

## DNAPL REMEDIATION TECHNIQUES ( & other NAPL Contaminants)

1. BIOLOGICAL PROCESSES
  - 1.1 Aerobic biodegradation
  - 1.2 Anaerobic biodegradation
2. Electrolytic Processes
  - 2.1 Electro Osmosis
  - 2.2 Electro Acoustic
3. Containment and Ground Modification
  - 3.1 Impermeable boundaries
  - 3.2 Stabilization and Solidification
  - 3.3 Permeable treatment walls
4. Soil Washing Processes
  - 4.1 Alkali Soil Washing
  - 4.2 Cosolvent Washing
  - 4.3 Surfactant Soil Washing
  - 4.4 Water flooding and groundwater extraction
5. Air Stripping
  - 5.1 Air sparging and vacuum extraction
  - 5.2 Vacuum vaporizer wells
6. Thermal Processes
  - 6.1 Contained Recovery of Oily Wastes
  - 6.2 In-situ steam enhanced extraction
  - 6.3 Radio frequency heating
  - 6.4 In-situ vitrification.