Appendix. Whole-rock chemical and modal data.

	Synkinematic plutons										
sample	4	10	11	14	20	21	24	31	32	42	44
SiO2	72.58	67.62	69.33	67.65	68.28	70.00	74.69	73.24	75.03	66.84	65.71
TiO2	0.27	0.67	0.36	0.37	0.72	0.49	0.15	0.27	0.21	0.81	0.84
Al2O3	13.24	15.07	14.93	15.70	15.34	14.91	14.08	13.75	13.27	14.74	14.64
FeO*	2.22	3.91	3.02	3.51	4.09	3.20	1.36	1.98	1.66	4.46	4.98
MnO	0.04	0.07	0.06	0.06	0.06	0.04	0.05	0.04	0.05	0.10	0.13
MgO	0.16	0.77	0.63	0.44	1.30	0.66	0.22	0.37	0.26	0.89	1.10
CaO	1.19	2.24	1.67	1.63	2.51	1.64	0.85	1.05	0.95	2.37	2.92
Na2O	3.28	4.05	4.36	3.54	3.51	3.13	3.68	3.86	3.53	3.41	3.57
K2O	5.41	5.00	4.43	6.43	4.00	5.92	5.63	4.92	4.88	5.21	4.78
P2O5	0.06	0.21	0.09	0.13	0.19	0.13	0.04	0.07	0.05	0.26	0.33
total	98.45	99.60	98.87	99.46	99.99	100.1	####	99.55	99.88	99.10	98.99
Sc	4.8	9.1	4.2	8.2	9.6	6.8	3.5	3.6	4	10.9	17.2
V	11	62	33	15	70	34	10	17	18	42	50
Cr	1	8	3	2	18	5	1	16	11	5	1
Ni	6	10	11	8	9	7	9	8	4	4	4
Cu	7	6	bd	1	340	7	4	1	12	9	13
Zn	44	67	61	73	48	44	26	39	37	74	81
Ga	18	20	23	26	18	17	19	18	18	20	17
Rb	134.9	182.3	196.5	200.4	126.3	132.9	299.4	204.5	178.1	118.4	138.2
Sr	83	195	146	100	219	180	70	105	103	206	245
Y	56.88	80.60	63.73	94.00	29.08	49.43	63.44	61.28	44.18	78.46	92.93
Zr	245	389	252	533	329	311	161	246	165	454	366
Nb	15.73	19.54	20.08	20.59	12.36	10.75	18.04	19.93	13.22	17.86	18.39
Cs	1.02	3.37	5.12	5.20	1.90	1.08	8.32	1.81	2.75	1.71	2.65
Ba	459	1060	460	901	1155	1073	536	585	513	1216	1296
La	91.60	56.05	98.97	55.78	33.42	79.24	53.65	49.71	46.85	42.45	71.45
Ce	171.92	114.42	190.28	114.7	65.33	153.3	97.28	96.39	90.76	91.26	136.2
Pr	19.32	13.35	20.23	13.85	7.48	17.45	10.39	10.63	9.25	11.53	15.38
Nd	71.63	55.38	72.33	60.15	29.67	66.38	37.38	40.17	33.95	50.37	61.67
Sm	13.97	12.94	13.88	15.08	6.17	13.81	8.15	8.94	6.87	13.08	15.15
Eu	1.57	2.33	1.23	2.53	1.74	2.07	0.80	0.95	0.88	2.73	2.75
Gd	11.43	12.58	10.81	15.25	5.67	11.51	7.48	8.13	5.94	12.92	14.65
Tb	1.79	2.16	1.77	2.56	0.88	1.76	1.33	1.51	1.05	2.31	2.60
Dy	10.87	14.02	10.52	16.30	5.29	10.08	8.87	9.73	6.73	14.35	16.21
Ho	2.10	2.84	2.15	3.39	1.06	1.89	1.93	2.14	1.47	2.98	3.38
Er	5.56	7.99	6.33	9.43	2.83	4.97	6.10	6.22	4.40	8.05	9.50
Tm	0.77	1.21	1.06	1.50	0.40	0.66	1.01	0.99	0.71	1.15	1.42
Yb	4.63	7.51	7.20	9.59	2.41	3.76	7.25	6.49	4.84	7.13	8.96
Lu	0.72	1.16	1.25	1.52	0.40	0.56	1.23	0.99	0.81	1.04	1.37
Hf	8.06	9.43	7.46	13.99	8.47	7.88	5.89	7.59	5.11	11.44	9.54
Ta	2.32	2.43	2.81	2.35	0.69	0.39	2.95	1.63	1.20	1.19	1.22
Pb	18.42	16.52	22.18	27.19	11.79	15.35	27.88	18.66	24.15	12.87	13.22
Th	12.57	15.27	31.13	20.78	6.91	17.11	31.83	27.41	22.80	7.40	11.49
U	1.50	2.46	7.02	9.11	1.67	1.56	5.78	5.42	5.75	1.51	1.32
Eu/Eu*	0.37	0.55	0.29	0.50	0.88	0.49	0.31	0.33	0.41	0.63	0.55

Appendix. Whole-rock chemical and modal data.

Cen/Ybn	10.0	4.10	7.10	3.23	7.33	11.0	3.63	4.01	5.07	3.46	4.11	
sample	4	10	11	14	20	21	24	31	32	42	44	
Rb/Sr	1.63	0.93	1.35	2.00	0.58	0.74	4.28	1.95	1.73	0.57	0.56	
Zr/Nb	15.6	19.9	12.5	25.9	26.6	28.9	8.92	12.3	12.5	25.4	19.9	
Rb/Ba	0.29	0.17	0.43	0.22	0.11	0.12	0.56	0.35	0.35	0.10	0.11	
Zr/Hf	30.4	41.3	33.8	38.1	38.8	39.5	27.3	32.4	32.3	39.7	38.4	
Zr/Pb	13.3	23.5	11.4	19.6	27.9	20.3	5.77	13.2	6.83	35.3	27.7	
Nb/Ta	6.78	8.04	7.15	8.76	17.9	27.6	6.12	12.2	11.0	15.0	15.1	
Pb/Th	1.47	1.08	0.71	1.31	1.71	0.90	0.88	0.68	1.06	1.74	1.15	
Pb/U	12.28	6.72	3.16	2.98	7.06	9.84	4.82	3.44	4.20	8.52	10.0	
TTDI	89.64	81.19	84.48	84.38	76.16	84.03	92.36	89.81	91.11	78.64	75.80	
ASI*	0.81	0.77	0.84	0.81	0.85	0.82	0.86	0.86	0.87	0.76	0.72	
q	32.31	31.09	24.42	19.07	29.88	26.92	30.79	30.97	35.47	23.51	22.08	
or	36.28	36.54	31.37	45.25	31.09	41.56	35.75	32.48	31.71	39.48	37.66	
ab	31.41	42.37	44.21	35.68	39.03	31.52	32.46	36.55	32.82	37.01	40.26	
or	49.13	41.07	36.98	50.52	36.61	50.83	48.69	43.71	45.76	44.52	41.40	
ab	42.54	47.61	52.11	39.84	45.95	38.56	45.56	49.20	47.36	41.72	44.24	
an	8.33	11.32	10.91	9.64	17.44	10.61	5.75	7.09	6.88	13.76	14.36	
modes, vol %												
qz	23.1	18.8	33.9	34.7	39.5	23.4	35.1	31.1	31.9	28.4	33.3	
kf	39.4	32.7	25.7	31.4	1.4	32.9	28.8	29.9	26.0	31.9	16.2	
pc	31.9	35.7	31.7	28.8	45.0	32.1	32.9	34.2	36.6	27.9	25.8	
amph	1.5	0	0	0	0	0	0	0	0	1.9	9.3	
bi	2.7	9.0	7.5	4.7	13.0	10.4	3.0	3.6	4.7	7.0	13.5	
sphene	0	1.9	0.5	0	0.7	0	0	0.6	0.1	2.5	0.3	
opaques	0.4	1.3	0.2	0	0.1	0.3	0.1	0.2	0.1	0	0.2	
others	1	0.6	0.5	0.4	0.3	0.9	0	0.4	0.6	0.5	1.4	
Tzirc,°C	819	844	815	885	859	839	786	821	791	861	830	
*ASI Aluminum saturation index cation Al/(2Ca + Na + K)												

Appendix. Whole-rock chemical and modal data.

	Hypersolvus granite and rhyolite									Postkin
sample	19	7	23	18					sample	1
SiO2	73.48	74.43	76.24	67.88					SiO2	74.05
TiO2	0.36	0.41	0.26	0.65					TiO2	0.21
Al2O3	12.95	11.80	12.04	12.51					Al2O3	12.82
FeO*	3.18	2.47	2.28	7.33					FeO*	1.88
MnO	0.04	0.06	0.03	0.13					MnO	0.03
MgO	0.13	0.18	0.14	0.32					MgO	0.08
CaO	0.32	0.71	0.74	1.91					CaO	0.93
Na2O	3.96	3.01	3.15	2.83					Na2O	2.89
K2O	5.35	4.94	5.15	5.00					K2O	5.77
P2O5	0.05	0.08	0.05	0.15					P2O5	0.04
total	99.81	98.09	100.1	98.71					total	98.70
Sc	2.1	5.8	4.5	12.4					Sc	4.0
V	11	8	11	6					V	8
Cr	bd	2	bd	bd					Cr	2
Ni	9	9	12	8					Ni	10
Cu	12	1	7	2					Cu	6
Zn	114	93	89	239					Zn	64
Ga	31	19	21	30					Ga	24
Rb	133.0	131.1	187.5	183.8					Rb	256.0
Sr	24	67	30	23					Sr	72
Y	140.61	98.73	132	200					Y	99.30
Zr	817	568	395	1187					Zr	224
Nb	52.67	31.06	36.55	50.29					Nb	23.17
Cs	9.25	0.61	0.64	1.01					Cs	4.53
Ba	366	767	294	309					Ba	492
La	92.20	86.02	122.7	131.2					La	67.9
Ce	192.41	180.6	250.4	275					Ce	141.7
Pr	24.19	21.34	29.03	33.10					Pr	16.32
Nd	105.68	83.15	111.1	142.4					Nd	62.66
Sm	26.32	18.62	24.30	33.89					Sm	14.69
Eu	2.38	2.23	1.25	3.45					Eu	1.35
Gd	26.02	16.46	21.17	32.85					Gd	14.05
Tb	4.26	2.85	3.64	5.69					Tb	2.56
Dy	25.85	17.51	22.52	35.29					Dy	16.21
Ho	5.26	3.65	4.72	7.35					Ho	3.36
Er	14.25	10.32	13.25	20.53					Er	9.57
Tm	2.07	1.61	2.01	3.13					Tm	1.46
Yb	13.42	10.17	12.94	19.70					Yb	8.91
Lu	2.17	1.57	2.02	3.05					Lu	1.29
Hf	19.8	15.68	12.71	34.72					Hf	7.31
Ta	3.58	3.93	2.08	4.33					Ta	2.62
Pb	13.59	21.26	19.88	47.71					Pb	28.54
Th	15.71	9.25	14.75	8.47					Th	15.58
U	5.95	2.10	3.34	3.07					U	4.02
Eu/Eu*	0.27	0.38	0.16	0.31					Eu/Eu*	0.28

Appendix. Whole-rock chemical and modal data.

Cen/Ybn	3.88	4.80	5.23	3.77					Cen/Ybn	4.30
sample	19	7	23	18					sample	1
Rb/Sr	5.54	1.96	6.25	7.99					Rb/Sr	3.56
Zr/Nb	15.5	18.3	10.8	23.6					Zr/Nb	9.67
Rb/Ba	0.36	0.17	0.64	0.59					Rb/Ba	0.52
Zr/Hf	41.3	36.2	31.1	34.2					Zr/Hf	30.6
Zr/Pb	60.1	26.7	19.5	24.9					Zr/Pb	7.85
Nb/Ta	14.7	7.9	17.6	11.6					Nb/Ta	8.84
Pb/Th	0.87	2.3	1.35	5.63					Pb/Th	1.83
Pb/U	2.28	10.1	5.95	15.5					Pb/U	7.10
TTDI	92.14	91.09	91.86	77.34					TTDI	91.51
ASI	0.87	0.85	0.84	0.74					ASI	0.9
q	29.13	38.81	37.85	29.87					q	35.11
or	34.38	32.69	33.15	38.74					or	37.79
ab	36.49	28.50	29.00	31.39					ab	27.10
or	47.62	50.70	50.41	49.14					or	54.21
ab	50.54	44.19	44.11	39.82					ab	38.89
an	1.84	5.11	5.48	11.04					an	6.90
mode,vol%		no modes							modes, vol %	
qz	34.0								qz	36.0
kf	55.6								kf	35.0
pc	0								pc	22.7
amph	0								amph	0
bi	9.1								bi	5.5
sphene	0.1								sphene	0
opaques	1.0								opaques	0.1
others	0.2								others	0.7
Tzirc,°C	945	912	871	968					Tzirc,°C	816

Appendix. Whole-rock chemical and modal data.

ematic plutons										High Cen/Ybn	
29	2	5	12	37	39	41	45		sample	22	25
73.04	71.24	71.65	69.40	74.12	73.20	75.24	73.41		SiO2	76.80	73.41
0.28	0.25	0.37	0.43	0.22	0.20	0.11	0.12		TiO2	0.11	0.17
13.31	14.54	13.94	14.47	12.80	13.61	13.00	14.49		Al2O3	12.84	14.47
2.75	2.01	2.85	3.57	2.21	2.00	1.66	1.16		FeO*	0.84	1.72
0.04	0.04	0.04	0.08	0.03	0.03	0.02	0.02		MnO	0.01	0.03
0.27	0.23	0.30	0.41	0.11	0.10	0.04	0.06		MgO	0.13	0.48
1.33	1.14	1.37	1.77	1.03	1.07	0.75	0.75		CaO	0.70	1.35
3.13	3.42	3.99	4.27	3.30	3.68	3.29	3.59		Na2O	3.03	3.25
5.70	5.79	5.09	4.91	5.38	5.49	5.56	6.28		K2O	5.74	5.70
0.07	0.08	0.08	0.13	0.05	0.05	0.01	0.03		P2O5	0.02	0.06
99.92	98.73	99.68	99.44	99.26	99.43	99.68	99.92		total	100.2	100.7
8.0	6.1	4.7	6.1	4.4	3.8	3.3	1.8		Sc	0.8	2.8
11	bd	19	30	bd	4	12	bd		V	16	12
bd	2	4	2	1	1	bd	1		Cr	1	bd
11	9	9	11	5	3	12	6		Ni	9	7
4	10	3	1	1	2	bd	1		Cu	4	5
69	58	71	107	54	51	82	29		Zn	9	32
22	24	22	25	23	21	26	21		Ga	10	14
202.2	172.7	159.0	201.5	207.7	197.7	241.5	285.5		Rb	147.3	178.9
93	113	127	132	85	91	31	61		Sr	97	193
131.4	57.34	77.85	93.66	82.16	66.88	175.3	52.60		Y	11.75	10.60
438	284	256	507	309	270	193	149		Zr	69	152
24.14	14.28	18.66	24.22	17.85	14.4	24.63	11.07		Nb	3.68	4.62
3.06	8.86	1.16	4.13	1.64	1.43	6.01	3.19		Cs	1.84	2.54
604	1119	743	720	457	498	157	356		Ba	376	962
118.1	69.61	43.91	41.73	86.04	75.93	52.82	23.91		La	48.79	40.95
249.1	140.3	90.87	91.28	163.2	145.3	119.3	50.51		Ce	91.78	69.78
29.08	16.56	11.31	11.49	18.99	16.62	16.47	5.52		Pr	9.71	6.92
114.4	65.68	48.88	50.13	71.21	62.40	72.05	20.95		Nd	34.66	23.99
26.79	13.26	12.53	13.34	14.85	13.25	23.23	5.54		Sm	5.74	4.21
1.79	2.26	2.08	1.96	1.42	1.42	0.70	0.82		Eu	1.14	0.79
23.36	11.18	12.25	13.16	12.40	11.15	25.80	5.67		Gd	3.60	2.96
4.04	1.71	2.17	2.44	2.19	1.89	4.95	1.16		Tb	0.48	0.38
24.59	10.11	13.91	16.30	13.56	11.53	31.37	7.84		Dy	2.39	2.02
4.90	1.91	2.79	3.46	2.82	2.33	6.45	1.78		Ho	0.45	0.37
13.41	5.12	7.64	9.73	8.02	6.54	17.47	5.56		Er	1.18	1.05
1.88	0.79	1.09	1.50	1.25	0.98	2.49	0.91		Tm	0.18	0.15
11.25	5.20	6.77	9.76	8.05	6.39	14.91	6.19		Yb	1.17	1.02
1.62	0.82	1.04	1.54	1.22	0.96	2.16	0.97		Lu	0.20	0.17
11.61	7.46	6.84	13.56	8.47	7.80	9.12	5.92		Hf	1.84	4.36
1.41	1.98	1.66	2.48	1.08	0.83	2.90	0.97		Ta	0.36	0.34
28.32	29.91	21.34	21.69	22.43	22.60	30.01	30.73		Pb	21.97	27.08
19.39	12.07	5.54	10.35	23.94	17.74	22.46	21.81		Th	16.55	20.79
3.95	2.81	1.50	3.66	4.51	2.47	6.30	5.49		U	4.46	2.38
0.21	0.55	0.5	0.44	0.31	0.35	0.09	0.44		Eu/Eu*	0.71	0.65

Appendix. Whole-rock chemical and modal data.

5.99	8.50	3.60	2.50	5.48	6.15	2.16	2.21		Cen/Ybn	21.2	18.5
29	2	5	12	37	39	41	45		sample	22	25
2.17	1.53	1.25	1.53	2.44	2.17	7.79	4.68		Rb/Sr	1.52	0.93
18.1	19.9	13.7	20.9	17.3	18.8	7.84	13.5		Zr/Nb	18.8	32.9
0.33	0.15	0.21	0.28	0.45	0.40	1.54	0.80		Rb/Ba	0.39	0.19
37.7	38.1	37.4	37.4	36.5	34.6	21.2	25.2		Zr/Hf	37.5	34.9
15.5	9.50	12.0	23.4	13.8	11.9	6.43	4.85		Zr/Pb	3.14	5.61
17.1	7.21	11.2	9.77	16.5	17.3	8.49	11.4		Nb/Ta	10.2	13.6
1.46	2.48	3.85	2.10	0.94	1.27	1.34	1.41		Pb/Th	1.33	1.30
7.17	10.6	14.2	5.93	4.97	9.15	4.76	5.60		Pb/U	4.93	11.38
88.23	89.38	88.06	85.10	90.90	91.13	92.86	93.56		TTDI	94.28	88.56
0.79	0.86	0.81	0.78	0.81	0.82	0.85	0.86		ASI	0.85	0.84
31.79	28.53	27.31	23.06	33.86	29.85	34.46	27.79		q	37.00	31.25
38.18	38.73	34.27	34.29	35.21	35.80	35.49	39.75		or	35.91	37.79
30.03	32.74	38.42	42.65	30.93	34.35	30.05	32.46		ab	27.09	30.96
51.33	50.15	43.66	40.90	49.70	47.70	51.10	52.31		or	53.93	49.81
40.36	42.39	48.94	50.88	43.65	45.79	43.26	42.72		ab	40.68	40.82
8.31	7.46	7.40	8.22	6.65	6.51	5.64	4.97		an	5.39	9.37
									modes, vol %		
24.5	27.5	35.7	10.7	26.0	31.2	40.8	29.8		qz	43.0	29.8
35.8	43.2	34.8	14.6	39.9	40.7	22.5	42.6		kf	31.8	34.1
31.4	24.1	15.8	63.5	26.8	23.5	30.7	24.3		pc	23.0	30.1
3.5	0	6.7	4.5	2.6	0.4	0	0		bi	1.0	3.3
4.2	5.0	5.3	5.7	3.9	3.3	5.8	3.0		musc	0.9	1.0
0.1	0	0.6	0.4	0	0.3	0	0		allanite	0.2	0.6
0.1	0	0	0.1	0	0.4	0.1	0		opaques	0	0.3
0.3	0.2	1.1	0.5	0.7	0.2	0.1	0.3		others	0.1	0.8
872	833	816	874	841	826	803	778		Tzirc,°C	721	780

Appendix. Whole-rock chemical and modal data.

								Topaz granites		
28	34	30	48				sample	6	8	9
72.91	72.96	73.70	72.42				SiO2	74.31	74.90	75.13
0.32	0.31	0.18	0.29				TiO2	0.03	0.10	0.05
14.01	14.09	14.46	14.45				Al2O3	14.60	13.15	12.70
2.12	2.15	1.58	1.88				FeO*	0.81	1.23	1.21
0.03	0.03	0.02	0.03				MnO	0.02	0.02	0.02
0.50	0.40	0.38	0.41				MgO	0.02	0.01	bd
1.14	1.10	1.36	1.16				CaO	0.49	0.71	0.82
3.37	3.39	3.41	2.81				Na2O	5.33	3.70	3.91
5.19	5.30	5.40	6.04				K2O	4.46	5.48	4.97
0.14	0.13	0.06	0.09				P2O5	0.02	0.02	0.01
99.73	99.86	100.6	99.59				total	####	99.32	98.83
4.7	5.7	3.6	4.7				Sc	bd	2.4	0.7
24	7	24	27				V	bd	2	bd
3	8	5	1				Cr	4	2	bd
8	4	9	4				Ni	18	14	21
8	2	11	2				Cu	2	bd	bd
38	34	30	37				Zn	130	42	42
14	16	20	18				Ga	47	24	25
123.7	125.0	217.6	186.9				Rb	478.1	221.0	311.7
91	108	152	186				Sr	3	33	11
11.80	11.31	16.96	18.66				Y	85.06	82.56	199.2
242	234	153	241				Zr	122	115	115
6.49	6.39	9.27	6.7				Nb	68.03	17.03	66.59
2.48	2.44	6.26	2.13				Cs	17.1	3.96	1.84
558	584	689	1111				Ba	10	153	46
102.1	88.77	39.26	55.00				La	3.94	24.44	20.73
190	155.8	69.98	110.6				Ce	12.79	55.01	51.10
19.58	17.05	7.33	10.62				Pr	1.76	6.67	6.63
68.84	60.66	26.01	37.51				Nd	8.24	27.97	28.69
10.31	9.07	5.02	6.90				Sm	4.07	9.2	10.49
1.35	1.21	0.83	1.08				Eu	0.06	0.61	0.26
5.50	4.79	3.61	4.46				Gd	5.05	10.81	14.10
0.61	0.54	0.54	0.61				Tb	1.34	2.20	3.28
2.68	2.46	2.95	3.00				Dy	11.65	14.30	24.15
0.45	0.41	0.59	0.60				Ho	2.94	3.10	5.93
1.21	1.10	1.61	1.85				Er	11.07	8.99	19.19
0.20	0.20	0.24	0.31				Tm	2.23	1.36	3.19
1.50	1.34	1.56	2.27				Yb	16.79	8.30	19.90
0.25	0.23	0.25	0.41				Lu	2.6	1.23	3.09
6.38	5.97	5.04	6.81				Hf	11.34	4.83	6.44
0.56	0.50	1.00	0.41				Ta	13.85	2.87	4.91
13.58	12.85	25.60	17.50				Pb	53.22	29.37	35.91
10.50	12.39	17.98	20.61				Th	30.53	24.80	43.81
2.29	2.25	3.34	1.94				U	4.9	5.58	8.81
0.49	0.50	0.56	0.55				Eu/Eu*	0.04	0.19	0.06

Appendix. Whole-rock chemical and modal data.

34.2	31.4	12.1	13.2				Cen/Ybn	0.21	1.80	0.69
28	34	30	48				sample	6	8	9
1.36	1.16	1.43	1.00				Rb/Sr	159.4	6.7	28.3
37.3	36.6	16.5	36.0				Zr/Nb	1.79	6.75	1.73
0.22	0.21	0.32	0.17				Rb/Ba	47.8	1.44	6.78
37.9	39.2	30.4	35.4				Zr/Hf	10.8	23.8	17.9
17.8	18.2	5.98	13.8				Zr/Pb	2.29	3.92	3.20
11.6	12.8	9.27	16.3				Nb/Ta	4.91	5.93	13.6
1.29	1.04	1.42	0.85				Pb/Th	1.74	1.18	0.82
5.93	5.71	7.66	9.02				Pb/U	10.86	5.26	4.08
88.55	88.93	88.96	88.58				TTDI	95.91	94.36	94.58
0.88	0.88	0.85	0.87				ASI	0.92	0.84	0.82
33.00	32.43	32.06	32.58				q	25.51	31.98	33.14
34.71	35.31	35.68	40.48				or	27.45	34.56	31.43
32.29	32.26	32.26	26.94				ab	47.04	33.46	35.43
47.99	48.52	47.53	55.24				or	35.69	48.48	45.28
44.63	44.34	42.98	36.75				ab	61.14	46.93	51.04
7.38	7.14	9.49	8.01				an	3.17	4.59	3.68
							modes,vol%			
36.1		32.3	27.5				qz	29.4	20.3	33.4
30.6		36.2	38.7				kf	33.0	42.5	31.0
23.6		26.5	26.6				pc	33.0	32.6	29.6
8.4		3.9	5.6				bi	1.3	0	2.5
1.0		0.5	0.8				Li-mica	2.8	3.5	1.8
0.1		0	0.4				fluorite	0.1	0	1.5
0		0.2	0				opaques	0	0.2	0
0.2		0.4	0.4				others	0.4	0.9	0.2
825	821	783	827				Tzirc,°C	759	760	759

Appendix. Whole-rock chemical and modal data.

							Bear Mountain					
16	17	47	49			sample	3	33	35	36		
74.24	76.59	76.49	75.69			SiO2	76.46	76.50	76.23	76.66		
0.04	0.01	0.03	0.02			TiO2	0.05	0.06	0.08	0.03		
14.45	13.62	13.24	13.26			Al2O3	12.89	12.88	13.22	12.91		
1.13	0.72	0.96	0.54			FeO*	0.28	0.64	0.79	0.63		
0.05	0.04	0.01	0.13			MnO	0.03	0.10	0.06	0.03		
0.17	0.27	bd	bd			MgO	bd	bd	0.04	bd		
0.68	0.31	0.50	0.52			CaO	0.45	0.66	0.77	0.50		
4.54	4.70	3.94	4.51			Na2O	4.13	4.30	4.34	3.95		
4.77	4.01	4.96	4.30			K2O	4.25	4.35	4.36	5.07		
0.02	0.15	0.01	0.01			P2O5	0.01	0.01	0.01	0.002		
####	####	####	98.98			total	98.56	99.50	99.90	99.77		
1.9	1.1	1.6	5.1			Sc	4.6	6.6	5.5	4.4		
bd	bd	5	bd			V	bd	4	5	2		
2	bd	1	bd			Cr	1	6	6	3		
18	18	7	10			Ni	13	5	4	5		
bd	4	4	11			Cu	10	2	1	bd		
74	48	12	17			Zn	9	5	19	9		
34	32	21	25			Ga	21	20	21	25		
687.4	603.9	286.7	468.3			Rb	313.1	299.6	332.7	417.5		
8	2	11	6			Sr	32	29	52	30		
109.0	110.0	53.99	157.9			Y	17.91	16.3	16.42	16.49		
111	80	79	91			Zr	58	63	69	54		
48.46	34.19	22.59	52.17			Nb	35.85	25.23	28.4	51.17		
6.83	5.45	6.97	5.41			Cs	5.12	3.39	8.46	16.15		
42	8	32	35			Ba	68	22	90	38		
5.96	16.09	1.25	2.75			La	17.45	11.36	15.69	11.81		
24.27	55.91	3.33	6.85			Ce	31.12	23.12	30.09	23.31		
1.59	5.84	0.40	0.95			Pr	3.45	2.19	2.89	2.16		
6.47	26.13	1.87	4.57			Nd	10.93	6.58	9.04	6.56		
2.73	11.82	1.37	3.07			Sm	2.06	1.07	1.55	1.29		
0.16	0.12	0.15	0.06			Eu	0.21	0.12	0.20	0.15		
3.22	12.69	2.68	5.75			Gd	1.63	0.74	1.20	1.14		
0.97	2.84	0.88	1.70			Tb	0.24	0.15	0.21	0.21		
9.40	19.47	7.29	15.03			Dy	1.56	1.14	1.50	1.55		
2.79	4.20	1.82	4.16			Ho	0.37	0.35	0.38	0.41		
13.39	15.29	6.10	16.11			Er	1.36	1.59	1.45	1.62		
3.38	3.37	1.05	3.29			Tm	0.32	0.41	0.29	0.36		
28.59	27.36	7.33	26.99			Yb	2.77	4.06	2.38	3.29		
4.81	4.45	1.2	4.74			Lu	0.55	0.85	0.45	0.69		
8.20	9.33	4.83	7.33			Hf	4.05	4.10	4.54	4.27		
13.28	13.09	2.25	5.71			Ta	6.41	2.28	2.81	5.40		
83.64	107.1	26.71	47.54			Pb	62.14	41.70	53.84	63.50		
40.39	16.90	36.23	26.25			Th	20.08	27.17	33.28	27.60		
24.73	8.86	10.42	13.68			U	11.18	20.51	20.81	49.52		
0.16	0.03	0.23	0.04			Eu/Eu*	0.34	0.39	0.43	0.37		

Appendix. Whole-rock chemical and modal data.

0.23	0.55	0.12	0.07			Cen/Yb	3.00	1.54	3.42	1.92		
16	17	47	49			sample	3	33	35	36		
85.9	302	26.1	78.2			Rb/Sr	9.78	10.3	6.40	13.9		
2.29	2.34	3.50	1.74			Zr/Nb	1.62	2.50	2.43	1.06		
16.4	75.9	8.96	13.4			Rb/Ba	4.6	13.6	3.7	11.0		
13.5	8.57	16.4	12.4			Zr/Hf	14.3	15.4	15.2	12.6		
1.33	0.75	2.96	1.91			Zr/Pb	0.93	1.51	1.28	0.85		
3.65	2.61	10.0	9.14			Nb/Ta	5.59	11.1	10.1	9.48		
2.07	6.34	0.74	1.74			Pb/Th	3.09	1.53	1.62	2.30		
3.38	12.09	2.56	3.48			Pb/U	5.56	2.03	2.59	1.28		
93.48	95.72	95.26	95.90			TTDI	96.48	95.53	94.55	96.12		
0.92	0.9	0.9	0.92			ASI	0.94	0.88	0.88	0.87		
28.78	33.97	34.41	33.00			q	36.83	34.69	33.91	33.92		
30.15	24.66	30.68	26.75			or	26.43	27.04	27.27	31.22		
41.07	41.37	34.91	40.25			ab	36.74	38.27	38.82	34.86		
40.34	37.05	45.06	38.39			or	40.38	39.48	38.93	45.47		
54.97	62.17	51.26	57.78			ab	56.14	55.89	55.44	50.77		
4.69	0.78	3.68	3.83			an	3.48	4.63	5.63	3.76		
						no modes estimated						
35.9	32.6	29.2	33.4									
35.9	31.0	36.4	33.9									
23.8	32.2	32.4	30.4									
2.1	1.8	1.0	1.6									
1.7	1.9	0.5	0.3									
0.4	0.4	0.3	0.1									
0	0	0	0									
0.2	0.1	0.2	0.3									
755	735	731	740									

Appendix. Whole-rock chemical and modal data.

					Others				
				sample	13	15	38	40	46
				SiO2	74.77	75.20	62.66	59.83	77.18
				TiO2	0.24	0.16	1.06	1.56	0.05
				Al2O3	12.73	13.50	14.51	11.26	12.98
				FeO*	2.13	1.38	7.62	13.8	0.79
				MnO	0.03	0.02	0.14	0.23	0.01
				MgO	0.31	0.44	0.73	1.02	bd
				CaO	0.70	0.80	3.52	3.41	1.32
				Na2O	2.66	3.30	3.80	2.61	4.87
				K2O	6.12	5.55	4.31	3.85	2.99
				P2O5	0.05	0.04	0.39	0.37	0.01
				total	99.74	100.4	98.74	97.95	100.2
				Sc	3.1	2.9	15.9	29.6	1.2
				V	6	6	18	41	1
				Cr	1	bd	bd	1	bd
				Ni	8	10	bd	17	5
				Cu	bd	5	12	18	5
				Zn	43	25	152	349	18
				Ga	19	16	28	31	20
				Rb	190.0	224.0	111.5	274.5	168.1
				Sr	72	96	243	67	35
				Y	37.75	40.04	86.36	408	30.17
				Zr	190	137	966	1944	23
				Nb	11.39	11.64	26.17	106.1	7.59
				Cs	2.08	3.40	1.50	4.00	2.57
				Ba	326	511	1157	195	30
				La	107.4	56.34	58.82	393.9	5.31
				Ce	206	109.8	121.1	665.3	9.61
				Pr	22.58	11.21	15.34	99.8	1.13
				Nd	83.27	40.82	67.06	391.1	4.36
				Sm	15.82	7.92	16.46	92.11	1.20
				Eu	1.28	0.74	3.69	2.46	0.39
				Gd	10.17	6.29	15.84	82.18	1.46
				Tb	1.34	1.05	2.65	14.59	0.35
				Dy	6.87	6.37	16.06	88.00	2.84
				Ho	1.25	1.30	3.26	17.75	0.73
				Er	3.43	3.74	8.90	49.20	2.67
				Tm	0.57	0.63	1.31	7.22	0.48
				Yb	3.87	4.29	8.32	44.93	3.67
				Lu	0.67	0.71	1.31	6.65	0.65
				Hf	5.97	5.00	20.21	55.04	1.26
				Ta	1.20	1.68	1.33	6.14	0.90
				Pb	23.13	27.93	14.33	17.34	31.08
				Th	37.36	19.82	6.12	97.56	11.25
				U	7.04	5.12	1.52	8.86	4.52
				Eu/Eu*	0.29	0.31	0.69	0.08	0.89

Appendix. Whole-rock chemical and modal data.

				Cen/Ybn	14.4	6.92	3.93	4.00	0.71
					13	15	38	40	46
				Rb/Sr	2.64	2.33	0.46	4.10	4.80
				Zr/Nb	16.68	11.77	36.90	18.30	3.03
				Rb/Ba	0.58	0.44	0.10	1.41	5.60
				Zr/Hf	31.8	27.4	47.8	35.3	18.3
				Zr/Pb	8.21	4.91	67.4	112.1	0.74
				Nb/Ta	9.49	6.93	19.7	17.3	8.43
				Pb/Th	0.62	1.41	2.34	0.18	2.76
				Pb/U	3.29	5.46	9.43	1.96	6.88
				TTDI	91.37	91.84	70.45	59.07	93.04
				ASI	0.84	0.87	0.67	0.6	0.8
				q	35.54	34.07	17.18	22.62	36.89
				or	39.73	35.58	36.59	39.29	18.91
				ab	24.73	30.35	46.23	38.09	44.20
				or	58.53	50.86	37.76	43.33	27.72
				ab	36.44	43.38	47.70	42.01	64.82
				an	5.03	5.76	14.54	14.66	7.46
				no modes estimated					
				Tzirc			925	1001	

Key to Llano granite analyzed samples (all numbers preceded by GRLL) in DR-1

Synkinematic,irregular plutons

4 Legion Creek pluton, roadcut on TX 16, 1.7 miles south of intersection with RR 965, 98°41', 30°33'

10 Sixmile granite, Baldwin quarry, 6 miles SW of Llano, 98°43', 30° 43'. Pink porphyritic granite.

11 Sixmile granite, same locality as 10. Fine gray granite cutting rock of sample 10.

14 Grape Creek pluton at Granite Knob Ranch, 98°31'20", 30°20'50"

20 Wolf Mtn pluton , 98°42', 30°47'

21 Wolf Mtn pluton, same locality, cuts rock of sample 20

24 fine-grained gray granite, roadcut on north side of rte 29, 0.7 miles east of junction with FM 2241, 98°38', 30°45'

31 exposure on west side of road, south bank of Llano River at Scott's Crossing ford, 98°50', 30°44'

32 roadcut on north side of T intersection of College and Cedar streets, Llano, 98°40', 30°46'

42 Wolf Mtn pluton, quarry on county road 412, 0.8 miles west of intersection with TX 16, 98°40', 30°48'

44 Midway Sill, roadcut on SW side of RM 2341, 4.9 miles north of Rte 29., 98°19'. 30°49'

Hypersolvus granite and rhyolite dikes

19 Scott Morse Ranch on Pedernales River at boundary between Grape Creek and Johnson City quadrangles, 98°30', 30°17'

7 Porphyritic rhyolite dike, roadcut on Tx 16, 98° 39.5', 30° 53.5'

23 Porphritic rhyolite dike, 98° 38', 30°46'

18 Aphyric rhyolite dike, 98°30', 30° 31'

Postkinematic, circular plutons

1 Katemcy pluton, roadcut at US 87 and Kruse Rd intersection 8 miles NNW of Mason, 99°16', 30°50'

29 Katemcy pluton, outcrop on south side of rd 1222, 4.5 road miles NE of Katemcy, 99°13', 30°56'

2 Grit pluton, small outcrop in field opposite quarry, 0.2 miles east of intersection of US377 and TX 29, 99° 20', 30°48

5 Lone Grove pluton, Petrick quarry, 98°29', 30°44'

12 Granite Mtn pluton (aka Marble Falls pluton) at south end of Wirtz Dam, 98°20; 30°34'

37 same pluton, "Texas Pearl" quarry, 98°20', 30°37'

39 same pluton, "Texas Sunset" quarry, 98°18', 30°36'

41 Mason pluton, on rd 1273, 300 ft south of intersection with 2389, 99°14', 30°44'

45 Enchanted Rock pluton, on County Road 110 at Hickory Creek, 98°56', 30°34'

High Ce_n/Yb_n

22 Wolf Mountain pluton, 98°42’, 30°47’, same locality as 20 and 21, cutting both

25 aplite dike 0.5 m wide in Packsaddle Schist on Llano River, 99°04.7’, 30°40.9’.

28 Kansas City quarry on north side of TX 152 at Llano Municipal Golf Course, 98°43’, 30°46’. Analyzed January, 1998.

34 Aliquot of same powder as 28. Analyzed March, 1999.

30 roadcut on south side of Rte 71 10 m east of road to Pontotoc Cemetary, 98°59’, 30°55’

48 Kings Mountain pluton, fine equigranular, streaked pink and gray, high outcrops at SE end of Kings Mountain, 98°56’, 30°49’

Topaz granite

6 Streeter pluton, Seaquist Ranch, 99°22’, 30° 47’, at topaz prospecting locality

8 Eckert (Art) pluton, roadcut on 1900, 0.9 miles north of turnoff from 29, 99°05’, 30°45’

9 Smoothingiron pluton, where county road 409 crosses San Fernando Creek by USGS benchmark, 98°48’, 30°50’

16 Grape Creek pluton, ~ 1 km SW of sample 14, porphyritic; 98°32’. 30°22’

17 same locality, fine equigranular

47 pink, fine grained, body abutting Enchanted Rock pluton on west side. Low outcrop on south side of County Road 110, 2 miles west of Hickory Creek crossing. 98°57’, 30°34’

49 aplite, undeformed dike cutting all generations of structures in Valley Spring Gneiss, almost at water’s edge toward western edge of Devil’s Waterhole, Inks Lake State Park, 98°27’, 30°44’

Bear Mountain granite

3, 33, 35, 36 all at Hilltop (Bear Mtn) quarry on RR 965, 98°51’24”, 30°19’40”. Sample 36 is an aplite dike 5 to 8 cm wide, in sample 35.

Others

13 sheared granite, Grape Creek pluton, 98°31.3’, 30°31.4’

15 sheared granite, Grape Creek pluton, 98°31.4’, 30° 31.3’

38 mafic schliere; host is sample 37, 98°20’, 30°37’

40 mafic schliere; host is sample 39, 98°18’, 30°36’

46 aplite/pegmatite dike (entire cross section), cutting granite of sample 45, 98°56’, 30°34’

Table DR-2

Mineral compositions from wavelength-dispersive electron microprobe analyses.
Group 1 = synkinematic and postkinematic granites. Group 2 = high-Ce/Yb granites.
Group 3 = topaz granites.

K-Feldspars (average ± 1 standard deviation)

	Group 1 (3 samples, 30 analyses)	Group 2 (2 samples, 11 analyses)	Group 3 (2 samples, 19 anal
Mol % An	0.3 ± 0.1	b.d.	b.d.
Ab	6.7 ± 1.6	7.3 ± 2.6	3.2 ± 0.9
Or	93.2 ± 1.5	92.7 ± 2.6	96.9 ± 0.9
Wt %			
Fe2O3*	0.04 ± 0.03	b.d.	b.d.
SrO	0.04 ± 0.02	b.d.	0.04 ± 0.01
BaO	0.14 ± 0.04	0.23 ± 0.13	b.d.

Ab lamellae in K-feldspars (2 samples, 4 analyses)

Mol % An	2.6 ± 2.3
Ab	96.5 ± 3.0
Or	0.9 ± 0.1

Ab rims on K-feldspars (1 sample, 3 analyses)

Mol % An	2.2 ± 1.8
Ab	97.2 ± 1.9
Or	0.6 ± 0.1

Plagioclase (3 samples, 48 analyses) (2 samples, 13 analyses) (2 samples, 12 analyses)

Mol % An	16.5 ± 6.1	14.4 ± 5.4	2.7 ± 0.8
Ab	82.9 ± 6.1	84.5 ± 4.5	96.3 ± 0.8
Or	1.6 ± 1.1	1.0 ± 0.3	0.8 ± 0.1
Wt %			
Fe2O3*	0.06 ± 0.04	b.d.	b.d.
SrO	b.d.	b.d.	b.d.
BaO	b.d.	b.d.	b.d.

Calcic cores of dark megacrysts (1 sample, 3 analyses)

Mole % An	32,3 ± 1.0
Ab	66.5 ± 1.2
Or	1.1 ± 0.3
Wt %	
Fe2O3*	0.08 ± 0.02
SrO	b.d.
BaO	0.05 ± 0

Amphiboles

analyses of two rims in same thin section

Wt % SiO2	40.2	41.7
TiO2	1.30	1.59
Al2O3	9.57	8.26

FeO*	29.3	25.2
MnO	0.69	0.51
MgO	3.08	6.00
CaO	11.0	11.2
Na2O	1.68	1.75
K2O	1.42	1.24
Sum	98.4	97.3

site occupancies for 15 cations, 23 oxygens

Si	6.091	6.252
Al (IV)	1.710	1.459
Ti (IV)	0.148	0.179
Fe3+ (IV)	0.051	0.110
Al (VI)	0	0
Ti (VI)	0	0
Fe3+	2.527	2.315
Fe2+	1.135	0.734
Mn	0.088	0.065
Mg	0.696	1.341
Ca	0.554	0.545
Ca (B)	1.232	1.254
Na	0.494	0.508
K	0.274	0.238
Mg/(Mg+Fe2+)	0.38	0.65
	ferropargasite	pargasite

Micas	Group 1 (2 samples)			Group 3 (1 sample)			
Wt % SiO2	34.7	35.1	36.1	39.4	40.2	44.9	44.
TiO2	3.15	3.01	3.44	0.54	0.60	0.26	0.
Al2O3	14.4	13.5	13.7	33.7	22.9	26.8	26.
FeO*	31.3	31.7	26.3	20.2	29.1	10.0	12.
MnO	0.55	0.51	0.27	0.79	0.79	0.39	0.
MgO	2.38	4.12	7.33	0.01	0.03	0.02	0.
CaO	0.01	0.01	bd	0.02	bd	0.32	bd
Na2O	0.04	0.07	0.08	0.13	0.11	0.16	0
K2O	9.20	9.24	9.57	9.84	9.95	10.4	10
Li2O**	0.37	0.49	0.77	1.72	1.96	3.31	3
F	0.71	na	na	3.80	3.98	2.93	2.
O = F	0.30	..	..	1.60	1.70	1.20	1.
Sum	96.5	97.3	97.6	97.6	98.9	98.3	99
cations for 22 oxygens							
Si	5.606	5.569	5.495	5.888	5.908	6.170	6
Al (IV)	2.394	2.431	2.458	2.112	2.092	1.830	1
Al (VI)	0.349	0.094	..	1.887	1.874	2.511	2
Mg	0.574	0.975	1.664	0.002	0.006	0.004	0
Fe	4.229	4.207	3.347	2.524	2.467	1.149	1
Mn	0.076	0.069	0.035	0.100	0.098	0.045	0
Ti	0.383	0.360	0.394	0.057	0.066	0.027	0
Li	0.241	0.313	0.471	1.034	1.159	1.830	1

Ca	0.002	0.002	..	0.002	..	0.047	..
Na	0.013	0.022	0.024	0.038	0.031	0.043	0
K	1.896	1.871	1.858	1.876	1.866	1.823	1
Mg/(Mg+Fe)	0.12	0.19	0.33	0	0	0	0

** Li2O = (0.289 X SiO2) - 9.658 (Tischendorf et al., 1997)

Sphene (1 sample, 1 analysis)

Wt % SiO2	30.0
TiO2	31.7
Al2O3	4.16
FeO	2.40
MnO	0.11
MgO	0.07
CaO	26.6
Na2O	0.03
K2O	bd
Sum	95.1
Cations for 4 Si	
Al	0.654
Ti	3.178
Fe	0.268
Mn	0.013
Mg	0.014
Ca	3.800
Na	0.008

Fe-Ti oxides (1 sample, 2 analyses)

Wt % SiO2	0.01	0.03
TiO2	51.3	7.80
Al2O3	b.d	0.36
FeO*	46.3	86.4
MnO	2.83	0.80
MgO	0.04	bd
Sum	100.5	95.4
Cations		
Si	..	0.001
Al	..	0.016
Ti	0.967	0.224
Fe3+	0.065	1.534
Fe2+	0.906	1.222
Mn	0.060	0.003
Mg	0.002	..
Xilm	0.96	..
Xusp	..	0.22

Reference

Tischendorf G, Rieder M, Forster H-J, Gottesmann B & Guidotti C V (2004) A new graphical presenta and subdivision of potassium micas. Mineralogical Magazine 68: 649-667.

Table DR-3. Whole-rock Sm-Nd isotopic data

sample	t, Ga	Sm, ppm	Nd, ppm	$(^{147}Sm/^{144}Nd)$	$(^{143}Nd/^{144}Nd)_0$	$(^{143}Nd/^{144}Nd)_t$	εNd_t	T_{DM},Ga
Synkinematic plutons								
Legion Creek								
GRLL-4	1.116	13.45	79.73	0.1021	0.512177±8	0.511429	+4.52	1.18 a
H16A1	1.116	7.00	33.70	0.1246	0..512242	0.511329	+2.57	1.30 b
PR-198	1.116	10.94	62.01	0.1067	0.512208±5	0.511426	+4.46	1.19 c
Sixmile								
GRLL-10	1.12*	12.92	52.63	0.1435	0.512395±9	0.511344	+2.95	1.38 a
GRLL-24	1.12*	4.90	25.36	0.1167	0.512239±14	0.511381	+3.68	1.26 a
Midway sill								
GRLL-44	1.12*	12.78	31.50	0.2453	0.512963±10	0.511160	-0.65	* * a
Wolf Mtn								
PR-224	1.118	7.96	34.00	0.1416	0.512411±5	0.511372	+3.46	1.13 c
Hypersolvus granite, Scott Morse Ranch								
GRLL-19	1.093*	32.17	160.52	0.1212	0.512188±8	0.511319	+1.78	1.40 a
PRG-1	1.093*	28.47	128.35	0.1342	0.512444	0.511481	+4.95	1.15 b
Porphyritic rhyolite dikes								
GRLL-7	1.093	19.15	90.09	0.1181	0.512297±15	0.511450	+4.34	1.19 a
PR-225	1.093	23.26	117.47	0.1197	0.512270±5	0.511411	+3.58	1.25 c
Postkinematic plutons								
Grit								
GRLL-2	1.090*	14.83	74.02	0.1212	0.512185±8	0.511318	+1.68	1.29 a
Katemcy								
PR-221	1.070	20.36	98.44	0.1251	0.512314±7	0.511434	+3.50	1.25 c
Lone Grove								
GRLL-5	1.091	12.00	51.30	0.1416	0.512421±7	0.511407	+3.46	1.37 a
PR-171	1.091	15.65	81.37	0.1163	0.512231±6	0.511398	+3.29	1.27 c
PR-172	1.091	9.03	43.03	0.1268	0.512286±5	0.511378	+2.89	1.32 c
Granite Mtn								
PR-191	1.091	14.10	75.61	0.1127	0.512226±15	0.511419	+3.70	1.23 c
Mason								
GRLL-41	1.090*	22.46	78.82	0.1723	0.512587±7	0.511354	+2.39	1.20 a
Enchanted Rock								
PR-183	1.080	9.50	51.58	0.1114	0.512223±11	0.511433	+3.68	1.22 c
ERB-4	1.080	16.89	87.03	0.1174	0.512297±5	0.511465	+4.30	1.19 d
ERB-15	1.080	14.33	82.94	0.1045	0.512149±4	0.511408	+3.19	1.24 d
ERB-41	1.080	6.02	34.02	0.1070	0.512192±6	0.511434	+3.70	1.22 d

<u>High Ce/Yb</u>									
Wolf Mtn									
GRLL-22	1.117	9.66	60.40	0.0968	0.512005±11	0.511296	+1.94	1.35	a
Aplite dike, Llano River									
GRLL-25	1.076	10.35	43.30	0.1446	0.512434±9	0.511413	+3.19	1.30	a
Kansas City quarry, Llano									
PR-199	1.12*	7.58	34.27	0.1336	0.512333±5	0.511351	+3.07	1.33	c
Kings Mtn									
GRLL-48	1.10*	6.84	42.24	0.0979	0.512053±9	0.511346	+2.48	1.30	a
<u>Topaz granite</u>									
Streeter									
GRLL-6	1.06*	2.81	6.17	0.2748	0.513550±1	0.511638	+7.20	* *	a
PR-220a	1.06*	11.12	24.45	0.2750	0.513435±6	0.511522	+4.93	* *	c
PR-220b	1.06*	11.10	24.35	0.2756	0.513443±5	0.511526	+5.01	* *	c
Art									
GRLL-8	1.06*	8.28	28.28	0.1772	0.512683±6	0.511404	+2.62	* *	a
Smoothingiron									
GRLL-9	1.06*	10.89	32.48	0.2028	0.512813±7	0.511402	+2.58	* *	a

* emplacement age estimated

** Sm-Nd system disturbed

Sources; a = Roller (2004), b = Whitefield (1997), c = Patchett & Ruiz (1989), d = Smith *et al*. (1997).

Table DR-4 Whole-rock Pb isotopic data, corrected for fractionation within mass spectrometers.

Sample	206/204	207/204	208/204	Source
Synkinematic irregular plutons				
Legion Creek				
GRLL-4	17.797	15.469	39.307	a
Sixmile				
GRLL-10	19.305	15.606	38.893	a
GRLL-24	20.454	15.676	40.475	a
Midway sill				
GRLL-44	18.723	15.590	37.288	a
Hypersolvus granite and rhyolite dikes				
Granite, Scott Morse Ranch				
GRLL-19	18.331	15.509	41.325	a
Porphyritic rhyolite dike				
GRLL-7	18.298	15.522	38.320	a
Postkinematic circular plutons				
Grit				
GRLL- 2	18.140	15.509	37.956	a
Lone Grove				
GRLL-5	18.195	15.499	38.253	a
Enchanted Rock				
GRLL- 45	19.207	15.527	42.405	a
ERB-4	18.184	15.489	38.002	b
ERB-15	17.446	15.438	37.694	b
ERB-41	17.826	15.465	37.057	b
High-Ce/Yb granite				
Wolf Mtn				
GRLL-22	19.295	15.584	40.774	a
Aplite dike, Llano River				
GRLL-25	19.402	15.613	38.732	a
Topaz granite				
Streeter				
GRLL-6	17.784	15.465	37.298	a

Grape Creek				
GRLL-16	18.012	15.469	39.802	a
Aplite dike, Inks Lake				
GRLL-49	22.110	15.797	37.876	a

Sources: a = Roller (2004), b = Smith *et al*. (1997).