

MODAL MINERAL COMPOSITIONS OF TONALITE FROM THE SAN JOSÉ PLUTON

Murray - jd - 1978  
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Murray 1978

Name of Unit Sample #	Gneissose Border Tonalite				Stubby Hornblende Tonalite				Prismatic Hornblende Tonalite							Seriatic Porphyritic Tonalite									
	Ba-JM 27a	Ba-JM 30a	Ba-JM 568a	Ba-JM 807	Ba-JM <sup>a</sup> 25a	Ba-JM 29	Ba-JM 39b	Ba-JM 68	Ba-JM 453	Ba-JM 492	Ba-JM 566	Ba-JM 31a	Ba-JM 36a	Ba-JM <sup>a</sup> 46a	Ba-JM 93	Ba-JM 159	Ba-JM <sup>a</sup> 240	Ba-JM 3a	BC-I 12	Ba-JM 35a	Ba-JM 62a	Ba-JM 528	Ba-JM 639	Ba-JM 701	Ba-JM 737
Quartz	23.60	25.37	22.73	19.16	15.92	12.53	16.47	15.50	13.12	16.73	18.51	23.40	14.41	19.59	20.03	8.25	14.18	17.99	18.06	11.94	17.75	16.31	18.41	16.46	13.99
Plagioclase	54.23	54.38	55.37	58.34	58.70	62.70 <sup>d</sup>	63.95	59.27	63.59	61.08	58.85	58.40	64.94	62.09	60.93	64.31	63.49	59.76	63.44	66.49	63.50	62.94	63.52	64.71	66.19
K-feldspar	0.24	1.41	2.13	0.13	0.10	<0.18 <sup>d</sup>	0.05	0.11	0.08	0.19	0.17	0.17	0.14	0.89	0.67	0.22	0.15	0.20	0.27	0.10	0.14	0.17	0.32	0.24	0.20
Hornblende	4.79	4.68	6.93	7.89	14.26	12.94	10.75	12.39	14.10	12.41	12.07	6.71	12.17	7.31	6.74	18.77	12.60	9.54	8.59	14.63	9.65	10.78	7.83	8.73	11.01
Biotite	10.55	9.99	8.72	10.82	6.72	6.17	4.55	7.50	5.61	6.56	6.46	5.98	3.78	6.19	8.27	3.04	4.46	4.98	5.70	3.33	3.74	5.36	5.51	6.48	4.46
Opaque	0.41	0.66	0.55	0.29	1.32	1.62	1.92	1.20	1.24	0.94	1.31	0.85	1.26	0.94	1.03	1.55	1.47	1.49	1.21	1.57	1.55	1.40	1.46	1.23	1.06
Sphene	0.99	1.10	0.73	0.70	0.19	0.43	0.09	0.20	0.14	0.08	0.41	0.55	0.55	0.59	0.48	0.33	0.16	0.30	0.20	0.08	0.35	0.22	0.44	0.08	0.30
Epidote	2.54	0.54	0.33	1.10	0.78	0.51	0.43	0.96	0.35	0.79	0.19	0.94	0.33	0.30	0.23	0.69	0.23	0.26	0.28	0.15	0.07	0.26	0.12	0.10	0.17
Apatite	0.13	0.06	0.20	0.13	0.18	0.16	0.34	0.26	0.39	0.15	0.12	0.17	0.19	0.15	0.19	0.27	0.17	0.32	0.21	0.17	0.38	0.24	0.19	0.28	0.26
Chlorite	0.09	0.10	0.38	0.20	0.50	0.70	0.42	0.51	0.67	0.60	0.48	0.56	1.13	0.45	0.21	0.73	0.51	0.94	0.65	0.61	0.64	0.90	0.46	0.44	0.62
Pale Amphibole <sup>b</sup>	0.00	0.00	0.00	0.00	0.06	0.00	0.05	0.13	0.10	0.08	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
White mica + clay <sup>c</sup>	2.34	1.69	1.91	1.21	1.22	1.97	0.91	1.93	0.55	0.38	1.16	2.27	1.05	1.44	1.21	1.82	2.50	4.22	1.34	0.90	2.12	1.34	1.71	1.23	1.69
Other	0.10	0.02	0.04	0.00	0.04	0.08	0.05	0.04	0.08	0.02	0.00	0.00	0.05	0.06	0.00	0.02	0.08	0.00	0.04	0.02	0.09	0.09	0.01	0.04	0.03
TOTAL	100.01	100.00	100.02	99.97	99.99	99.99	99.98	100.00	100.02	100.01	100.00	100.00	100.00	100.00	99.99	100.00	100.00	100.00	99.99	99.99	99.98	100.01	99.98	100.02	100.01
Color Index (CI)	19.37	17.07	17.64	21.00	23.83	22.41	18.21	22.89	22.21	21.46	21.19	15.59	19.22	15.78	16.96	25.11	19.43	17.51	16.63	20.39	16.00	18.92	15.82	17.06	17.65
Pl + Alteration	56.57	56.07	57.28	59.55	59.92	64.67	64.86	61.20	64.14	61.46	60.01	60.67	65.99	63.53	62.14	66.13	65.99	63.98	64.78	67.39	65.62	64.28	65.23	65.94	67.88
Amph/(Bio + Chl)	0.45	0.46	0.76	0.72	1.98	1.88	2.17	1.56	2.26	1.74	1.78	1.03	2.48	1.10	0.79	4.98	2.54	1.61	1.35	3.71	2.20	1.72	1.31	1.26	2.17
(Pl+Alt)/Hb	11.81	11.98	8.27	7.55	4.20	5.00	6.03	4.94	4.55	4.95	4.97	9.04	5.42	8.69	9.22	3.52	5.24	6.71	7.54	4.61	6.80	5.96	8.33	7.55	6.17
Q/(Q+Kf+(Pl+Alt))	0.293	0.306	0.277	0.243	0.210	0.162	0.207	0.202	0.170	0.213	0.235	0.278	0.179	0.233	0.242	0.111	0.177	0.219	0.217	0.150	0.213	0.202	0.219	0.199	0.170
Kf/(Q+Kf+(Pl+Alt))	0.003	0.017	0.026	0.002	0.001	0.002	0.000 <sup>5</sup>	0.002	0.001	0.002	0.002	0.002	0.002	0.011	0.008	0.003	0.002	0.002	0.003	0.001	0.002	0.002	0.004	0.003	0.002
Q/(Q+CI+(Pl+Alt))	0.237	0.258	0.233	0.192	0.160	0.126	0.166	0.156	0.132	0.168	0.186	0.235	0.145	0.198	0.202	0.083	0.142	0.181	0.182	0.120	0.179	0.164	0.185	0.166	0.141
CI/(Q+CI+(Pl+Alt))	0.195	0.173	0.181	0.211	0.239	0.225	0.183	0.230	0.223	0.215	0.212	0.156	0.193	0.160	0.171	0.252	0.195	0.176	0.167	0.204	0.161	0.190	0.159	0.172	0.177
Total # of Points	5348	5167	5496	4446	--	4877	5518	5438	5100	5319	5867	5317	6251	--	4774	4508	--	4980	11,390	4772	4247	5445	10,545	5049	10,505
Total Area (mm <sup>2</sup> )	2567	1653	2968	2845	5920	1560	4414	4350	5100	5319	4694	2127	5541	6353	4774	1803	12,286	1594	4,533	1527	1359	5445	5,062	5049	5,042
# of thin sections	4	3	4	4	10	3	7	7	7	7	7	3	8	10	7	3	20	3	7	3	3	7	7	7	7
# of samples	1	1	1	1	2	1	1	1	1	1	1	1	1	2	1	1	4	1	1	1	1	1	1	1	1

a: Average of two or more samples from the same locality; number of samples given at bottom of column; see Appendix B for modes of each sample.

b: Cumingtonitic and actinolitic amphibole.

c: Mostly alteration of plagioclase; includes some fine-grained unidentified alteration.

d: Re-examination showed that nearly all of the "K-feldspar" in this sample is actually very fine-grained oligoclase.