

Taking ground engineering to a deeper level



TECHNICAL REFERENCE



Cutoff Walls



OCI Wyoming
Big Island Mine
Green River, WY

Owner: OCI WYOMING, L.P.

General Contractor: XXXXXXX

Construction Manager: XXXXXXX

The seepage barrier wall was constructed through layers of silty sand, clay-like gravel, siltstone and sandstone using a combination of a clamshell bucket and Hydromill.

The self-hardening slurry method was used to construct the barrier wall, which included excavation through the embankment with a mechanical clamshell, and into the siltstone and sandstone with a Hydromill cutter to a depth of 65 ft. from the working platform.

A unique feature of the project was the installation of a test panel off the alignment with a large amount of testing which included coring, wall face inspection, joint confirmation and review of wall homogeneity during destruction.

This additional work and quality control information provided a baseline for the testing that occurred during production.

Acceptance testing of the seepage barrier wall was performed at 28 days through UCS and Permeability testing of casted in-situ samples.

Samples were taken during every shift worked to monitor the situation.

Acceptance criteria to be achieved during testing included:

- Permeability < 1×10^{-6} cm/sec @ 28 Days
- Strength > 75 psi @ 28 Days

To maintain conformance to the stringent requirements of the mix design, real time testing occurred throughout construction at the Batching plant. Additional testing occurred during excavation including verification of panel location, panel depth and panel verticality.

The project was completed ahead of schedule, meeting very high quality control and safety standards to the clients satisfaction.



Cutoff Walls	
Wall length:	5,500 LF
Total Wall Area	257,260 SF
Wall Thickness:	30 in
Average Depth.	45 ft

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