



Bioremediation Project Experience MTBE Bench Scale Study

Project Description

Given the extensive groundwater contamination of the fuel additive MTBE and its persistent nature in the environment, a cost-effective treatment alternative to the traditional treatment methods is becoming increasingly important. MTBEctomy™, our proprietary blend of beneficial, naturally occurring microorganisms, was used in a bench scale demonstration to treat MTBE contaminated water. The goal of this demonstration was to reduce the level of MTBE in the groundwater sample to non-detectable levels in a short period of time and to determine the optimal concentration of the MTBEctomy™ required to accomplish this goal.

MTBE contaminated water was added to two flasks labeled A and B. Two different concentrations of our microbial blend, MTBEctomy™, were then added to the flasks. The flasks were covered with cotton closures and shaken to mix the solution. After five days, the flasks were sampled and the treated samples were sent for laboratory analysis along with a sample of the untreated water. The samples were analyzed for MTBE, BTEX, and gasoline and diesel range TPH.

Remedial Time Frame

The MTBE contaminated groundwater was in contact with the microbes for five days prior to sampling.

Analytical Results

The concentrations of all contaminants in both flasks were reduced to non-detectable levels after five days of treatment as shown in the following table and graph. The demonstration showed that our patented microbial blend, MTBEctomy™, can achieve rapid destruction of MTBE and the associated gasoline contaminants. This treatment technology can be easily scaled up to most site conditions for in-situ or ex-situ groundwater treatment to provide a quick and cost-effective alternative to traditional technologies.

Analytical Results

Sample ID	Benzene (µg/l)	Ethylbenzene (µg/l)	Toluene (µg/l)	Zylenes (total) (µg/l)	MTBE (µg/l)	TPH	
						Gasoline (µg/l)	Diesel (µg/l)
Control	122	56	124	330	8540	2000	< 500
Flask A	< 2	< 2	< 2	< 2	< 5	< 500	< 500
Flask B	< 2	< 2	< 2	< 2	< 5	< 500	< 500

