

Supplementary file 6. Electron microprobe analysis

Cpx PhC = Clinopyroxene phenocryst

Cpx McC = Clinopyroxene microcrystals

Sample	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A
Mineral	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Chlorite	Actinolite
SiO ₂	29.70	29.54	29.69	29.83	30.38	29.91	29.52	29.28	30.58	29.98	56.12
Al ₂ O ₃	18.87	18.73	18.81	18.72	18.46	18.75	17.83	19.28	18.31	18.54	0.80
FeO	12.83	13.24	13.48	12.74	12.77	13.02	12.78	13.28	12.75	13.15	6.80
MnO	0.45	0.55	0.54	0.47	0.54	0.49	0.53	0.55	0.46	0.50	0.38
MgO	25.02	24.68	24.98	24.56	24.58	25.01	24.22	24.63	24.43	24.79	19.63
CaO	0.11	0.11	0.13	0.25	0.14	0.11	0.04	0.01	0.20	0.16	13.00
Na ₂ O	0.01	0.02	0.00	0.05	0.02	0.01	0.02	0.00	0.02	0.01	0.21
K ₂ O	0.10	0.31	0.02	0.08	0.02	0.06	0.00	0.01	0.19	0.03	0.03
TiO ₂	0.02	0.02	0.05	0.12	0.00	0.01	0.02	0.07	0.02	0.03	0.00
Total	87.12	87.30	87.71	86.84	86.92	87.39	84.98	87.12	86.98	87.18	96.98

Sample	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A
Mineral	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite
SiO ₂	56.17	55.60	55.85	55.18	56.10	55.81	56.44	56.52	55.80	54.83	55.97
Al ₂ O ₃	0.83	1.06	0.92	1.17	0.75	1.11	0.62	0.74	1.02	1.51	1.68
FeO	6.78	6.83	6.75	7.36	6.72	7.63	7.19	7.06	7.47	8.53	8.42
MnO	0.38	0.41	0.38	0.42	0.38	0.43	0.46	0.36	0.43	0.40	0.36
MgO	19.98	19.58	19.84	19.47	19.77	18.99	19.51	19.60	19.32	18.41	18.66
CaO	13.01	12.91	13.05	12.87	13.01	12.89	12.95	12.97	13.03	12.93	12.82
Na ₂ O	0.23	0.20	0.23	0.29	0.24	0.30	0.23	0.17	0.26	0.33	0.35
K ₂ O	0.03	0.05	0.04	0.06	0.03	0.05	0.04	0.04	0.06	0.07	0.05
TiO ₂	0.00	0.00	0.01	0.05	0.03	0.06	0.00	0.01	0.00	0.01	0.03
Total	97.41	96.69	97.07	96.88	97.03	97.26	97.46	97.49	97.41	97.09	98.38

Sample	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A
Mineral	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Titano magnetite	Titano magnetite	Titano magnetite	Titano magnetite	Titano magnetite	Titano magnetite
SiO2	56.34	57.04	56.71	55.02	56.44	0.86	0.40	1.12	0.09	1.87	0.26
Al2O3	0.66	1.68	1.26	1.66	0.67	0.05	0.13	0.29	0.05	0.56	0.08
FeO	7.07	7.26	7.57	8.06	6.59	70.10	89.14	89.47	72.94	83.58	79.18
MnO	0.41	0.45	0.46	0.47	0.48	0.08	0.03	0.07	0.06	0.07	0.11
MgO	19.86	18.51	19.05	18.52	19.87	0.00	0.11	0.03	0.01	0.92	0.10
CaO	13.04	12.04	12.46	12.28	12.62	1.38	0.25	0.29	0.02	0.16	0.06
Na2O	0.19	0.66	0.44	0.54	0.31	0.00	0.25	0.06	0.00	0.06	0.05
K2O	0.03	0.12	0.07	0.17	0.08	0.01	0.04	0.03	0.01	0.44	0.02
TiO2	0.01	0.04	0.11	0.06	0.10	18.69	0.34	0.15	7.70	0.08	7.46
Total	97.61	97.80	98.12	96.79	97.14	91.21	90.73	92.01	81.39	87.74	87.56

Sample	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A	AB15-05A
Mineral	Titano magnetite	Titano magnetite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite
SiO2	0.69	0.05	67.51	68.06	67.28	67.95	66.55	67.99	67.88	67.63	67.80
Al2O3	0.21	0.01	19.79	20.29	20.16	20.05	19.96	19.95	20.03	20.08	20.49
FeO	71.87	65.17	0.42	0.25	0.37	0.25	1.96	0.28	0.44	0.61	0.28
MnO	0.06	0.04	0.00	0.03	0.00	0.01	0.00	0.02	0.00	0.04	0.00
MgO	0.17	0.01	0.34	0.01	0.01	0.01	0.00	0.01	0.01	0.86	0.00
CaO	0.35	0.08	0.42	0.28	0.23	0.22	0.23	0.20	0.19	0.12	0.28
Na2O	0.01	0.00	11.01	11.89	11.35	12.04	11.70	11.78	11.98	11.92	11.81
K2O	0.03	0.00	0.76	0.12	0.11	0.15	0.31	0.16	0.11	0.29	0.10
TiO2	18.11	30.06	0.03	0.01	0.02	0.04	0.18	0.04	0.12	0.03	0.02
Total	91.52	95.43	100.28	100.94	99.53	100.71	100.91	100.43	100.77	101.61	100.79

Sample	AB15-05A	AB15-05A	AB15-05A	AB15-05A
Mineral	Albite	Albite	Sphene	Epidote
SiO2	67.99	68.06	30.20	37.12
Al2O3	20.13	20.35	1.19	22.32
FeO	0.11	0.09	1.04	13.53
MnO	0.05	0.02	0.02	0.18
MgO	0.01	0.02	0.00	0.00
CaO	0.20	0.21	28.29	22.91
Na2O	11.52	11.88	0.00	0.01
K2O	1.11	0.11	0.01	0.00
TiO2	0.02	0.03	37.39	0.10
Total	101.16	100.75	98.16	96.18

Sample	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C
Mineral	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite	Actinolite
SiO2	55.74	47.29	56.43	55.75	54.48	52.61	55.40	55.77	55.72	56.08	57.01
Al2O3	1.64	2.24	1.36	2.05	2.79	2.98	2.52	1.84	2.26	1.55	1.05
FeO	6.31	6.39	6.35	7.38	7.68	7.62	7.34	7.05	7.07	6.60	6.27
MnO	0.33	0.32	0.56	0.37	0.40	0.41	0.39	0.47	0.44	0.50	0.56
MgO	19.76	18.30	19.96	19.45	18.99	18.22	19.36	19.32	19.30	19.70	20.33
CaO	12.83	12.25	12.53	12.83	12.74	13.88	12.58	12.58	12.65	12.79	12.52
Na2O	0.34	0.39	0.40	0.31	0.42	0.42	0.42	0.42	0.37	0.31	0.35
K2O	0.04	0.06	0.10	0.09	0.15	0.16	0.17	0.10	0.10	0.10	0.10
TiO2	0.03	0.03	0.12	0.11	0.16	0.38	0.12	0.09	0.18	0.07	0.08
Total	97.14	87.59	97.82	98.36	97.82	96.70	98.29	97.66	98.09	97.71	98.28

Sample	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C
Mineral	Actinolite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite	Albite
SiO2	56.43	67.94	67.71	69.13	66.33	67.79	65.58	65.40	66.23	65.51	65.80
Al2O3	1.70	20.30	19.83	19.15	21.13	20.31	20.88	18.41	18.65	18.14	19.57
FeO	7.16	0.23	0.51	0.44	0.22	0.44	0.89	1.04	0.86	0.71	0.70
MnO	0.51	0.00	0.01	0.01	0.00	0.00	0.05	0.04	0.06	0.04	0.02
MgO	19.46	0.02	0.43	0.42	0.01	0.19	0.66	2.29	1.57	0.87	0.75
CaO	12.74	0.29	0.79	0.46	0.97	0.33	1.25	1.96	1.86	2.52	1.81
Na2O	0.36	11.22	11.55	11.30	11.15	11.63	10.68	9.57	11.22	11.06	10.88
K2O	0.07	0.92	0.28	0.70	0.08	0.08	0.48	0.39	0.10	0.09	0.43
TiO2	0.36	0.05	0.12	0.04	0.18	0.20	0.19	0.10	0.14	2.45	0.08
Total	98.80	101.05	101.25	101.65	100.09	100.97	100.73	99.25	100.72	101.40	100.09

Sample	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C	AB16-02C
Mineral	Albite	Epidote	Epidote	Sphene	Sphene	Sphene	Sphene	Quartz	Orthoclase
SiO2	65.36	37.28	36.89	30.51	30.67	29.98	29.54	95.86	63.76
Al2O3	19.81	22.33	22.10	1.59	2.50	1.09	1.19	0.18	18.65
FeO	0.67	13.20	13.55	2.04	1.98	2.76	1.39	0.31	0.72
MnO	0.03	0.20	0.17	0.02	0.03	0.04	0.01	0.00	0.06
MgO	0.65	0.00	0.01	0.44	0.05	0.08	0.00	0.65	0.37
CaO	2.00	22.72	22.17	26.99	27.44	27.25	27.20	0.03	0.29
Na2O	11.42	0.00	0.01	0.06	0.05	0.03	0.07	0.00	0.24
K2O	0.19	0.00	0.00	0.06	0.07	0.09	0.03	0.17	14.19
TiO2	0.36	0.20	0.07	35.66	34.21	36.70	38.73	0.03	0.35
Total	100.52	95.95	94.97	97.37	96.99	98.03	98.15	97.25	101.03

Sample	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B
Mineral	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC	Cpx PhC
SiO2	48.43	48.27	50.08	47.96	45.19	47.58	48.14	49.20	47.87	49.26	47.41
Al2O3	3.97	4.32	2.90	4.28	6.69	4.44	4.58	3.41	4.52	3.26	4.97
FeO	5.75	5.77	6.04	6.26	7.36	6.26	6.49	5.68	6.59	5.62	6.51
MnO	0.08	0.07	0.09	0.10	0.10	0.10	0.07	0.07	0.13	0.11	0.10
MgO	14.27	14.49	15.01	13.97	12.29	14.18	14.03	14.88	13.96	14.95	13.83
CaO	22.92	23.16	22.77	22.87	22.71	23.02	23.17	23.15	22.89	23.28	23.10
Na2O	0.35	0.38	0.36	0.45	0.52	0.37	0.45	0.40	0.45	0.30	0.41
K2O	0.00	0.00	-0.01	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00
TiO2	2.16	2.31	1.90	2.38	4.09	2.60	2.57	1.80	2.50	1.76	2.79
Total	98.39	99.28	99.44	98.57	98.98	98.88	99.70	99.10	99.02	99.04	99.25

Sample	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B
Mineral	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC	Cpx McC
SiO2	45.11	48.33	44.50	44.80	46.45	46.80	47.26	45.19	47.08	0.16
Al2O3	6.13	3.70	7.06	6.57	5.35	5.59	4.24	6.50	4.16	0.10
FeO	7.37	7.14	7.61	7.47	8.76	7.37	7.51	7.36	7.76	66.49
MnO	0.10	0.12	0.09	0.10	0.15	0.10	0.11	0.12	0.15	0.14
MgO	12.71	14.15	12.52	12.57	12.91	13.14	13.83	12.52	13.87	0.06
CaO	22.91	22.53	22.57	23.03	22.10	22.86	22.76	22.91	22.56	0.19
Na2O	0.41	0.29	0.46	0.39	0.34	0.46	0.32	0.51	0.28	-0.02
K2O	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.01
TiO2	3.84	2.75	4.25	3.86	3.95	3.11	2.99	4.16	3.18	23.86
Total	98.71	99.19	99.56	99.13	100.12	99.74	99.13	99.31	99.15	93.52

Sample	AB10-06B	AB10-06B	AB10-06B	AB10-06B
Mineral	Titano magnetite	Titano magnetite	Titano magnetite	Titano magnetite
SiO2	0.26	0.14	1.00	55.81
Al2O3	3.44	1.61	0.85	27.88
FeO	61.42	60.93	63.93	0.38
MnO	0.38	0.47	0.09	0.01
MgO	0.06	0.04	0.86	0.03
CaO	0.09	0.16	0.30	8.84
Na2O	-0.09	-0.02	0.01	6.11
K2O	0.00	0.00	0.03	0.72
TiO2	23.47	24.80	25.13	0.19
Total	92.69	93.01	92.40	99.99

Sample	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B	AB10-06B
Mineral	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase	Plagioclase
SiO2	58.57	54.90	55.39	54.48	55.07	64.02	55.05	59.70	62.69	55.59	55.41
Al2O3	25.58	28.69	28.22	28.37	28.17	22.00	28.39	23.91	19.37	27.69	28.35
FeO	0.38	0.50	0.40	0.48	0.92	0.44	0.48	1.04	0.72	0.51	0.49
MnO	0.00	0.00	0.00	-0.01	0.02	0.01	0.00	0.00	0.01	0.00	0.00
MgO	0.03	0.05	0.05	0.03	0.15	0.28	0.03	0.12	0.24	0.06	0.03
CaO	6.32	10.03	9.53	9.59	7.53	1.50	9.60	4.29	0.06	8.98	9.63
Na2O	7.07	5.56	5.70	5.78	5.12	8.61	5.95	7.05	0.25	6.13	5.72
K2O	1.19	0.49	0.62	0.47	2.77	2.52	0.57	2.44	17.29	0.55	0.59
TiO2	0.18	0.18	0.19	0.21	0.20	0.05	0.21	0.15	0.01	0.19	0.21
Total	99.32	100.39	100.10	99.41	99.96	99.45	100.29	98.70	100.63	99.71	100.44