Treatment of TCE Impacted Soils, Zieglerville, Pennsylvania

Client: PADEP/Radian International

SITUATION

The 4.5-acre property located at 1202 North Gravel Pike in Zieglerville, PA was used from 1969 until 1979 by a manufacturer of solvent based cleaners. Site investigations performed by the Pennsylvania Department of Environmental Protection (PADEP) were prompted by the detection of TCE in several local water wells down gradient from the site. The investigation revealed the presence of TCE in site soils and further investigation delineated a source area of approximately 200 cubic yards extending to a depth of 9 ft. bgs. TCE concentrations as high as 270,000 ppb were detected within the source area as well as elevated levels of BTEX.

Site characterization data was used to determine average, pre-treatment concentrations of 15,000 ppb for TCE (treatment goal = 2,000 ppb), 3,000 ppb for Benzene (treatment goal = 100 ppb), 185,000 ppb for Toluene (treatment goal = 100,000 ppb), and 61,000 ppb for Xylenes (treatment goal 5,000 ppb). The PADEP funded the clean up through the Interim Response and Remediation Services Contract (IRRSC) held by Radian International.

CBA's TECHNOLOGY AND APPROACH.

CBA's MITU Technology was evaluated along with conventional Soil Vapor Extraction (SVE) techniques and off site disposal as possible remediation processes. The MITU Technology was selected as the most cost effective approach. The remedial method involved on-site thermal treatment of the contaminated area, in place, to a depth of 9 feet. CBA competitively bid the project with Radian International and was awarded the job in early 1997. CBA mobilized the MITU 12 unit in early January. Thermal treatment of VOC contaminated soils began on January 14th and were performed continuously through very cold, and sometimes, wet conditions. The work was conducted in the winter months in order to comply with PADEP deadlines.

RESULTS

The MITU 12 Thermal Treatment was completed on February 20th with all treatment objectives met or exceeded. Treatment results were as follows: 500 ppb for TCE (96.67% reduction), <5 ppb for Benzene (99.83% reduction), 100 ppb for Toluene (99.95% reduction), and 2,000 ppb for Xylenes (96.72% reduction). Post treatment results are averages for the entire site.

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Cost: $29,000
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