



TODDBROOK DAM CANAL & RIVER TRUST

Temporary dewatering during the
construction of new mine drainage
chambers

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Stuart Wells Limited

Deepwell dewatering during the construction of new mine drainage chambers at Toddbrook Dam



Objective

The Toddbrook Reservoir primarily acts as a water supply to the Peak Forest Canal. Stuart Wells was contracted to provide temporary dewatering services during the construction of new mine drainage chambers at Toddbrook Dam.

Chamber one had a diameter of 3.45 m with an excavation depth of 14.3 m and chamber two had a diameter of 4.9 m with an excavation depth of 9.3 m.



Scope of Works

Sub-artesian groundwater was encountered during drilling within the Glaciofluvial Deposits. As the excavation proceeded, the risk of base instability increased.

To reduce the risk of basal instability we designed a dewatering system to alleviate elevated hydrostatic pressures within the vicinity of both shafts.



Solution

A series of deepwells were drilled and installed at each chamber to control groundwater levels within the excavation. Individual submersible borehole pumps were installed within each well with final discharge to the existing mine drainage via a v-notch settlement tank and flowmeter.

Services	Deepwell dewatering
Location	Whaley Bridge, Derbyshire
Industry	Water