

Table 1 – Compilation of Test Parameters and Selected Recovery Results, B-Zone Metallurgical Test, Hazen Research, Inc.

Rare Earth Acid Bake-Leach Summary
Project 11051

Notebook Number	Feed		H ₂ SO ₄ Added, kg/t feed	Particle Size	12-h PF, mg/L					12-h Acid Washes, mg/L					Residue, %					Recoveries (solids basis), %				
	ID	Description			Y	Ce	Zr	Th	Be	Y	Ce	Zr	Th	Be	Y	Ce	Zr	Th	Be	Y	Ce	Zr	Th	Be
220°C, 1-h acid bake (after fumes started) with 350 kg/t H ₂ SO ₄ , followed by 2-h dilute H ₂ SO ₄ leach																								
3316-33	HRI 52326-1	High-grade ore	866	P ₆₅ = 13 µm	432	310	1488	72	58	100	50	238	11	9	0.109	0.0574	1.39	0.0013	0.0201	83	84	53	98	76
3316-47	HRI 52326-1	High-grade ore	756	P ₆₅ = 13 µm	636	436	2260	98	80	92	50	218	10	7	0.084	0.0396	1.22	0.0012	0.0188	87	89	59	98	78
3316-56	HRI 52326-1	High-grade ore	707	P ₁₀₀ = 74 µm	536	352	1782	118	70	68	42	174	12	7	0.172	0.133	1.88	0.0027	0.0262	72	62	33	96	68
3316-62	3234-50-1	High-grade ore	752	P ₁₀₀ = 149 µm	590	352	1804	64	70	42	22	86	3	3	0.081	0.0356	1.12	0.0008	0.0165	79	84	38	98	68
3316-59	HRI 52327-1	Low-grade ore	749	P ₆₅ = 23 µm	240	332	1416	52	34	48	54	170	8	4	0.069	0.0259	1.10	0.0007	0.0035	73	90	41	98	88
3316-53	HRI 52328-1	Altered ore	783	P ₆₅ = 24 µm	162	310	1264	36	28	34	42	132	6	2	0.049	0.0357	0.63	0.0007	0.0021	73	87	53	98	91

HRI 52326-1 (high-grade crude ore): 0.5160% Y, 0.293% Ce, 2.385% Zr, 0.0563% Th, 0.069% Be

3234-50-1: HRI 52326-1 (high-grade crude ore) ground to minus 149 µm

HRI 52327-1 (low-grade ore): 0.2428% Y, 0.242% Ce, 1.744% Zr, 0.0351% Th, 0.0264% Be

HRI 52328-1 (altered ore): 0.1589% Y, 0.238% Ce, 1.183% Zr, 0.0290% Th, 0.0206% Be