

Pond & Liner Construction

LDH Energy/Mont Belvieu, TX

The scope of work included the construction of a 4.5 million barrel Brine Pond which was one of four proposed ponds to be constructed as part of the plant expansion.

In order to start construction, the 40-acre site had to be cleared of the existing trees and the topsoil stripped. An existing 7-acre borrow pit containing up to 4 feet of sludge and residual waste had to be drained and de-mucked. Site preparation resulted in the removal of more than 50,000 cubic yards of impacted soil.

The establishment of site drainage was extremely important due to the excessive rainfall experienced during 2007. The excavation and placement of the soils for construction of the brine pond was accomplished using a combination of 450 hp agriculture tractors pulling two 17 cubic yard scrapers and excavators with articulated off-road trucks. The utilization of fly ash was employed to dry the saturated native soils as a means of maintaining construction progress during the project.

Approximately 3,000 linear feet of 4" and 6" perforated HDPE pipe was utilized to construct both a primary and secondary leak detection system followed by the installation of a four-part liner system consisting of a fabricnet layer, a 60 mil polyethylene conductive geomembrane, a 200 mil geonet and an 80 mil polyethylene conductive geomembrane. All liners were secured in place by means of an anchor trench on top of the berms.

In addition to construction of the brine pond, G.R. Birdwell constructed plant roads, installed welded HDPE pipe for supply and return of brine, constructed concrete pads for various equipment foundations and piping to supply propane to the flare stack. At completion, over 30 acres were re-seeded.

