

Experience in Action - Industrial Facility

In-Situ Soil and Groundwater Treatment — TCE and Vinyl Chloride (VC)



Project at a Glance:

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| Facility: | Active Industrial Site Goodland, Indiana |
| Consultant: | National Consulting Firm, Nashville, TN |
| State Environmental Agency: | Indiana Department of Environmental Quality |

ISCO treatment of Driveway at a former Industrial Site in Indiana. Reardon Technician is applying Chemical Oxidation treatment in soil and groundwater below the driveway area of former industrial facility.

Fast and Under Budget—Three week cleanup met all soil and groundwater targets for Closure under Indiana VCP. A case for using Fenton's Reagent to *Activate* Sodium Persulfate.

Soil Cleanup—REARDON treated soil from near surface to a nominal depth of 6 to 12 feet in the contaminated area.

Groundwater Cleanup—REARDON treated groundwater from treated soil depths of 8 feet to a depth 15 feet (nominal) in the contaminated area.

A small source plume of TCE was encountered after an assessment and investigation of the property. It was the apparent result of an electronic manufacturing process. Since soil and groundwater was localized under newly paved area *In situ Chemical Oxidation* was chosen as the technology of choice for the cleanup.

REARDON Environmental applied a sequential injection of hydrogen peroxide and catalysts mixed with Sodium Persulfate to create a Fenton's reaction in the soil and groundwater and simultaneously activate the Persulfate to achieve a combination of OH and SO₄ radicals producing a powerful TCE destruction combination.

Costs— Three hundred pounds of FMC OPS300 was used on this 3 week project.

Performance Criteria—Closure Achieved

ISCO treatment performance will be based on Soil samples collected at 6 - 10 feet in the affected areas. Soil Target Criteria is based on Indiana Subsurface Soil Cleanup Goal (Tier II) of TCE to 25,730 ug/kg.

Groundwater samples collected in the treatment area from a depth of between 10 to 16 feet in the treatment area. These samples will be collected and analyzed from the existing Monitoring Wells located at the site. Groundwater Target Criteria is based on Tier II levels of TCE at 260 ug/l, and VC at 10 ug/l.

