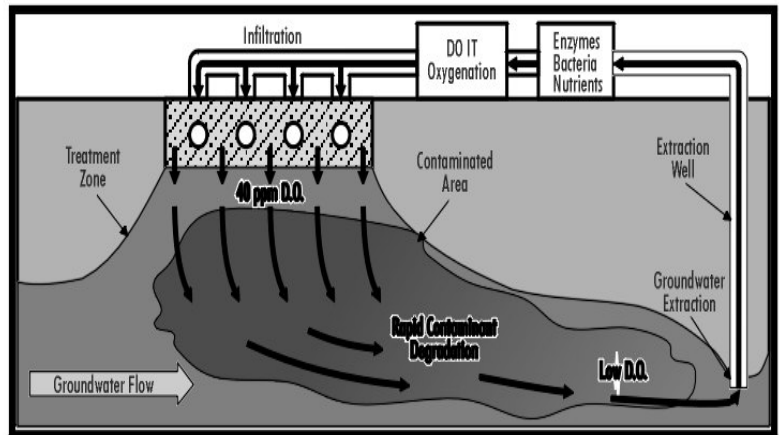


## SuperOx™

- ◆ Consistent GW recirculation
- ◆ Pure O<sub>2</sub> Mixing System produces 40 ppm DO concentrations
- ◆ Automated, turn-key units
- ◆ 10, 20 and 40-gpm Flowrates

### IN SITU OXYGENATION EQUIPMENT

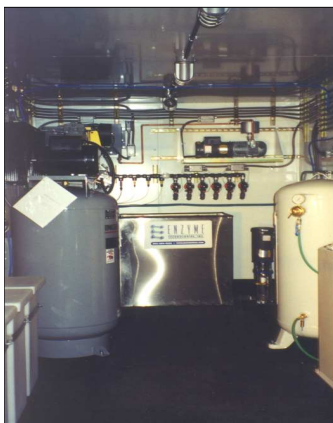
Oxygen is the primary limiting factor for most aerobic bioremediation efforts. ETEC, LLC has developed the most effective subsurface oxygenation and delivery system available today. We call it Dissolved Oxygen In Situ Treatment (DO-IT™). The DO-IT process combines proven biological enhancements with a specialized oxygenation and delivery platform, the Super-Ox™. The consistent, automated in situ delivery of 40-ppm levels of dissolved oxygen provides fast, cost-effective site remediation.



## ISD IN SITU DELIVERY SYSTEMS

- ◆ Automated, Programmable Platforms
- ◆ Deliver any liquid substrate or oxidant to the subsurface

### IN SITU RECIRCULATION/DELIVERY EQUIPMENT



One of the primary limitations of in-situ remediation is the lack of contact between delivered amendments and contaminants. Unfortunately, many pilot- and full-scale applications use slug injections, which are often ineffective because they have minimal radius of influence and they fail to deliver the required mass of amendments. ETEC has developed automated groundwater recirculation systems that can deliver substrates, nutrients, or chemical oxidants to the subsurface on a consistent, scheduled basis.

## IN SITU CHEMICAL OXIDATION

- ◆ GW recirculation for delivery
- ◆ Produces site-wide results

### IN SITU CHEMICAL OXIDATION SERVICES

In situ chemical oxidation (ISCO) processes can be utilized to oxidize and destroy many different kinds of organic contaminants. ETEC has experience with Fenton's reagent, permanganate, and persulfate processes. By using our ISD systems to perform pulsed injection and recirculation of oxidants and catalysts into the subsurface, we have successfully treated BTEX, MTBE, TPH, and PAHs in soil and groundwater. In many cases, we have coupled the ISCO processes with biological degradation to ensure complete site remediation.

## LANDFARMING



- ◆ Extremely cost effective on large soil volumes
- ◆ Minimal equipment requirements for implementation
- ◆ No off-site transport of impacted soil
- ◆ Clean soil re-used as fill material in excavations
- ◆ Rapid degradation of TPH/PAHs

## LABORATORY AND DATA EVALUATION SERVICES

- ◆ Specific bioremediation and monitored natural attenuation analyses (inorganic species, nutrients, plate counts, etc.) via teaming relationships with accredited laboratories
- ◆ Bench-scale treatability studies for soil and groundwater
- ◆ Data evaluation services for monitored natural attenuation (MNA), bioremediation and chemical oxidation projects
- ◆ Extensive education and experience
- ◆ Very competitive billing rates



## REMEDATION FIELD SERVICES



- ◆ Short-term support for Consultants and Contractors
- ◆ Field-ready Remediation Specialists and Operators
- ◆ Support for specific remediation processes (i.e. in situ chemical oxidation, equipment installation, etc.)
- ◆ Competitive labor rates (unit pricing or lump sum)
- ◆ Performance-based pricing available for certain services (i.e. chemical oxidation, bioremediation, etc.)