The successful rehabilitation of Heapey Embankment, Anglezarke Reservoir

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SYNOPSIS Parks and Walthall (2002) presented a paper that described how seepage through Heapey embankment, discovered in 1997, was seen to significantly increase when the reservoir level rose to within 800mm of top water level (TWL). The seepage emanating from the embankment was successfully sealed during 1999 by a phased grouting operation and the reservoir was returned to full operation.

Within three years the embankment was once again found to be exhibiting signs of seepage at the location of the earlier event. As on the previous occasion, the reservoir level was drawn down and was held 1m below TWL to curtail the leak. In 2010 the regular Section 10 Inspection included an “In The Interests Of Safety” (ITIOS) recommendation to “Treat the leak or reduce it to an acceptable level”. A project commenced in 2011 to determine the available options to satisfy the ITIOS recommendation. This resulted in the award of a construction contract for a Weighted Filter to rehabilitate the embankment and bring the reservoir once more to full capacity operation.

This paper describes the background, the process of determining the rehabilitation option, the design and the construction of that option, completed in 2013, along with a summary of the post-rehabilitation performance.