

Chromium (VI) and Chromium (III) removal from water by TC-75

Table 7. Sorbent mass, porosity, flow rate, and residence time information for TC-75 sorbent column experiments.

Sorbent	Mass Sorbent		Porosity	Flow Rate		Residence (min)
	(kg)	(lb)		(mL/min)	(gal/hr)	
TC-75	2.3	5.1	0.34	59	0.94	20

Table 8. 95% breakthrough for TC-75 sorbent materials given in pore volumes (PV), bed volumes (BV) and minutes along with estimated mass of Cr(III) and Cr(VI) 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)
Cr (VI) before regeneration	31	10.5	620	9768	0.022	4247	0.004	0.425
Cr (VI) after regeneration	24	8.2	480	3657	0.0081	1590	0.0016	0.159
Cr (III) before regeneration	8	2.7	160	736	0.0016	320	0.0003	0.031
Cr (III) after regeneration	4	1.4	80	586	0.0013	255	0.0003	0.025

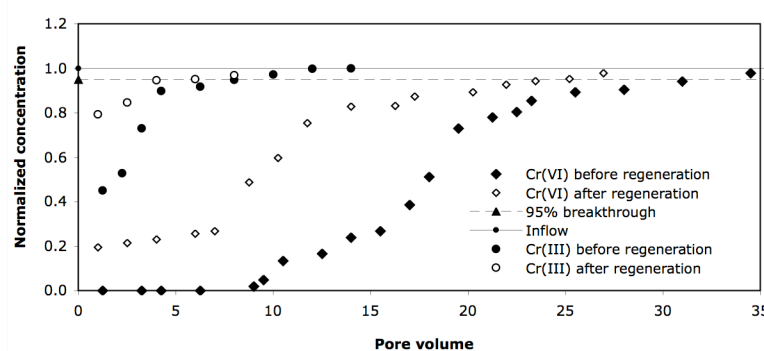


Figure 7. Breakthrough curve (in terms of pore volume) of Cr(III) and Cr(VI) through TC-75

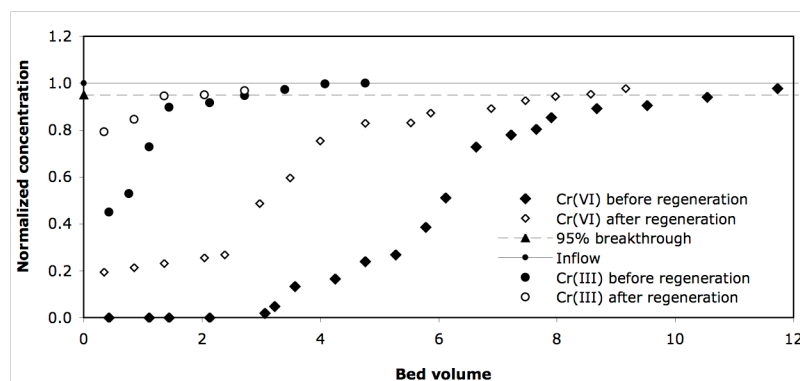


Figure 8. Breakthrough curve (in terms of bed volume) of Cr(III) and Cr(VI) through TC-75