

Sulfate removal from water by TC-75

Table 3. Sorbent mass, porosity, flow rate, and residence time for columns packed with TC-75 sorbent.

Sorbent	Mass Sorbent		Porosity	Flow Rate		Residence (min)
	(kg)	(lb)		(mL/min)	(gal/hr)	
TC-75	2.3	5.1	0.30	52	0.84	20

Table 4. First 95% breakthrough and second 95% breakthrough (after regeneration) data of TC-75 sorbent material given in pore volumes (PV), bed volume (BV), and minutes along with estimated mass of sulfate sorbed per mass of sorbent in mg/kg, lb/lb, and percent basis.

Sorbent	Breakthrough			Mass sorbed		Mass Sorbed/Mass Sorbent		
	PV	BV	min	(mg)	(lb)	(mg/kg)	(lb/lb)	(%by sorbent)
First 95% breakthrough	47	14.1	940	27745	0.061	12063	0.012	1.21
Second 95% breakthrough	12	3.6	240	2697	0.006	1172	0.001	0.12
Total	59	17.7	1180	30442	0.067	13236	0.013	1.33

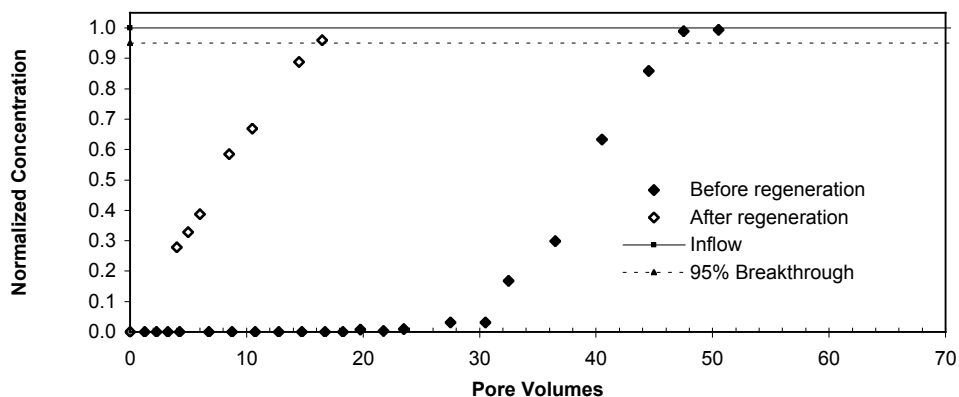


Figure 3. Breakthrough curve (in terms of pore volume) of sulfate through a column of TC-75

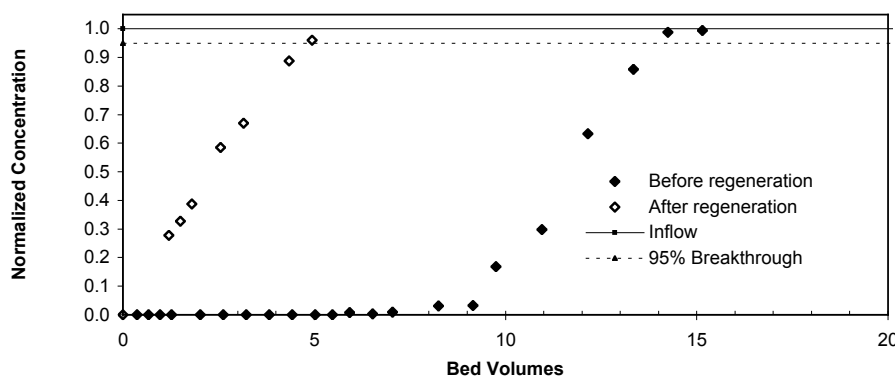


Figure 4. Breakthrough curve (in terms of bed volume) of sulfate through a column of TC-75