TABLE A. STEP-LEACH AND BULK MINERAL Pb ISOTOPE DATA FROM KIMBERLEY MINE

Sample*	Mineral†	Size§	Acid#	Time	Code**	$^{206}Pb/^{204}Pb$	±2σ	$^{207}Pb/^{204}Pb$	±2σ	$^{208}Pb/^{204}Pb$	±2σ
KIM-81	Tur	175-250	Mix	15 min	[1/1]	39.448	0.102	18.664	0.049	40.551	0.107
KIM-81	Tur	175-250	8N HBr	8 h	[1/2]	79.677	0.199	25.875	0.066	72.340	0.185
KIM-81	Tur	175-250	15N HNO_3	15 h	[1/4]	129.515	2.190	34.881	0.591	173.283	2.932
KIM-81	Tur	175-250	Residue		[1/5]	29.366	0.323	17.783	0.197	46.454	0.519
KIM-2/1	Po	<30	Bulk		[2/b]	68.281	0.503	22.897	0.169	36.966	0.274
KIM-2/1	Po	<30	Mix	5 min	[2/1]	64.060	0.154	22.739	0.055	36.842	0.091
KIM-2/1	Po	<30	4N HBr	15 min	[2/2a]	76.992	1.003	23.953	0.312	37.109	0.484
KIM-2/1	Po	<30	4N HBr	1 h	[2/2b]	90.436	0.498	25.525	0.141	37.828	0.211
KIM-2/1	Po	<30	Residue		[2/5]	64.376	0.609	22.364	0.212	36.859	0.350
KIM-2/2	Po	30-50	Bulk		[3/b]	68.385	0.400	22.910	0.134	37.019	0.218
KIM-2/2	Po	30-50	Mix	5 min	[3/1]	65.428	0.410	22.821	0.144	36.960	0.233
KIM-2/2	Po	30-50	1N HBr	1 h	[3/2a]	83.711	0.535	24.723	0.158	37.629	0.242
KIM-2/2	Po	30-50	1N HBr	2 h	[3/2b]	118.053	2.220	28.839	0.543	36.991	0.696
KIM-2/2	Po	30-50	4N HBr	12 h	[3/2c]	90.450	0.498	25.445	0.141	37.246	0.207
KIM-2/2	Po	30-50	Residue		[3/5]	79.766	0.656	24.314	0.200	37.123	0.306
KIM-2	Apy	50-100	Bulk		Apy	35.923	0.238	19.051	0.127	36.213	0.241
KIM-2	Qtz	175-250	Bulk		Qtz	37.184	0.433	19.111	0.223	36.798	0.430
KIM-2	Tur	30-50	Mix	1 h	[4/1]	254.261	3.747	47.998	0.708	38.093	0.562
KIM-2	Tur	30-50	4N HBr	3 h	[4/2]	237.832	4.266	43.098	0.774	41.228	0.740
KIM-2	Tur	30-50	7N HNO_3	3 h	[4/4a]	104.854	1.766	26.412	0.445	42.290	0.713
KIM-2	Tur	30-50	15N HNO_3	15 h	[4/4b]	123.138	2.378	28.999	0.560	61.025	1.179
KIM-2	Tur	30-50	Residue		[4/5]	26.033	0.202	16.748	0.131	37.230	0.291
KIM-2	Tur + Bt	30-50	Bulk		TB	179.936	1.528	36.964	0.314	38.153	0.325
KIM-48/1	Tur	400-800	Mix	5 min	[5/1]	21.045	0.160	16.081	0.123	39.676	0.302
KIM-48/1	Tur	400-800	1N HBr	1 h	[5/2a]	22.380	0.135	16.271	0.099	41.307	0.251
KIM-48/1	Tur	400-800	8N HBr	6 h	[5/2b]	25.569	0.279	16.827	0.184	37.422	0.410
KIM-48/1	Tur	400-800	7N HNO_3	1 h	[5/4a]	19.502	0.116	15.965	0.095	38.872	0.232
KIM-48/1	Tur	400-800	15N HNO_3	15 h	[5/4b]	27.229	0.306	16.793	0.190	41.357	0.466
KIM-48/1	Tur	400-800	Residue		[5/5]	23.827	0.204	16.599	0.143	37.450	0.321
KIM-48/2	Tur	175-250	Mix	5 min	[6/1]	23.495	0.202	16.315	0.141	41.644	0.359
KIM-48/2	Tur	175-250	1N HBr	1 h	[6/2a]	25.788	0.152	16.662	0.099	43.552	0.259
KIM-48/2	Tur	175-250	8N HBr	6 h	[6/2b]	30.365	0.274	17.313	0.157	50.909	0.461
KIM-48/2	Tur	175-250	7N HNO_3	1 h	[6/4a]	25.165	0.265	16.621	0.176	41.228	0.437
KIM-48/2	Tur	175-250	15N HNO_3	15 h	[6/4b]	31.545	0.370	17.450	0.206	40.347	0.476
KIM-48/2	Tur	175-250	Residue		[6/5]	22.485	0.191	16.327	0.139	36.049	0.307

Note: Errors are two standard deviations absolute (Ludwig, 1990). Fractionation amounted to 0.085 ± 13 % / AMU (n = 85) on NBS 981 Pb standard. Error correlation coefficients (Ludwig, 1990) range between 0.99 and 1.00; total procedure Pb blank <300 pg.

* sample numbers with /1 and /2 denote separately processed dry splits of the same mineral separate

† Tur = tourmaline; Po = pyrrhotite; Apy = arsenopyrite; Qtz = quartz; Bt = biotite; TB = tourmaline - biotite mixture.

§ Grain size fraction in µm.

\# Mix = 1.5N HBr - 2N HCl 12:1 mixture used in the first leach steps.

** [x/yz] x = order of appearance; y = step leaching codes after Frei and Kamber (1995), z = substeps using same acids but different concentrations