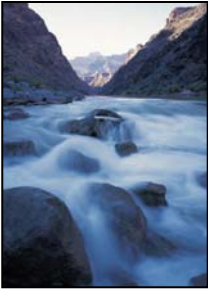


Treatment through Injection

An alternative to traditional treatment application methods

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Treatment through injection provides an alternative for in situ metals stabilization and volatile organic compound (VOC) destruction in soil and groundwater. Injected treatment chemistries are developed to allow treated material to remain in-place, resulting in significant cost savings compared to traditional soil and groundwater management tools.

Applications

Injection applications should be evaluated for sites with:

- Existing structures and active land use
- Contaminants below the water table
- Large volumes of contaminated material

Benefits

Treatment through injection allows you to:

- Cost-effectively incorporate treatment reagents into soil and groundwater
- Limit disruption to existing structures and land uses
- Perform concurrent remediation of soil and groundwater
- Develop treatment chemistries for a variety of metals and VOCs for single constituent or combined treatment

Project Examples

VOC Chemical Oxidation

Problem: Elevated chlorinated solvents existed in groundwater beneath an active industrial facility.

Approach: Use wells to introduce chemicals into groundwater to remove source area contamination to a depth of 80 feet. Residual chemicals will migrate downgradient to further remediate the plume.

Results: 98% reduction of VOCs in the source area.

Project Examples (cont.)

VOC Biodegradation

Problem: Elevated chlorinated solvents in groundwater over a 200 acre future redevelopment.

Approach: Introduce reagents into groundwater through wells to stimulate biological active zones to destroy VOCs. Monitor and re-introduce reagents, as necessary, over a defined treatment duration.

Results: Pilot test results demonstrate 87% reduction of VOCs in the source area with continued decreasing concentrations.

Zinc Stabilization

Problem: Elevated zinc concentrations in soil and groundwater beneath a housing complex is affecting nearby surface water.

Approach: Inject reagents into soil and groundwater using direct push borings in the source area.

Results: 99% reduction of leachable zinc with demonstrated long-term stability (>1,000 years) determined by the Multiple Extraction Procedure (MEP).

About ReSolution Partners, LLC

ReSolution Partners delivers environmental solutions designed to meet our client's objectives. Our staff combines cost-effective environmental strategies with customized remedies to alleviate an environmental liability. To evaluate an injection approach for your project, contact Bernd Rehm at 608.669.1249.

