

Table 6.5. Surface area measurements, sieve analysis and calculation of effective surface areas before and after weathering testing in duplicate for the Brush Creek Shale.

Brush Creek Shale

	surface area	% retained	normalized surface area
3/8	20.43		0
#4	9.59	0.4	3.8
#10	13.06	0.25	3.3
#16	11.77	0.1	1.2
#40	11.76	0.1	1.2
#60	11.49	0.05	0.6
pan	11.02	0.1	1.1

11.1
m²/g

Brush Creek Shale

column 1

	surface area	% retained	normalized surface area
3/8			0
#4	17.45	0.4	6.98
#16	17.79	0.35	6.23
#40	18.73	0.1	1.87
#60	18.61	0.05	0.93
pan	11.41	0.1	1.14

17.15
m²/g

column 2

	surface area	% retained	normalized surface area
3/8	15.67		
#4	17.98	0.4	7.19
#16	16.4	0.35	5.74
#40	18.42	0.1	1.84
#60	17.77	0.05	0.89
pan	17.78	0.1	1.78

17.44
m²/g

Unlike the Hornberger (2003) study, two of the shales exhibited an increase in surface area after the leaching experiment and two show a reduction as would be anticipated by the preferential dissolution of small high surface energy particles. These data are summarized in Table 6.6.