



# Soil Remediation For UST Sites

## On-Site Low Temperature Thermal Desorption

**L**ow temperature thermal desorption is a technique for removing contaminants from large volumes (greater than 1,000 cubic yards) of soil. The technique heats contaminated soil to relatively low temperatures (200-1,000°F). The heat causes contaminants to vaporize so that they can be treated with air emissions treatment systems.

*On-site thermal treatment is most effective on soil that contains high levels of hydrocarbons. It requires less time than bioremediation or soil vapor extraction (SVE). On-site thermal treatment can be implemented rapidly and works quickly—within six to eight weeks—at a relatively low cost.*

### **Petroleum Types And Constituents**

- All types of petroleum products

## On-Site Low Temperature Thermal Desorption

<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Rapid to implement</li> <li>• Minimizes long-term liability</li> <li>• Can reuse some types of soil for backfill</li> </ul>
<b>Limitations</b>	<ul style="list-style-type: none"> <li>• Expensive for soil with high moisture or clay content</li> <li>• Might require air discharge permits</li> </ul>
<b>System Components</b>	<ul style="list-style-type: none"> <li>• Excavation equipment</li> <li>• Sorting and sizing equipment</li> <li>• Rotary kiln</li> <li>• Offgas treatment equipment</li> </ul>
<b>Wastestream Treatment</b>	<ul style="list-style-type: none"> <li>• Air emissions equipment</li> </ul>
<b>Parameters to Monitor<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• Contaminant concentrations in pre- and post-treatment soil</li> </ul>
<b>Cleanup Levels and Timing<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• Can excavate to cleanup standards</li> <li>• &gt;99% removal efficiency</li> <li>• Typically completed in 6 to 8 weeks</li> </ul>
<b>Costs<sup>3</sup></b>	<ul style="list-style-type: none"> <li>• For an average site<sup>4</sup>, \$60,000 to \$100,000 (\$60 to \$100/cu yd)</li> </ul>

<sup>1</sup>"Parameters to monitor" are for performance purposes only; compliance monitoring parameters vary by state.

<sup>2</sup>Cleanup standards are determined by the state.

<sup>3</sup>Costs include equipment, and operation and maintenance.

<sup>4</sup>An "average site" assumes minimal delays in corrective action and a moderately heterogeneous and permeable subsurface.