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Title of article Petrochemical and geochronologic studies of plutonic rocks in the southern Appalachians: II, The Sparta granite complex, Georgia

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APPENDIX 1

Location		Samples
4.	3.75 km northeast of Sparta on Ga. 16, then 0.75 km southeast. Weston and Brooker Granite Hill quarry.	GA-4A, GA-4B, 979, 980, 981, 983
5.	6.3 km northeast of Sparta on Ga. 16, then 0.4 km southeast. Spartan Pink quarry.	GA-5, 985, 987, 989
21.	Southeast of Sparta, On S1098 1.9 km southeast of Ga. 15. Outcrop on north side of road.	GA-21, 1246, 1247, 1248, 1249
22.	3.0 km east of location 21 on S1098. Outcrop on north side of road.	GA-22A, GA-22B, 1252, 1253, 1254
23.	0.5 km east of location 22 on S1098. Outcrop on north side of road.	GA-23, 990, 990P, 991P, 992P, 994
24.	3.6 km east of location 23 on S1098. Outcrop on south side of road, just east of bridge over Little Ogeechee River.	GA-24, 1257, 1260
25.	Northeast of Sparta. 0.9 km south of railroad crossing in Mayfield on S1568. Outcrop on west side of road.	GA-25, 996, 997, 998

Table 1. Isotopic data for Sparta granite

Texture and Sample	Sr^{86}/Sr^{88}	$(Sr^{87}/Sr^{86})_n$	Rb ppm	Sr ppm	Rb/Sr	Rb^{87}/Sr^{86}
X						
GA-4A*	0.1193	0.7123	139.2	182.7	0.76	2.21
GA-4B*	0.1195	0.7095	166.0	331.7	0.50	1.45
979	0.1195	0.7151	80.58	131.4	0.61	1.78
GA-5*	0.1199	0.7887	237.4	33.86	7.01	20.46
985	0.1196	0.8367	250.2	22.50	11.12	32.60
987	0.1194	0.8044	230.3	27.20	8.47	24.75
Y						
GA-23*	0.1195	0.7666	141.0	49.85	2.83	8.24
990	0.1194	0.8262	270.0	35.00	7.71	22.60
990P**	0.1196	0.9765	215.6	10.39	20.75	61.67
991P	0.1195	0.9014	272.3	19.23	14.16	41.78
994	0.1194	0.7711	147.3	46.49	3.17	9.23
GA-22A*	0.1202	0.7750	178.5	53.27	3.35	9.77
GA-22B	0.1199	0.7698	153.6	51.55	2.98	8.68
1252	0.1193	0.7680	160.6	53.37	3.01	8.77
1253	0.1203	0.7842	174.3	43.67	3.99	11.64
1254	0.1195	0.7693	153.9	53.00	2.90	8.46
GA-21	0.1194	0.7910	139.6	36.24	3.85	11.24
1246	0.1195	0.7929	141.0	34.94	4.04	11.78
1247	0.1197	0.8674	237.8	24.24	9.81	28.85
1248	0.1193	0.7997	155.7	34.08	4.57	13.35
1249	0.1201	0.8321	217.2	31.25	6.95	20.37
GA-24	0.1196	0.7619	162.0	59.86	2.71	7.88
1257	0.1200	0.7611	151.7	57.45	2.64	7.69
1260	0.1196	0.7650	156.5	56.51	2.77	8.06
L						
GA-25*	0.1198	0.7231	259.4	195.1	1.33	3.86
996	0.1193	0.7225	253.1	193.5	1.31	3.79

*Fullagar (1971)

**P = pegmatite

Table 2. Analyses of NBS - 70a K-feldspar

Analysis	Sr^{86}/Sr^{88}	$(Sr^{87}/Sr^{86})_n$	Rb ppm	Sr ppm	Rb/Sr	Rb^{87}/Sr^{86}	Age, m.y.**
1.	0.1196	1.2009	524.4	64.29	8.157	24.76	1412
2.	0.1196	1.2010	516.9*	64.23	8.048*	24.42*	1432*
3.	0.1196	1.2005	521.7	64.18	8.129	24.67	1416
4.	0.1196	1.2006	527.4	64.34	8.197	24.88	1405
5.	0.1195	1.2006	528.7	64.42	8.207	24.91	1403
6.	0.1202	1.2002	526.1	64.13	8.204	24.90	1403
7.	0.1200	1.1996*	521.7	64.23	8.123	24.65	1415
8.	0.1199	1.2006	525.0	64.01	8.201	24.90	1404
9.	0.1201	1.2006	524.2	64.18	8.168	24.79	1410
10.	0.1194	1.2003	524.9	64.18	8.178	24.82	1407
Average of 10	0.1197	1.2005	524.1	64.22	8.161	24.77	1411
$\pm 1\sigma$	0.0003	0.0004	3.4	0.11	0.050	0.16	9
Omitting * values Average		1.2006	524.9		8.174	24.81	1408
$\pm 1\sigma$		0.0003	2.3		0.032	0.10	5

**Assuming $(Sr^{87}/Sr^{86})_o = 0.710$; $Rb^{85}/Rb^{87} = 2.591$.

TABLE 3. MAJOR ELEMENT CHEMICAL DATA FOR SPARTA GRANITE

TEXTURE & SAMPLE		SiO_2	Al_2O_3	TiO_2	ΣFe as Fe_2O_3	MgO	CaO	K_2O	Na_2O	TOTAL
X	GA - 4A*	72.43	14.35	0.24	1.90	0.84	1.07	4.60	3.88	99.3
	GA - 4B*	66.96	15.49	0.64	3.46	2.25	2.29	5.34	3.85	100.3
	GA - 5*	77.6	12.85	0.11	1.05	0.07	0.75	4.99	3.73	101.2
	979	72.50	14.48	0.21	1.82	0.76	1.37	5.01	3.58	99.7
	980	69.78	15.22	0.42	2.71	1.50	1.97	4.64	3.77	100.0
	981	70.03	15.42	0.40	2.76	1.53	2.07	4.20	4.04	100.5
	983	72.09	14.80	0.30	2.20	0.64	1.56	4.76	3.71	100.1
	985	74.8	14.36	0.01	0.36	0.04	0.46	5.13	4.08	99.2
	987	75.5	13.81	0.07	0.62	0.05	0.82	4.49	4.06	99.4
	989	64.1	16.1	0.79	4.84	1.23	2.91	2.27	5.03	97.3
Y	GA - 21	76.2	11.37	0.20	1.97	0.11	0.52	4.51	3.99	98.9
	GA - 22A	77.8	12.55	0.18	1.86	0.35	0.51	5.13	3.70	102.1
	GA - 22B	76.8	12.09	0.16	1.61	0.37	0.65	4.38	3.98	100.0
	GA - 23	75.3	13.41	0.23	2.36	0.47	0.72	4.51	4.32	101.3
	GA - 24	76.1	12.90	0.19	1.82	0.39	0.53	4.64	4.07	100.6
	990P	75.40	13.82	0.04	0.40	0.01	0.76	4.21	4.65	99.3
	990	75.1	12.35	0.20	1.98	0.60	1.33	4.07	4.40	100.0
	991P	74.97	14.31	0.02	0.37	0.01	0.38	6.35	3.95	100.4
	992P	73.91	14.59	0.33	0.65	0.02	1.41	5.35	4.55	100.8
	994	74.1	13.09	0.23	2.22	0.51	0.62	4.31	4.30	99.4
	1246	77.3	12.8	0.32	1.69	0.15	0.35	5.02	3.92	101.6
	1247	76.6	12.8	0.26	1.98	0.22	0.22	5.40	4.04	101.5
	1248	77.2	12.6	0.32	1.80	0.24	0.30	5.27	3.95	101.7
	1249	76.4	12.9	0.30	1.69	0.34	0.28	5.27	4.08	101.3
Z	GA - 25	71.17	15.06	0.33	2.49	1.08	1.42	5.74	3.73	101.0
	996	71.11	14.53	0.33	2.32	1.03	1.49	5.44	3.36	99.6
	997	71.66	14.66	0.33	2.33	1.03	1.51	5.30	3.32	100.1
	998	71.39	15.17	0.24	2.34	1.06	1.12	5.54	3.43	100.3

*Also analyzed by Butler and Ragland (1969)

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Table 4. Data for parallel Rb-Sr isochrons.

Location	Samples	Age, m.y.	$(Sr^{87}/Sr^{86})_o$
4 and 5	4A, 4B, 5, 985, 987	295 ± 2	0.7035 ± 0.0004
21	21, 1246, 1247, 1248 1249	316 ± 4	0.7414 ± 0.0010
23	23, 990, 990P, 991P, 994	286 ± 3	0.7344 ± 0.0009