

Polynuclear Aromatic Hydrocarbons Removal

Introduction

There are many groundwater remediation projects throughout the country that have contamination from polynuclear aromatic hydrocarbons (PAH's). Tests have shown that PAH's can be removed efficiently through filtering with Xextex. Laboratory generated samples containing varied amounts of PAH compounds, plus actual samples from a pentachlorophenol-contaminated site, were tested using Xextex media with dramatic results.

Method

Sound Analytical Services created spiked blanks containing low-levels of PAH's. Twenty grams of Xextex were placed into a filter device and one of the samples was poured through the filter. Both samples were then analyzed for PAH compounds using USEPA method 8270.

Results

The results from the PAH tests are tabulated below (Table 1). Xextex removes more than 95 % of the carcinogenic PAH's.

Table 1 - PAH /Removal From Water

Analyte	Unfiltered (ppb)	Filtered (ppb)	% Removal
Benzo(a)anthracene	16	0.18	98.9
Chrysene	16	0.14	99.1
Benzo(b)fluoranthene	16	0.32	98.0
Benzo(k)fluoranthene	16.5	0.28	98.3
Benzo(a)pyrene	21	0.36	98.2
Indeno(1,2,3-cd)pyrene	20	0.54	97.3
Dibenz(a,h)anthracene	21.5	0.3	98.6
Benzo(g,h,i)perylene	18.5	0.38	98.0

Conclusions

Xextex provides an effective means of removing contaminants from groundwater and industrial effluent, with efficiencies greater than 95 %. Xextex works efficiently for low-level samples, and has the capacity to treat high-level samples.