HALLATON
ENVIRONMENTAL LININGS

Project Profile: Oil & Gas Production Water Impoundment

Owner: Oil & Gas Exploration Company
Size: 5 acres
Location: Pennsylvania
Design: 3:1 Slopes
Conductive HDPE Geomembrane
Brine Resistant GCL
Geocomposite Leak Detection Layer
Conductive HDPE Geomembrane
Cushion Non-Woven Geotextile
Specialty Geomembrane Leak Detection Testing

Constraints:

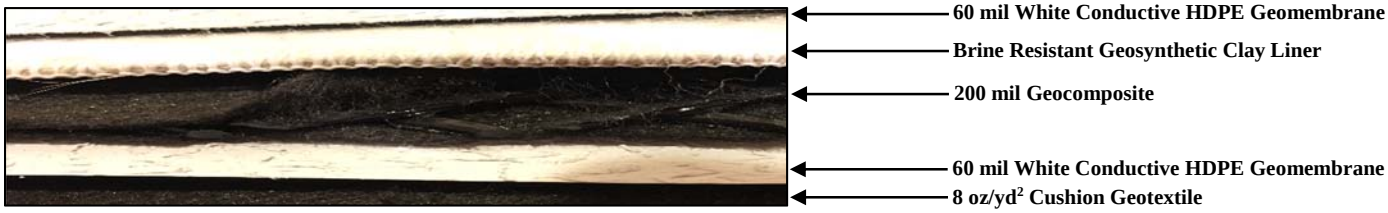
- National/Local EPA oversite
- Operation of a Leak Free Design
- Stringent Safety Concerns
- Community Concerns
- Accelerated Construction Schedule

Background:

The oil & gas water impoundments located in several counties in PA were deemed insufficient by the EPA and local DEP Agencies following several investigations into groundwater impacts. The previously constructed water impoundments were not performing as designed and potential ground water contamination was a concern. In order to continue operation of these impoundments, they were under strict supervision by state and local officials to upgrade several to new and safer standards. The Pennsylvania Environmental Council pushed the legislature and owners for thicker double lined systems in all holding ponds.

Solution:

Hallaton Environmental Linings was contracted to provide design and material input to implement a new best practice Geosynthetic Impoundment Design. It was recommended that owners install a multi-layer geosynthetic liner system consisting of 4-layers, a Primary HDPE Geomembrane Liner, a Geocomposite Leak Detection Layer, a Secondary HDPE Geomembrane Liner, and a bottom Geocomposite Drainage Layer. In addition to the double lined system, Hallaton provided Geomembrane Leak Detection Testing post liner installation per ASTM D 6365.



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Pin Hole Leak Identified During Spark Test