

Waste Isolation Pilot Plant

Compliance Certification Application

Reference 340

Jones, C.L. 1981.

Geologic Data for Borehole ERDA-6, Eddy County, New Mexico. Open-File Report 81-468. U.S. Geological Survey, Denver, CO.



Table 6. --Mineralogical and chemical analyses of core samples from ERDA-6

[oz, ore zone; MB, marker bed; tr, trace; Bl, bloedite; Ha, halite; Ka, kainite; Ki, kieserite; La, langbeinite; Le, leonite; Lo loewite; Po, polyhalite; Sy, sylvite]

Rock unit	Depth interval Feet	Thickness Feet	Mineralogy ¹		Chemical analysis (weight percent) ³									
			X-ray diffraction analysis ²		Ca	Mg	K	Na	Cl	SO ₄	LOI ⁴	Water insoluble	Σ	
11th oz	1,324.67-1,325.30	0.63	>8 Ha; 1 Sy; <1 Po	0.4	0.23	1.89	36.50	58.88	0.30	5.28	0.69	104.18		
	1,325.30-1,326.00	.70	>6 Ha; 3 Sy; <1 Ka	.19	.88	12.60	27.15	54.00	1.53	1.97	.9	99.22		
	1,326.00-1,326.50	.50	7 Ha; 1 La; 2 Sy	.10	2.83	16.27	20.55	44.38	9.17	.39	.12	93.81		
	1,326.50-1,326.90	.40	>7 Ha; 2 Sy; <1 La; Po; tr Ki	.04	1.12	14.86	25.37	54.00	3.51	.62	.24	99.76		
	1,326.90-1,327.15	.25	>6 Sy; 2 Ha; 1 Ki; <1 Ka	.04	3.05	28.06	11.42	41.75	8.54	2.86	.94	96.66		
	1,327.15-1,327.45	.30	>7 Ha; 1 Ka; Sy; tr Ki	.36	4.37	10.13	20.18	43.25	12.02	9.14	1.14	100.59		
	1,327.45-1,327.80	.35	>4 Ha, Ka; <1 Ki, Sy	.06	8.86	10.29	9.49	28.88	18.91	17.4	3.21	97.10		
	1,327.80-1,328.30	.50	>8 Ha; 1 Ka; <1 Sy; tr Ki	.04	4.81	10.54	18.77	40.13	11.39	9.39	1.95	97.02		
	1,328.30-1,328.90	.60	>4 Ha, Sy; <1 Ka	.32	2.38	19.84	17.66	48.25	3.89	2.98	3.95	99.27		
1,328.90-1,329.80	.90	>9 Ha; <1 Sy	.16	2.41	2.22	31.75	53.88	.93	2.98	8.38	102.71			
Salt bed between MB 117 and MB 118	1,346.16-1,346.80	.64	>9 Ha; tr Sy, Po	.31	.21	1.63	36.72	58.88	.66	.43	1.25	100.09		
	1,346.80-1,347.45	.65	>9 Ha; <1 Sy	.13	.71	2.36	35.31	57.50	.54	.73	2.58	99.86		
	1,347.45-1,348.00	.55	5 Ha; 3 Ka; 1 Sy, Le	.03	4.70	10.46	16.47	33.50	16.84	10.8	1.71	94.51		
	1,348.00-1,349.00	1.00	>8 Ha; 1 Ka; tr Sy, Le	.39	3.68	5.16	25.30	44.25	10.46	5.82	5.17	100.23		
	1,349.00-1,349.24	.24	>9 Ha; tr Po, Sy	.56	1.65	1.16	32.94	48.75	1.98	1.37	4.65	93.06		
Salt bed between 4th and 3rd oz	1,548.75-1,549.15	.40	>9 Ha; 1 Bl; tr Ka, Po, Sy	.28	1.17	1.14	33.98	54.63	4.64	2.11	2.75	100.70		
	1,549.15-1,549.70	.55	>9 Ha; <1 Po	.21	.45	.62	37.17	59.25	.87	.48	.32	99.37		
	1,549.70-1,530.00	.30	4 Bl; 3 Ha; 2 Ka; 1 La	.14	5.52	5.90	17.58	26.50	26.37	11.1	.32	93.43		
	1,550.00-1,551.46	1.46	5 La; >4 Ha; <1 Sy; tr Po	.17	6.45	10.37	16.91	26.13	30.26	.77	.21	91.27		
	1,551.46-1,552.60	1.14	>9 Ha; 1 Bl; tr Po, Sy	.64	1.71	1.98	31.23	49.13	10.28	3.96	1.17	99.00		
1,552.60-1,553.05	.45	>9 Ha; tr Ka, Sy	.29	3.06	2.51	29.68	49.63	1.74	3.52	8.20	98.63			
3rd oz	1,555.50-1,556.50	1.00	>9 Ha; tr Bl, Po, Sy	.10	.81	.34	36.28	56.50	3.96	1.20	1.96	101.15		
	1,556.50-1,556.95	.45	>8 Ha; <1 Bl, Po; tr Ka, Sy	.44	1.78	1.66	31.16	48.50	11.50	4.40	1.50	100.94		
	1,556.95-1,557.45	.50	>9 Ha; <1 Ka; tr La	.04	2.02	2.20	32.05	52.63	2.52	3.11	1.66	96.23		
	1,557.45-1,558.30	.85	>5 Ha; 4 La; tr Bl, Ka	.04	6.39	9.55	17.73	28.25	29.39	2.23	.33	93.91		
	1,558.30-1,559.10	.80	7 La; 3 Ha	.06	8.20	12.86	11.72	19.38	23.31	.23	.31	76.07		
	1,559.10-1,559.40	.30	7 Lo; 2 Ha; 1 La	.13	6.51	3.56	18.69	19.75	22.05	7.82	.11	78.62		
	1,559.40-1,560.00	.60	8 Ha; 2 Lo; tr La, Po	.07	2.11	.22	32.49	46.88	6.62	3.06	.61	92.06		
	1,560.00-1,560.60	.60	7 Ha; 2 Lo; <1 La, Po	.11	1.62	.31	34.42	49.63	5.39	2.29	.61	94.38		
	1,560.60-1,561.13	.53	>9 Ha; <1 Po; tr Lo, La, Sy	.19	1.11	.52	36.87	59.25	.75	.94	.62	100.25		

¹Analyst: B. M. Madsen, USGS, Denver, Colo.

²Estimate of amount reported on a scale of 0-10.

³Analysts: W. Mountjoy, V. E. Shaw, T. L. Yager, I. C. Frost, E. Engleman, and V. Smith, USGS, Denver, Colo.

⁴Loss on ignition 0-350° C.

