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Mineralogical evolution of the northern Bossoroca ophiolite, São Gabriel terrane

Amanda Juliano Massuda, Léo Afraneo Hartmann¹, Gláucia Nascimento Queiroga, Marco Paulo de Castro, Carolina Gonçalves Leandro, Jairo Francisco Savian

Supplementary Table 8. Electron microprobe analyses of plagioclase, K-feldspar. TiO₂ below detection limit (0.01 wt.%).

Plagioclase, amphibolite, sample C3P2.

Analysis	28	29	30	31	32	47	48	49	50	51	52
SiO ₂	58.96	57.01	59.35	59.31	58.29	67.13	67.13	67.47	67.14	62.13	62.29
Al ₂ O ₃	25.76	24.87	25.79	25.74	26.58	20.22	20.19	19.97	19.99	25.13	24.00
FeO	0.08	0.28	0.16	0.09	0.12	0.13	0.17	0.17	0.14	0.09	0.08
CaO	6.74	8.14	6.86	6.88	7.28	0.42	0.29	0.19	0.09	2.18	3.18
Na ₂ O	7.41	7.28	7.21	7.26	7.09	11.12	11.37	11.31	11.36	8.51	8.67
K ₂ O	0.05	0.05	0.11	0.09	0.05	0.09	0.09	0.09	0.15	1.48	0.73
Total	99.01	97.65	99.49	99.37	99.42	99.12	99.25	99.20	98.88	99.52	98.95
Structural formulae based on 32 O											
Si	10.601	10.481	10.619	10.623	10.456	11.841	11.836	11.888	11.873	11.028	11.114
Al	5.458	5.388	5.438	5.433	5.619	4.203	4.195	4.147	4.166	5.257	5.047
Fe(ii)	0.012	0.043	0.024	0.013	0.018	0.019	0.025	0.025	0.021	0.013	0.012
Ca	1.298	1.603	1.315	1.320	1.399	0.079	0.055	0.036	0.017	0.415	0.608
Na	2.583	2.595	2.501	2.521	2.466	3.803	3.886	3.864	3.895	2.928	2.999
K	0.011	0.012	0.025	0.021	0.011	0.020	0.020	0.020	0.034	0.335	0.166
Total	19.964	20.125	19.923	19.931	19.970	19.966	20.018	19.980	20.007	19.976	19.946
An	33.35	38.08	34.23	34.19	36.09	2.03	1.38	0.92	0.43	11.27	16.11
Ab	66.35	61.64	65.11	65.28	63.61	97.45	98.11	98.57	98.71	79.62	79.49
Or	0.29	0.28	0.65	0.53	0.30	0.52	0.51	0.52	0.86	9.11	4.40

Plagioclase, amphibolite, sample C3P2.

Analysis	70	71	72	73	74	75	76	77	78	79	80
SiO ₂	60.39	59.76	60.67	60.80	60.89	61.45	60.69	61.15	61.42	61.47	60.39
Al ₂ O ₃	23.88	24.15	24.96	24.81	24.55	24.40	24.81	24.95	24.54	24.01	25.14
FeO	0.87	0.07	0.04	0.08	0.03	0.02	0.05	0.11	0.07	0.03	0.04
CaO	5.22	5.15	5.27	5.55	5.40	4.83	5.55	4.73	5.05	4.53	5.67
Na ₂ O	8.09	8.41	8.21	8.34	8.26	8.51	8.12	8.17	8.42	8.57	8.06
K ₂ O	0.11	1.45	0.05	0.08	0.05	0.09	0.06	0.50	0.06	0.12	0.07
Total	98.56	98.99	99.20	99.66	99.19	99.30	99.28	99.61	99.57	98.73	99.38
Structural formulae based on 32 O											
Si	10.904	10.812	10.838	10.833	10.883	10.953	10.841	10.883	10.925	11.011	10.784

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Al	5.081	5.149	5.255	5.209	5.171	5.125	5.223	5.233	5.144	5.069	5.291
Fe(ii)	0.131	0.011	0.006	0.012	0.004	0.003	0.007	0.016	0.010	0.004	0.006
Ca	1.010	0.998	1.009	1.059	1.034	0.922	1.062	0.902	0.962	0.869	1.085
Na	2.832	2.950	2.843	2.881	2.862	2.941	2.812	2.819	2.904	2.976	2.790
K	0.025	0.335	0.011	0.018	0.011	0.020	0.014	0.114	0.014	0.027	0.016
Total	19.983	20.255	19.962	20.012	19.966	19.964	19.959	19.967	19.96	19.956	19.973
An	26.11	23.31	26.11	26.76	26.46	23.75	27.32	23.52	24.81	22.45	27.88
Ab	73.23	68.88	73.60	72.78	73.25	75.72	72.33	73.52	74.84	76.85	71.71
Or	0.66	7.81	0.29	0.46	0.29	0.53	0.35	2.96	0.35	0.71	0.41

Plagioclase, metavolcanoclastic rock, sample C3P4.

Analysis	20	21	22	23	24	25	26	37
SiO ₂	55.28	56.27	56.71	56.68	59.30	57.90	55.76	58.00
Al ₂ O ₃	26.80	27.30	26.34	26.68	25.06	25.88	27.61	26.35
FeO	0.24	0.07	0.08	0.09	0.16	0.33	0.07	0.19
CaO	6.94	9.78	8.89	9.23	7.30	5.08	10.47	8.46
Na ₂ O	6.14	6.29	6.55	6.86	7.60	6.86	6.10	7.15
K ₂ O	1.07	0.06	0.08	0.10	0.09	1.35	0.04	0.07
Total	96.47	99.78	98.65	99.64	99.52	97.40	100.05	100.22
Structural formula based on 32 oxygen								
Si	10.272	10.145	10.312	10.236	10.643	10.601	10.050	10.382
Al	5.869	5.801	5.645	5.678	5.301	5.584	5.865	5.558
Fe(ii)	0.037	0.011	0.012	0.014	0.024	0.051	0.011	0.028
Ca	1.382	1.889	1.732	1.786	1.404	0.996	2.022	1.622
Na	2.212	2.199	2.309	2.402	2.644	2.435	2.132	2.481
K	0.254	0.014	0.019	0.023	0.021	0.315	0.009	0.016
Total	20.026	20.060	20.029	20.139	20.038	19.982	20.089	20.087
An	35.91	46.06	42.66	42.41	34.50	26.59	48.57	39.38
Ab	57.50	53.61	56.88	57.04	64.99	64.99	51.21	60.23
Or	6.59	0.34	0.46	0.55	0.51	8.42	0.22	0.39

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Plagioclase, metavolcanoclastic rock, sample C3P4.

Analysis	38	39	40	41	42	43	44
SiO ₂	59.10	58.71	56.14	57.11	57.69	54.99	56.25
Al ₂ O ₃	25.62	25.78	28.60	26.58	27.13	28.26	28.18
FeO	0.09	0.06	0.14	0.20	0.21	0.33	0.13
CaO	7.59	7.93	7.09	9.10	9.31	6.20	7.20
Na ₂ O	7.48	7.43	5.52	6.83	6.74	5.32	5.85
K ₂ O	0.04	0.05	1.89	0.09	0.05	1.97	1.63
Total	99.92	99.97	99.39	99.91	101.15	97.07	99.24
Structural formulae based on 32 oxygen							
Si	10.567	10.508	10.143	10.278	10.251	10.156	10.178
Al	5.398	5.438	6.089	5.638	5.681	6.151	6.009
Fe(ii)	0.013	0.009	0.021	0.030	0.031	0.051	0.020
Ca	1.454	1.521	1.372	1.755	1.772	1.227	1.396
Na	2.593	2.578	1.933	2.383	2.322	1.905	2.052
K	0.009	0.011	0.436	0.021	0.011	0.464	0.376
Total	20.034	20.066	19.995	20.105	20.071	19.954	20.031
An	35.85	37.00	36.68	42.19	43.17	34.12	36.50
Ab	63.93	62.73	51.68	57.31	56.55	52.98	53.66
Or	0.22	0.28	11.64	0.50	0.28	12.91	9.84

Plagioclase, deformed diorite, sample C3P17

Analysis	77	78	79	80	81	82	97	98	99	100	101
SiO ₂	60.03	60.76	60.73	60.83	59.84	60.09	61.44	60.92	60.89	60.63	60.86
Al ₂ O ₃	25.13	24.66	24.90	24.92	24.79	25.22	24.23	24.87	24.84	24.71	24.96
CaO	5.74	5.79	5.96	5.59	5.90	5.90	4.53	5.93	5.93	1.64	5.73
Na ₂ O	7.99	7.73	7.61	7.92	7.83	7.80	8.03	7.73	7.89	7.76	7.92
Total	98.89	98.94	99.2	99.26	98.36	99.01	98.23	99.45	99.55	94.74	99.47
Structural formulae based on 32 oxygen											
Si	10.761	10.861	10.828	10.845	10.783	10.755	11.004	10.842	10.834	11.020	10.828
Al	5.309	5.195	5.232	5.236	5.264	5.320	5.114	5.216	5.209	5.293	5.234
Ca	1.102	1.109	1.138	1.068	1.139	1.131	0.869	1.131	1.130	0.319	1.092

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Na	2.777	2.679	2.630	2.737	2.735	2.707	2.788	2.667	2.722	2.734	2.732
Total	19.949	19.844	19.828	19.886	19.921	19.913	19.775	19.856	19.895	19.366	19.886
An	28.14	28.93	29.79	27.76	29.04	29.20	23.13	29.47	29.05	8.68	28.26
Ab	70.87	69.88	68.84	71.18	69.73	69.86	74.20	69.52	69.95	74.31	70.68
Or	0.99	1.19	1.37	1.06	1.23	0.94	2.67	1.01	0.99	17.01	1.06

Plagioclase, deformed diorite, sample C3P17

Analysis	4	5	6	7	34	35	36	37	38	39	40	41
SiO ₂	60.27	60.63	60.49	60.19	60.30	60.08	60.16	60.03	59.70	63.69	60.09	60.80
Al ₂ O ₃	25.25	24.88	25.08	25.89	25.71	25.75	25.75	25.08	25.90	23.37	25.28	24.90
CaO	5.91	5.83	5.99	5.80	5.70	5.55	5.61	5.79	5.66	2.77	5.21	5.61
Na ₂ O	7.87	7.77	7.79	7.72	7.97	7.94	7.85	7.77	7.64	8.87	7.72	7.82
Total	99.3	99.11	99.35	99.6	99.68	99.32	99.37	98.67	98.9	98.7	98.3	99.13
Structural formula based on 32 oxygen												
Si	10.758	10.829	10.792	10.698	10.721	10.716	10.718	10.776	10.683	11.267	10.782	10.845
Al	5.312	5.237	5.273	5.423	5.387	5.413	5.407	5.306	5.462	4.872	5.346	5.234
Ca	1.130	1.116	1.145	1.104	1.086	1.061	1.071	1.113	1.085	0.525	1.002	1.072
Na	2.724	2.690	2.694	2.660	2.747	2.746	2.711	2.704	2.650	3.042	2.686	2.704
Total	19.924	19.872	19.904	19.885	19.941	19.936	19.907	19.899	19.88	19.706	19.816	19.855
An	29.10	28.98	29.59	29.09	28.13	27.65	28.01	28.87	28.71	13.91	26.35	28.10
Ab	70.13	69.89	69.64	70.07	71.17	71.58	70.92	70.12	70.14	80.59	70.64	70.88
Or	0.76	1.12	0.76	0.84	0.71	0.77	1.07	1.01	1.15	5.50	3.01	1.01

K-feldspar, deformed diorite, sample C3P17

Analysis	8	9	10	11	102	103
SiO ₂	63.71	63.37	63.59	63.13	63.93	63.09
Al ₂ O ₃	19.16	19.05	19.17	18.84	18.72	19.15
Na ₂ O	0.87	1.02	0.99	0.91	0.74	0.57
K ₂ O	14.40	14.31	14.48	14.60	14.85	15.09
Total	98.14	97.75	98.23	97.48	98.24	97.90

Structural formulae based on 32 oxygen

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Si	11.870	11.864	11.852	11.872	11.934	11.847
Al	4.207	4.203	4.211	4.176	4.118	4.238
Na	0.314	0.370	0.358	0.332	0.268	0.207
K	3.422	3.417	3.443	3.502	3.536	3.614
Total	19.813	19.854	19.864	19.882	19.856	19.906
An	0.16	0.11	0.10	0.26	0.21	0.11
Ab	8.40	9.76	9.40	8.63	7.03	5.42
Or	91.44	90.13	90.49	91.11	92.76	94.47