



Case Study

Silver Ranch Dam Repair- Texas

Problem

Rapidly changing high and low water conditions caused substantial erosion at the edges of the poured dam wall. This eventually led to two leaks when the reservoir was at its normal water level.

Solution

Deep Foamjection with HMI's HF402 was chosen for the repair due to the large body of water and wet conditions. HydroFoam was specially designed to resist hydrolysis, the chemical process of water breaking down a compound. Designed not only to set up in the presence of water, but to maintain dimensional stability, HydroFoam was the best solution for the job.

32 locations around the two leaks were selected based on the direction the leak was flowing. Injection pipes were installed to a depth of 4ft at the water's edge. As the pipes were installed higher up the slope, they were driven deeper to achieve an injection depth at the current water level. This was around 8-9ft depth. In the first round, an average of 25lbs per point was injected into each location.

A second round of injection pipes were installed adjacent to the first, but at shallower depths. Starting at 3ft and following the grade up, the injection pipes were installed down to 6ft. An average of 25lbs per injection location was used in the second round. Three Deep Foamjection rods were driven under the dam wall horizontally where the erosion had washed out dirt from under the concrete. These were driven in approximately 9ft. 215lbs of material was used between the three locations to fill the void.



Summary

A total of 1,815lbs of HMI HydroFoam 402 was used and the repair was completed in less than 2 work days. The alternative quote was \$237,000 to have the original dam removed and a new dam installed.

