

TABLE 3. CHEMICAL COMPOSITION OF NEW VERTEBRATE-BONE SAMPLES FROM OJO ALAMO SANDSTONE AND KIRTLAND FORMATION, SAN JUAN BASIN, NM														
Sample number	Kirtland Formation						Ojo Alamo Sandstone						Provenance uncertain	
	040403	020203-A	VP-1468	110803-A	040104	110803-B	VP-1494	020103	P-19147	VP-1625	051504	P-35957	020203-B	020203-T
Distance in m from base of Ojo Alamo	213	10.7	6.1	39.6	12.2	0.1	3.5	4.6	6.1	4.9	3.7	4.6	10.6	10.6
	below	below	below	below	below	below	above	above	above	above	above	above	below	below
Major and minor elements (wt%)														
Ca	29.1	37.0	23.0	30.3	24.3	30.3	34.9	32.0	29.4	36.2	37.9	22.5	32.8	25.9
Fe	0.26	0.37	18.40	1.15	0.46	1.15	0.50	0.38	0.289	0.66	0.37	0.33	0.66	10.60
Na	0.55	0.24	0.43	0.50	0.02	0.504	0.24	0.38	0.738	0.32	0.30	0.29	0.35	0.33
Trace elements (ppm)														
Sc	2.5	1.9	0.4	8.6	0.8	8.6	0.6	3.2	3.2	5.3	0.7	1.2	4.3	19.7
Co	0.9	0.9	5.2	4.2	7.2	4.2	6.3	38.2	3.9	27.4	15.3	137.0	2.9	6.2
Zn	142.0	114.0	78.6	185.0	4.8	185.0	43.0	235.0	60.1	109.0	61.3	158.0	278.0	398.0
As	0.7	2.3	14.7	5.2	21.5	5.2	13.2	11.3	2.7	13.5	10.6	3.6	6.1	31.0
Sb	0.4	0.3	14.8	1.7	0.2	1.7	1.1	1.7	0.4	1.3	1.2	0.6	1.0	6.4
U	9.0	13.9	26.6	2.0	3.9	29.6	657.0	190.0	681.0	386.0	312.0	89.0	110.0	85.5
Th	0.38	0.35	0.10	3.8	0.04	3.8	0.20	0.94	1.5	0.43	0.21	0.16	0.66	0.88
Hf	0.15	0.04	0.16	2.2	0.01	2.2	0.14	1.04	1.5	0.22	1.05	0.24	0.37	0.84
Ta	0.02	0.03	0.05	0.27	0.02	0.27	0.01	0.06	0.12	0.02	0.02	0.03	0.05	0.07
La	1228	1672	302	2122	35.7	660	86.5	3633	341	749	916	229	3441	3666
Ce	1060	867	91.3	1080	29.4	1080	3.4	2410	549	525	409	88.6	2370	2710
Nd	839	409	33.3	513	17.6	513	1.7	1380	224	361	203	40.6	1670	1870
Sm	200	86.6	7.0	120	3.5	120	0	308	43.1	85.3	53.5	9.9	420	556
Eu	46.5	18.8	1.8	30.9	0.72	30.9	0.14	75.6	12.6	20.7	16.1	2.2	79.5	95.1
Gd	269	98.1	13.0	172	2.5	172	0.60	402	72	123	97.4	15.9	493	670
Tb	39.1	15.1	2.2	24.7	0.37	24.7	0.13	60.5	9.1	18.9	15.4	2.5	74.7	103.0
Ho	21.5	17.1	3.8	29.1	0.36	29.1	0.48	63.6	11.0	26.1	18.1	3.5	73.8	95.4
Tm	4.1	5.3	1.7	10.3	0.11	10.3	0.44	12.5	3.4	7.1	7.4	1.6	21.3	21.9
Yb	18.6	31.4	11.3	57.8	0.57	57.8	2.9	66.0	19.2	39.3	39.3	9.3	135	129
Lu	2.2	4.6	1.7	7.0	0.07	7.0	0.55	7.8	2.8	5.2	5.1	1.4	20.5	19.8
Sum REE	2882	2073	261	3010	66.0	2705	38.0	5916	1287	1445	1149	247	6428	7410
La/Yb(N)	13.9	11.2	5.6	9.7	13.1	7.7	6.2	11.6	12.0	4.0	4.9	5.2	5.4	6.0
Mean U	14.2						Mean U	386					Mean U	97.75
Mean Sum Ree	1833						Mean Sum Ree	1680					Mean Sum Ree	6919
Mean La/Yb(n)	10.2						Mean La/Yb(n)	7.3					Mean La/Yb(n)	5.7

Notes: Chemical analyses by J. R. Budahn, USGS, Denver, CO; additional elements (K, Rb, Ca, Cr, Zr, W, Se, Ni, Au, Br, Mo) not tabulated because reported analytical precision resulting from interelement interferences, fission yield corrections, and/or counting statistics typically exceeds 15% (relative standard deviation). (n)--chondrite-normalized abundance