

REE Sorption study of Sieved -50 +100 mesh Fraction of Media #1 in Brine #1 at Different Concentrations of REE at 70C

Experimental Conditions

- Shaker table experiments at 310 rpm's for 90 minute
- pH 5.5
- 70C Elevated Temperature
- 150mL of REE 7 metal spike at concentrations of .2ppm each, 2ppm each, and 20ppm each
- 2g -50 +100 mesh fraction of media #1
- Samples analyzed by ICP-MS

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

Sorption by Media 1 (-50 +100 mesh)									
Shaker test, REE7 mix, 150 ml, 2 g media, 90 minutes, 70°C									
	0.2 ppm			2.0 ppm			20 ppm		
	Available mg	mg picked up	% of available	Available mg	mg picked up	% of available	Available mg	mg picked up	% of available
La	0.0295	0.0123	41.7%	0.2852	0.0858	30.1%	2.7489	0.3354	12.2%
Ce	0.0298	0.0163	54.7%	0.2835	0.1166	41.1%	2.7350	0.4797	17.5%
Pr	0.0295	0.0172	58.2%	0.2817	0.1275	45.3%	2.7497	0.5776	21.0%
Nd	0.0292	0.0175	60.0%	0.2783	0.1318	47.4%	2.7096	0.5955	22.0%
Eu	0.0294	0.0198	67.5%	0.2805	0.1595	56.9%	2.5414	0.7203	28.3%
Tb	0.0277	0.0188	68.0%	0.2683	0.1552	57.9%	2.5450	0.7514	29.5%
Dy	0.0282	0.0195	69.0%	0.2748	0.1641	59.7%	2.6179	0.8140	31.1%
Tot. REE	0.2033	0.1214	59.7%	1.9522	0.9406	48.2%	18.6475	4.2740	22.9%