

REE Sorption Study of Sieved -50 +100 mesh Media #1 in Brine #1 at Different Starting pH's at 70C

Experimental Condition

- Shaker bath test ran for 90 minute
- Sieved Media #1 to -50 +100 mesh
- Starting pH's of Brine #1 at 3.5, 4.5, 5.5
- Elevated Temperature at 70C
- 2g media to 150mL REE solution or 75-1 liquid to solid ratio
- 2ppm each of REE 7 metals
- Samples analyzed by ICP-MS

Table 1: Shows the percentages of REE's removed from solution at different brine starting pH's.

Sorption by Media 1 (-50 +100 Mesh) from Brine 1M									
	Shaker test @ 70°C, 2 ppm REE7 mix, 150 ml, 2 g media, 90 minutes								
	pH3.5			pH4.5			pH5.5		
	Available mg	mg picked up	% of available	Available mg	mg picked up	% of available	Available mg	mg picked up	% of available
La	0.324	0.080	24.8%	0.358	0.095	26.6%	0.335	0.090	26.9%
Ce	0.321	0.099	31.0%	0.356	0.117	32.7%	0.333	0.116	34.8%
Pr	0.346	0.110	31.8%	0.345	0.115	33.4%	0.336	0.134	40.0%
Nd	0.348	0.117	33.5%	0.350	0.122	34.9%	0.336	0.138	41.0%
Eu	0.326	0.129	39.5%	0.331	0.138	41.7%	0.318	0.153	47.9%
Tb	0.316	0.127	40.1%	0.327	0.140	42.7%	0.313	0.151	48.3%
Dy	0.343	0.143	41.5%	0.354	0.154	43.5%	0.339	0.167	49.3%
Total REE	2.325	0.805	34.6%	2.421	0.881	36.4%	2.310	0.949	41.1%