



### **Bioremediation of Waste Oil in Soil**

A Southwestern manufacturing company discovered that compressor and hydraulic oil had contaminated high use areas around the plant. Testing of soil samples for total petroleum hydrocarbons (TPH) found levels exceeding state requirements. The TPH concentrations were considered a threat to groundwater quality. It was determined that approximately 240 cubic yards of soil would need to be remediated.

Shallow soil samples were collected and analyzed for TPH using EPA method 8015M (TPH method utilizing a gas chromatograph with a flame ionization detector). Soil TPH values ranged from 0.142 mg/kg to 0.095 mg/kg. To remediate the site, a bio-treatment cell was constructed. Approximately 240 cubic yards of soil were excavated and placed into the cell. M1000H\*™ and OSNF#1 nutrients were applied. The soil was tilled and watered. Periodic maintenance included moisture addition, nutrient monitoring, and roto-tilling.

Soil samples were collected one month later and again tested by EPA method 8015M. TPH concentrations were at 83 mg/kg. Nutrients and pH were also tested. After two months in the bio-treatment cell, TPH concentrations had been reduced to 0.002 mg/kg. Shortly after this, the owner received approval by the regulatory agency for closure of the bio-treatment cell. The cell was dismantled and the clean soil was leveled and graded on the site.