

Overview of the Current State of the Art – Technologies for the Remediation of Heavy Metals in Soil and Water

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The purpose of this briefing is to present the audience with an overview of existing, emerging and innovative technologies available for the treatment and remediation of heavy metal contaminated soils and water. A brief overview of each technology will be presented, its state of development, and the good, bad, and ugly of the technology. Proposed topics include but are not limited to the following:

Containment

- Landfills
- Slurry Walls
- Solidification/Stabilization
 - Cement
 - Pozzolans
 - Silicates
 - Phosphorus
- Vitrification
- Calcination

Water Treatment

- Neutralization,
- Precipitation,
- Flocculation
- Sedimentation
- Membrane Treatment
- Ion Exchange
- Electro Techniques
- Flotation
- Electro winning
- Filtration

Biological Treatment

- Composting

Adsorption/Absorption

Physical Separation

- Tabling
- Flotation
- Classification
- Trammels
- Magnetic and Electrostatic Separation
- Density segregation
- Soil Flushing/Washing

Heap leaching

Phyto Remediation

Chemical and Supercritical Water Oxidation

Electrokinetics

Freeze Crystallization

Ultimate Disposal and Recycling