON METHODS OF TIMBERING, WITH REFERENCE TO SEVERAL DEEP RESERVOIR TRENCHES.

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EXCAVATIONS going down 80 and 100 feet over a considerable area or length of trench are not very common except in dock work or in dam foundations. The writer has been associated with a number of waterworks schemes in each of which the trench for the watertight stop wall went down over 80 feet. In one case the trench was nearly a mile in length and for the greater part of that distance the depth excavated exceeded 50 feet while the maximum depth was 112 feet. The trenches were all dug through alluvial

deposit for the most part and finished either in clay or rock.

There is a peculiarity about reservoir trenches not common to other excavations, that is the difficulty of deciding, even from bores, what the probable extent of the trench will be, and it is often a condition of contract that three-quarters or even the whole trench must be taken down to approved watertight strata before filling commences. This stipulation is made to enable the engineer to follow out what he thinks is a good bed of rock or



Fig. 1.—Trenching Methods, Delph Reservoir, Eng.—(Right) Rock Section Trench Bottom Ready for Concrete. (Left) Concrete Completed in Trench Bottom.