

APPENDIX 4

REE concentration for the sandstone and shale samples from the Shemshak Group [in ppm]

Sample	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
SF8	14.2	29.2	3.32	13.7	3.15	0.75	3.53	0.51	2.95	0.52	1.47	0.20	1.31	0.20
SF11	17.8	36.4	4.24	16.7	3.52	0.76	3.37	0.47	2.53	0.49	1.42	0.21	1.34	0.21
SF27	15.4	31.9	3.66	13.9	3.35	0.74	3.30	0.49	2.76	0.53	1.54	0.22	1.40	0.20
SF31	14.6	29.0	3.32	13.3	2.71	0.71	3.01	0.46	2.62	0.51	1.35	0.19	1.18	0.17
SF35	18.5	39.2	4.46	17.5	3.26	0.77	3.06	0.48	2.87	0.49	1.45	0.23	1.47	0.22
SF41	15.5	31.3	3.54	13.4	2.80	0.63	2.70	0.41	2.37	0.45	1.33	0.19	1.13	0.18
SF45	21.0	42.7	4.99	18.9	3.58	0.78	3.51	0.54	3.18	0.63	1.80	0.28	1.77	0.28
SF48	16.8	33.6	4.01	16.0	3.21	0.81	3.57	0.48	2.79	0.50	1.42	0.19	1.15	0.16
SF49	16.9	36.0	4.10	15.6	2.99	0.72	2.78	0.42	2.55	0.46	1.35	0.21	1.22	0.20
SF50	14.5	30.9	3.67	15.9	3.15	0.74	3.19	0.48	2.77	0.51	1.36	0.20	1.30	0.19
SF53	20.6	45.2	4.83	19.1	3.48	0.81	3.30	0.46	2.80	0.52	1.41	0.20	1.32	0.21
SF55	17.2	37.9	4.24	16.4	3.04	0.70	2.89	0.42	2.38	0.45	1.21	0.19	1.18	0.18
SF58	17.9	35.1	4.07	15.5	2.94	0.63	2.91	0.47	3.15	0.61	1.86	0.29	1.77	0.26
SF60	16.2	32.0	3.73	13.9	2.80	0.60	2.50	0.35	2.07	0.40	1.23	0.17	1.10	0.18
SF68	17.0	35.5	4.05	15.4	3.16	0.70	3.03	0.43	2.47	0.47	1.36	0.22	1.37	0.20
SF73	24.3	51.2	5.85	21.3	4.51	0.97	4.14	0.61	3.43	0.68	1.88	0.29	1.79	0.29
SF80	24.7	49.4	5.68	21.9	4.28	0.98	4.46	0.68	4.16	0.84	2.37	0.36	2.28	0.34
SF83	19.8	42.3	4.61	18.8	3.20	0.72	2.92	0.44	2.46	0.50	1.53	0.24	1.55	0.22
SF87	28.5	62.2	7.11	27.9	5.39	1.25	5.09	0.72	4.06	0.77	2.09	0.28	1.80	0.23
Mean (n=19)	18.5	38.5	4.4	17.1	3.4	0.8	3.3	0.5	2.9	0.5	1.5	0.2	1.4	0.2
MF14	30.4	61.9	7.51	30.5	6.79	1.57	7.03	1.02	6.01	1.03	3.03	0.44	2.99	0.45
MF13	35.2	71.4	8.05	29.5	5.98	1.32	5.66	0.90	5.36	1.08	3.05	0.48	3.08	0.46
MF24	26.2	55.4	6.40	24.5	5.01	1.00	4.57	0.68	4.10	0.83	2.40	0.37	2.38	0.37
MF65	29.6	57.4	6.64	26.0	4.99	1.09	5.02	0.77	4.54	0.86	2.55	0.38	2.37	0.38
MF82	28.8	59.7	6.92	27.4	5.40	1.19	5.56	0.80	4.75	0.87	2.56	0.35	2.40	0.38
MF86	28.2	57.4	6.65	25.5	4.84	1.01	4.72	0.70	4.21	0.79	2.30	0.35	2.28	0.35
Mean (n=6)	29.7	60.5	7.0	27.2	5.5	1.2	5.4	0.8	4.8	0.9	2.6	0.4	2.6	0.4