

# Appendix

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**Chemical re-equilibration and dynamic recrystallization of minerals in the Almklovdalen Peridotite Massif, SW Norway.**

**MSc thesis by: Marc Breddels**

**Supervisors: dr. H.L.M. van Roermund & prof. dr. M.R. Drury**

**Utrecht University**

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In this appendix the location of linescans are indicated in ppl flatbed scans of thin sections, as well as in BSE images. In the flatbed scans (overview images) the locations of the BSE images are indicated by blue boxes, including a number used to refer to them. The linescans are indicated in both ppl overview images and BSE images by black lines. The start of the linescans are indicated with a black arrow symbol, which represents point number 1 in the linescan profiles.

# Chapter 1. Linescan data and locations in sample 2

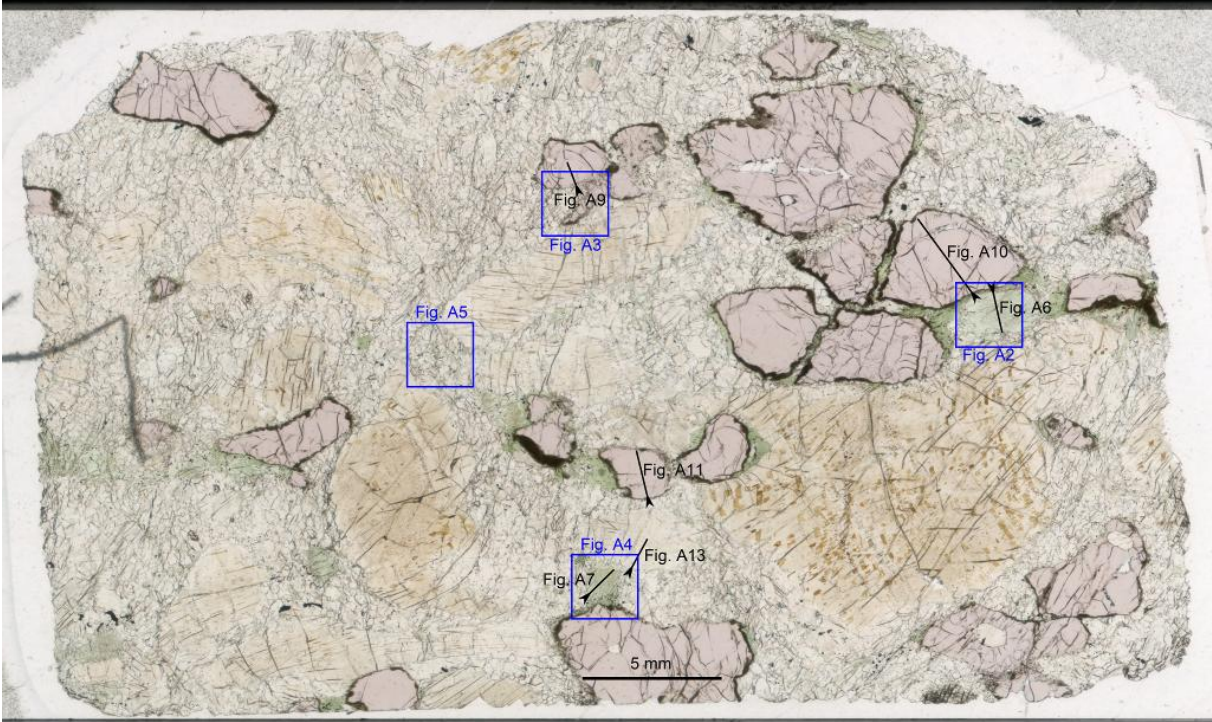


Figure A1. PPL Overview of a thin section made of sample 2 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

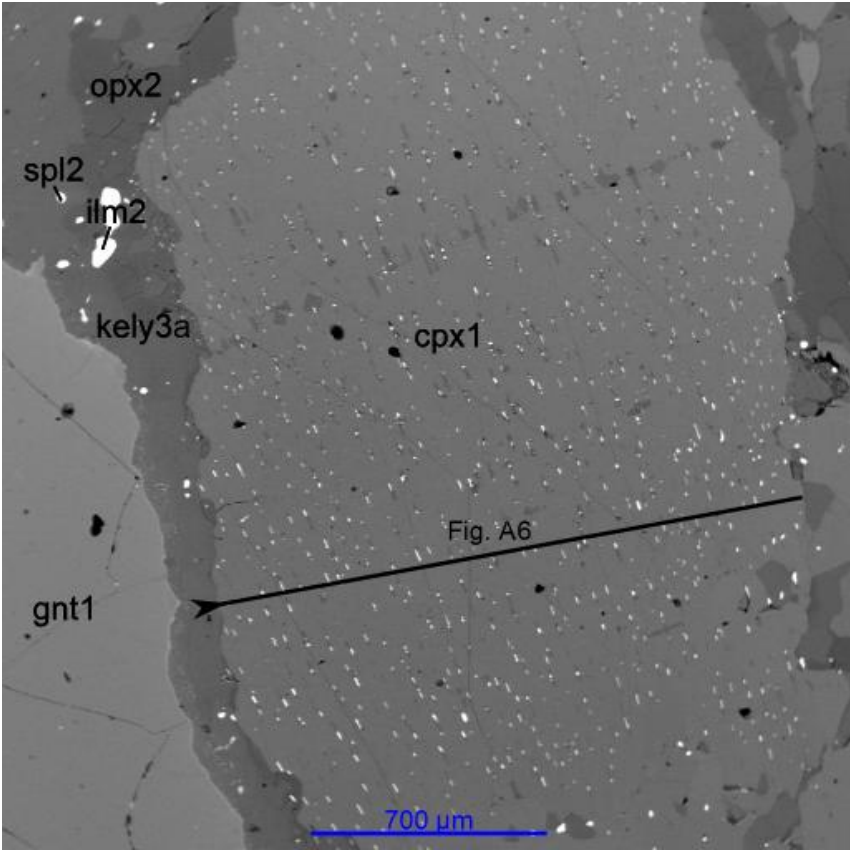


Figure A2. BSE image (sample 2) showing a M1 clinopyroxene crystal with exsolution lamellae of spinel. The location of the linescan illustrated in Fig. A6 is indicated.

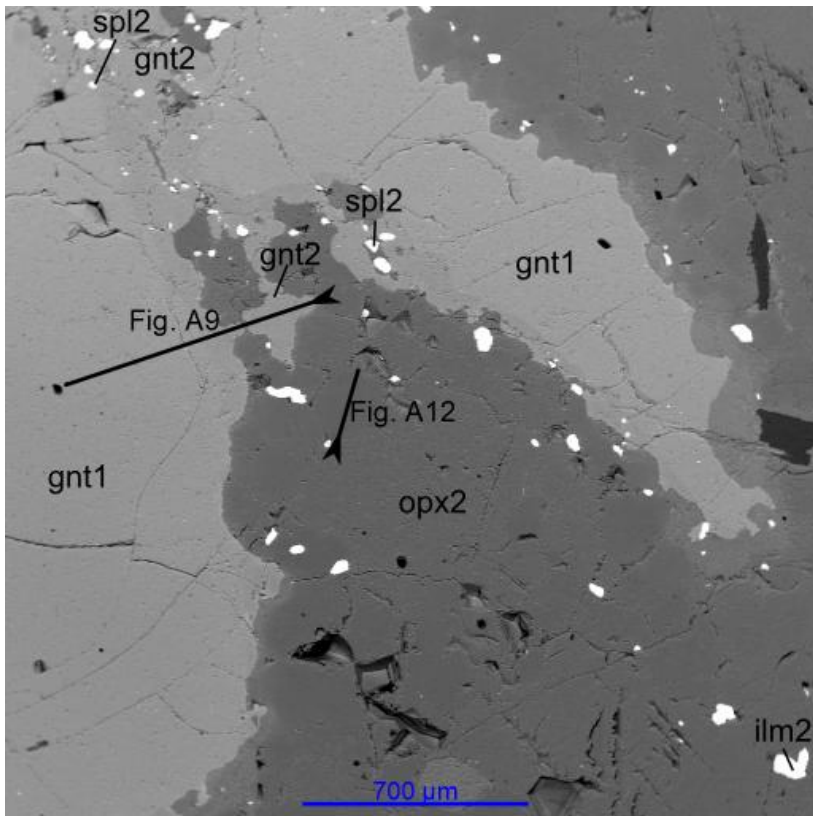


Figure A3. BSE image (sample 2) showing a M1 garnet porphyroblast dynamically recrystallizing into M2 garnet + M2 spinel. The locations of the linescans illustrated in Fig. A9 and Fig. A12 are indicated.

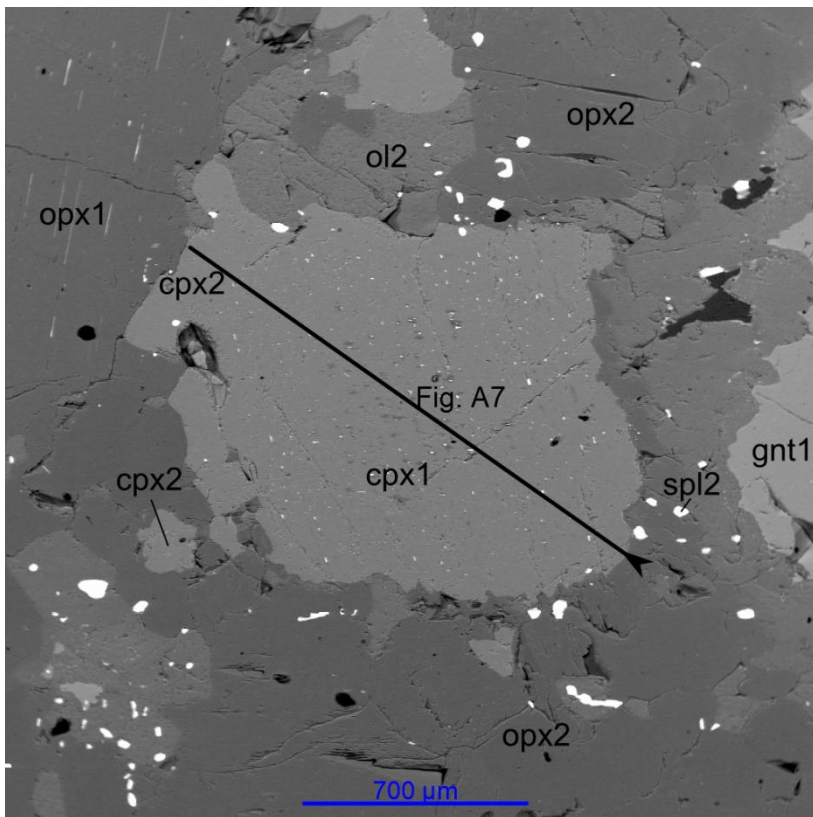


Figure A4. BSE image (sample 2) showing a M1 clinopyroxene porphyroblast recrystallizing into M2 clinopyroxene. The location of the linescan illustrated in Fig. A7 is indicated.

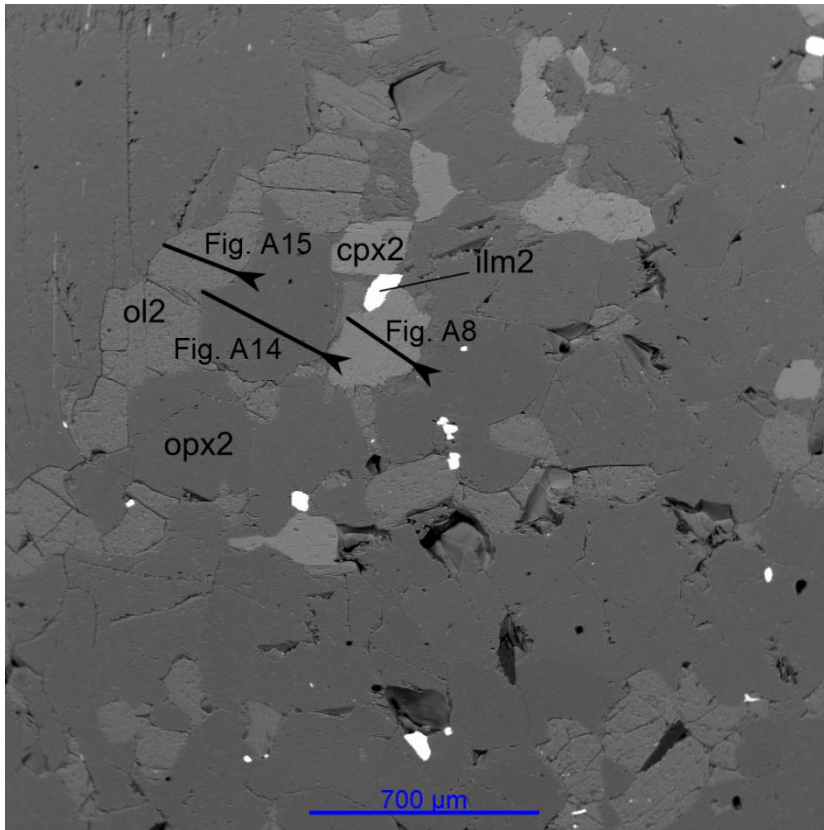


Figure A5. BSE image (sample 2) showing the recrystallized M2 assemblage consisting of M2 clinopyroxene, M2 orthopyroxene and M2 olivine. The locations of the linescans illustrated in the figures A8, A15 and A16 are indicated.

02cpx1												Compound wt%	
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	54.02	0.89	2.23	0.06	16.65	23.90	0.51	0.05	0.55	0.07	98.93		
2	54.07	0.74	2.18	0.05	16.97	23.91	0.32	0.02	0.50	0.06	98.81		
3	56.31	0.63	9.94	0.12	31.77	0.32	0.01	0.00	0.16	0.07	99.34		
4	45.56	1.69	4.29	0.16	14.44	19.83	0.30	0.09	5.36	0.10	91.82	Crack	
5	54.06	1.01	2.21	0.04	16.56	23.57	0.62	0.05	0.57	0.03	98.73		
6	54.28	1.04	2.18	0.05	16.45	23.62	0.68	0.04	0.54	0.04	98.91		
7	53.88	0.82	2.00	0.04	16.66	24.00	0.42	0.03	0.46	0.10	98.42		
8	53.74	1.38	2.24	0.05	16.85	22.96	0.57	0.06	0.61	0.07	98.54		
9	53.85	0.98	2.27	0.02	16.48	23.63	0.58	0.15	0.49	0.05	98.50		
10	53.94	1.11	2.19	0.04	16.14	23.38	0.72	0.04	0.70	0.05	98.32		
11	54.17	1.05	2.28	0.03	16.47	23.60	0.61	0.06	0.62	0.05	98.95		
12	54.09	1.11	2.17	0.03	16.30	23.42	0.76	0.05	0.74	0.06	98.72		
13	53.92	1.01	2.14	0.04	16.19	23.48	0.68	0.03	0.66	0.03	98.19		
14	53.86	1.05	2.15	0.05	16.30	23.60	0.73	0.03	0.68	0.06	98.50		
15	53.94	1.07	2.08	0.04	16.32	23.33	0.79	0.02	0.79	0.06	98.44		
16	39.94	1.92	4.54	0.23	12.00	20.65	0.54	0.09	8.52	0.06	88.47	Crack	
17	54.02	1.09	2.02	0.06	16.43	23.28	0.74	0.06	0.71	0.02	98.44		
18	54.07	0.96	1.94	0.04	16.43	23.56	0.72	0.04	0.70	0.06	98.52		
19	2.57	16.50	33.51	0.60	7.55	0.50	0.01	0.70	36.19	0.24	98.37	Spinel	
20	53.20	0.99	2.26	0.04	16.93	23.57	0.47	0.04	1.13	0.07	98.70		
21	54.06	0.98	2.01	0.03	16.60	23.56	0.77	0.05	0.64	0.06	98.76		
22	53.80	0.94	2.16	0.03	16.69	23.60	0.61	0.04	0.58	0.09	98.54		
23	54.19	0.91	2.10	0.05	16.88	23.64	0.62	0.05	0.47	0.09	99.00		
24	54.19	0.91	2.05	0.04	16.90	23.65	0.67	0.02	0.48	0.03	98.95		
25	54.11	0.89	1.99	0.05	16.71	23.67	0.66	0.04	0.54	0.09	98.74		
26	54.08	0.84	1.97	0.05	16.87	23.90	0.51	0.05	0.44	0.04	98.74		
27	54.15	0.78	2.11	0.05	16.80	23.96	0.46	0.04	0.44	0.07	98.87		
28	54.04	0.91	2.14	0.06	16.59	23.76	0.66	0.02	0.46	0.01	98.64		
29	54.06	0.83	2.09	0.04	16.57	23.87	0.54	0.04	0.39	0.05	98.48		
30	54.02	0.89	2.12	0.04	16.43	23.67	0.61	0.04	0.45	0.05	98.33		

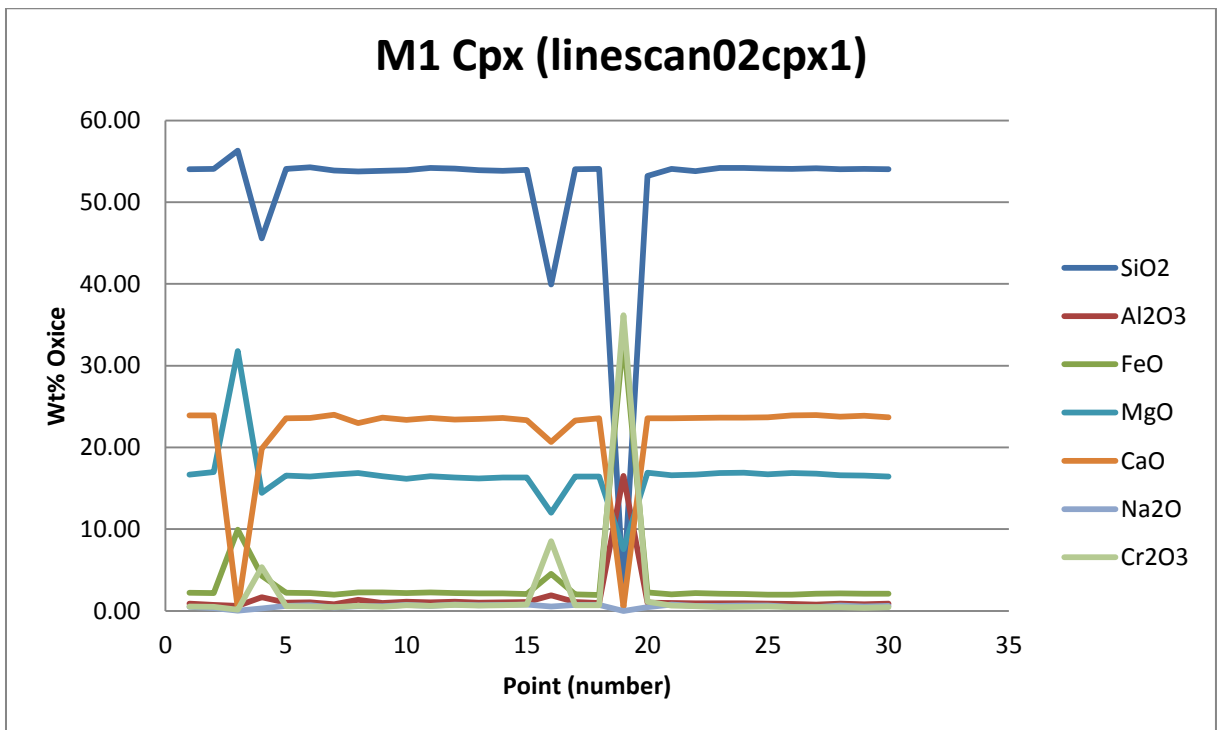


Figure A6. A linescan through a M1 clinopyroxene crystal in sample 2. The location is indicated in Fig. A1 and Fig. A2. For the EMP analyses of each individual point see the table above.

02cpx2		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	53.86	0.85	2.02	0.05	16.74	23.75	0.57	0.05	0.40	0.03	98.31	
2	53.94	0.77	1.92	0.03	16.95	24.05	0.54	0.06	0.52	0.04	98.80	
3	52.31	1.65	2.29	0.05	16.60	22.46	0.66	0.04	0.94	0.08	97.07	Crack
4	53.63	0.96	1.89	0.04	16.37	23.69	0.67	0.04	0.84	0.08	98.22	
5	53.53	1.03	2.06	0.05	16.41	23.45	0.76	0.06	0.83	0.05	98.24	
6	53.67	1.04	2.00	0.04	16.55	23.51	0.76	0.04	0.76	0.04	98.39	
7	54.18	1.03	1.82	0.04	16.24	23.56	0.81	0.06	0.92	0.04	98.70	
8	52.33	3.01	2.49	0.04	17.03	20.27	1.08	0.21	0.94	0.10	97.49	
9	53.79	1.10	2.15	0.05	16.23	23.34	0.85	0.03	0.90	0.08	98.50	
10	53.70	1.00	2.16	0.04	16.29	23.38	0.72	0.05	0.79	0.09	98.21	
11	1.41	19.89	24.72	0.65	6.85	1.57	0.66	0.23	41.48	0.15	97.62	Spinel
12	54.35	2.37	2.10	0.04	16.14	22.74	0.67	0.05	0.60	0.07	99.12	
13	53.77	1.03	2.02	0.05	16.42	23.52	0.78	0.03	0.63	0.09	98.35	
14	53.64	1.14	2.06	0.05	16.38	23.31	0.82	0.04	0.77	0.07	98.26	
15	53.62	1.12	2.08	0.05	16.37	23.41	0.80	0.08	0.82	0.09	98.42	
16	52.99	1.88	2.25	0.05	15.78	22.97	0.81	0.05	0.93	0.05	97.76	
17	53.59	1.20	2.07	0.04	16.34	23.25	0.91	0.06	0.88	0.05	98.40	
18	53.76	1.20	2.09	0.05	16.33	23.20	0.84	0.05	0.85	0.05	98.41	
19	53.37	1.24	2.11	0.06	16.25	23.17	0.87	0.04	0.96	0.02	98.08	
20	53.54	1.17	2.05	0.03	16.61	23.25	0.82	0.05	0.84	0.04	98.40	
21	53.38	1.24	2.26	0.06	16.30	23.06	0.86	0.03	1.13	0.08	98.41	
22	52.68	2.82	2.25	0.05	15.78	22.52	0.88	0.04	0.81	0.07	97.90	Crack
23	53.61	1.22	1.97	0.02	16.02	23.17	0.96	0.07	0.93	0.07	98.04	
24	49.74	4.92	2.17	0.03	13.20	22.06	0.71	0.06	0.89	0.06	93.84	Crack
25	53.52	1.31	1.97	0.06	15.86	23.12	0.82	0.05	0.92	0.05	97.68	
26	55.55	1.45	2.02	0.03	17.10	23.06	0.95	0.06	0.91	0.06	101.19	Crack
27	54.61	1.09	1.94	0.03	16.34	23.34	0.84	0.04	0.83	0.04	99.11	
28	53.70	0.93	1.99	0.03	16.47	23.54	0.72	0.03	0.67	0.10	98.18	
29	53.52	1.29	2.14	0.02	16.20	22.99	1.06	0.03	0.70	0.03	97.97	
30	53.36	1.26	2.18	0.03	16.04	23.02	1.03	0.03	0.72	0.04	97.73	

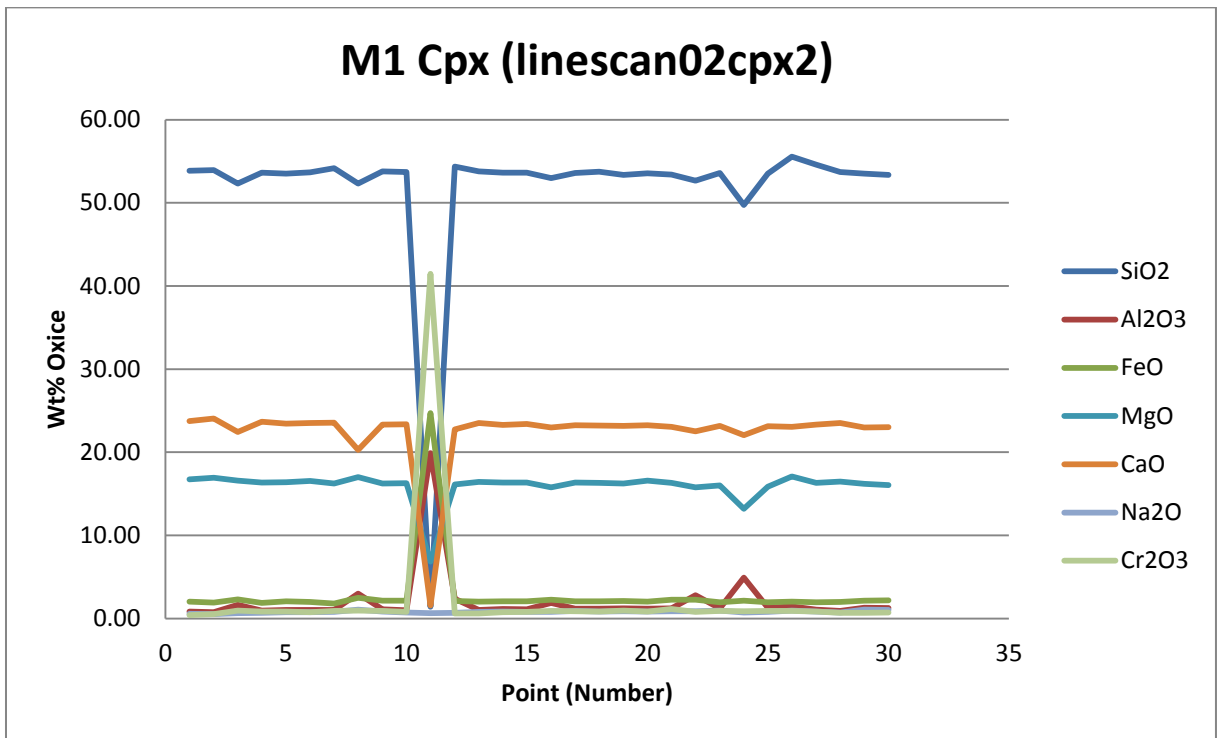


Figure A7. A linescan through a M1 clinopyroxene crystal in sample 2. The location is indicated in Fig. A4. For the EMP analyses of each individual point see the table above.

02cpx3		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	53.95	1.15	2.17	0.05	16.43	23.03	0.97	0.04	0.66	0.04	98.50	
2	55.46	1.34	2.07	0.02	16.51	22.72	1.01	0.02	0.78	0.06	100.00	
3	54.24	1.19	2.08	0.01	16.26	23.06	1.01	0.05	0.71	0.05	98.67	
4	54.05	1.15	2.01	0.04	16.30	22.97	1.00	0.03	0.69	0.04	98.29	
5	56.95	9.86	2.13	0.03	16.82	18.70	1.04	0.04	0.67	0.07	106.32	Crack
6	51.95	1.34	1.97	0.04	14.79	22.94	1.00	0.02	0.73	0.11	94.90	Crack
7	52.63	4.35	2.32	0.03	15.13	21.98	0.71	0.05	0.57	0.10	97.87	Crack
8	53.89	1.07	2.22	0.04	16.63	23.69	0.52	0.07	0.43	0.10	98.65	
9	53.10	1.48	2.19	0.03	16.11	23.54	0.48	0.08	0.38	0.10	97.49	
10	53.52	1.03	2.21	0.05	16.53	23.77	0.49	0.09	0.43	0.08	98.20	
11	53.57	0.95	2.06	0.05	16.68	23.79	0.46	0.08	0.41	0.07	98.12	
12	54.51	1.88	2.19	0.06	17.21	23.47	0.49	0.09	0.35	0.10	100.35	
13	53.44	0.89	2.02	0.04	16.77	24.00	0.46	0.09	0.36	0.06	98.12	
14	54.02	0.84	1.95	0.02	16.25	23.73	0.57	0.05	0.38	0.06	97.85	
15	53.32	1.10	2.04	0.01	15.74	23.16	0.87	0.03	0.64	0.06	96.99	
16	53.37	1.17	2.09	0.03	15.79	23.13	0.96	0.03	0.66	0.06	97.30	

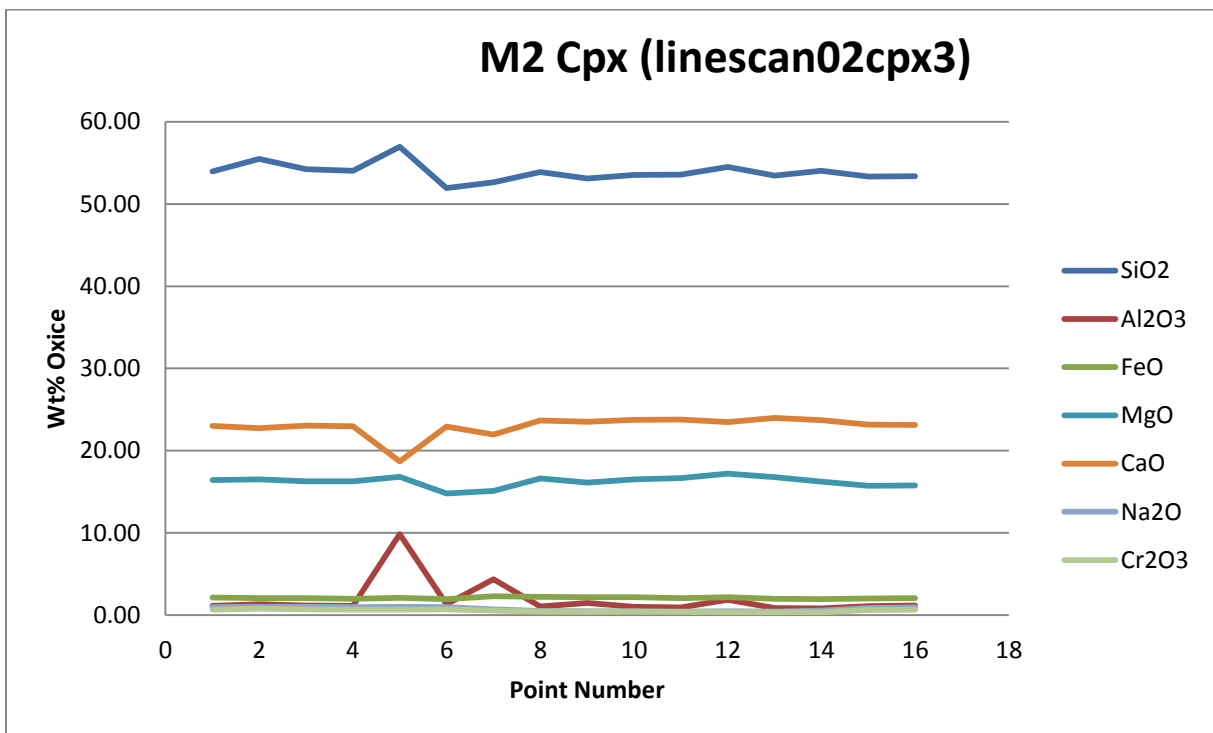


Figure A8. A linescan through a M2 clinopyroxene crystal in sample 2. The location is indicated in Fig. A5. For the EMP analyses of each individual point see the table above.



O2gnt1	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	40.96	21.81	14.59	0.57	15.15	4.87	0.00	0.03	1.47	0.00	99.46	M2 gnt
2	41.51	25.20	14.07	0.56	16.57	4.90	0.02	0.01	1.03	0.00	103.88	Crack
3	41.26	22.29	14.21	0.59	14.96	5.54	0.00	0.01	1.03	0.00	99.89	M2 gnt
4	41.15	21.73	14.18	0.57	15.04	5.36	0.00	0.01	1.36	0.00	99.41	M2 gnt
5	41.11	21.71	14.33	0.61	15.01	5.34	0.00	0.00	1.42	0.00	99.54	M2 gnt
6	38.37	23.58	14.09	0.58	13.57	5.18	0.02	0.02	1.35	0.02	96.77	M2 gnt
7	41.12	22.01	14.19	0.58	15.38	5.41	0.00	0.03	1.33	0.00	100.06	M2 gnt
8	41.12	22.53	14.84	0.60	15.29	4.62	0.02	0.01	0.80	0.03	99.85	M2 gnt
9	50.51	6.97	9.59	0.12	29.93	0.14	0.02	0.00	0.33	0.02	97.65	Opx
10	39.85	22.69	14.61	0.60	16.41	4.73	0.00	0.05	1.07	0.00	100.02	M1 gnt
11	39.05	22.42	14.48	0.61	15.30	5.13	0.02	0.00	0.79	0.04	97.83	M1 gnt
12	41.66	22.34	14.34	0.61	15.03	5.62	0.00	0.02	1.37	0.00	100.99	M1 gnt
13	35.33	23.37	13.62	0.55	11.57	5.48	0.03	0.03	1.74	0.02	91.75	Crack
14	40.45	20.27	14.37	0.59	14.33	5.97	0.01	0.05	2.94	0.05	99.03	M1 gnt
15	39.55	21.20	13.93	0.59	13.71	5.99	0.00	0.04	2.93	0.00	97.94	M1 gnt
16	38.38	19.35	13.92	0.60	13.54	6.05	0.02	0.04	2.81	0.00	94.72	Crack
17	39.80	20.04	14.15	0.58	13.94	6.11	0.00	0.03	3.03	0.01	97.70	M1 gnt
18	40.51	20.38	14.39	0.58	14.63	5.89	0.03	0.06	3.02	0.00	99.49	M1 gnt
19	40.02	20.26	14.01	0.57	14.94	5.80	0.00	0.05	2.82	0.00	98.46	M1 gnt
20	36.74	20.85	13.55	0.56	13.06	5.76	0.02	0.06	2.70	0.00	93.30	Crack
21	40.26	20.34	14.29	0.57	14.83	5.71	0.00	0.05	2.93	0.03	99.00	M1 gnt
22	40.58	20.79	14.08	0.51	15.32	5.54	0.01	0.05	3.01	0.00	99.90	M1 gnt
23	40.54	20.38	13.74	0.56	15.05	5.60	0.00	0.06	3.02	0.00	98.95	M1 gnt
24	40.07	20.26	14.01	0.54	14.55	5.61	0.01	0.06	3.08	0.01	98.21	M1 gnt
25	41.44	21.01	13.73	0.53	15.69	5.53	0.01	0.04	2.93	0.02	100.94	M1 gnt
26	40.57	20.26	14.09	0.52	14.76	5.58	0.00	0.06	3.00	0.00	98.85	M1 gnt
27	40.13	20.37	13.78	0.54	15.03	5.57	0.00	0.05	3.04	0.04	98.55	M1 gnt
28	40.40	20.52	13.99	0.54	15.23	5.53	0.00	0.05	3.07	0.00	99.33	M1 gnt
29	40.76	20.81	13.65	0.53	15.26	5.65	0.00	0.07	2.96	0.00	99.70	M1 gnt
30	40.53	20.49	13.59	0.53	15.17	5.58	0.02	0.05	2.88	0.04	98.88	M1 gnt

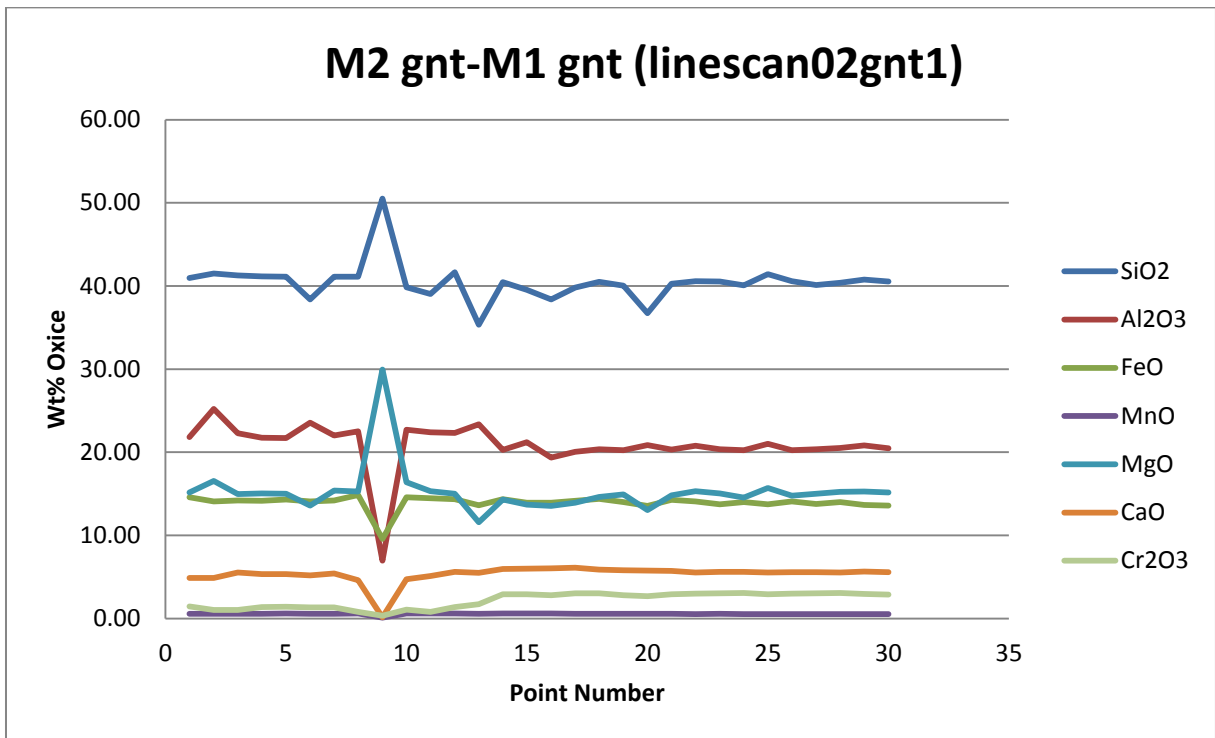


Figure A9. A linescan through a M1 and M2 garnet crystal in sample 2. The location is indicated in Fig. A3. For the EMP analyses of each individual point see the table above.

O2gnt2	Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	40.65	20.41	14.49	0.59	14.90	5.51	0.01	0.06	2.96	0.02	99.61
2	40.84	20.54	14.08	0.54	15.13	5.57	0.00	0.06	2.84	0.00	99.59
3	40.96	20.43	13.68	0.54	15.41	5.64	0.01	0.09	2.97	0.02	99.76
4	41.03	20.47	13.53	0.51	15.70	5.68	0.00	0.07	3.06	0.00	100.05
5	40.76	20.45	13.53	0.52	15.72	5.55	0.00	0.07	2.98	0.00	99.57
6	41.13	20.43	13.33	0.50	16.10	5.59	0.00	0.06	3.01	0.00	100.17
7	41.03	20.47	12.92	0.48	15.87	5.62	0.03	0.06	3.03	0.00	99.51
8	41.12	20.43	13.17	0.47	16.04	5.64	0.01	0.09	3.04	0.00	100.01
9	40.95	20.42	13.09	0.49	16.05	5.56	0.03	0.06	3.02	0.00	99.67
10	40.98	20.45	12.96	0.48	16.06	5.60	0.02	0.08	3.02	0.00	99.65
11	41.03	20.38	13.13	0.50	16.22	5.65	0.01	0.08	3.09	0.00	100.08
12	40.89	20.50	13.21	0.51	16.08	5.70	0.01	0.09	3.10	0.00	100.08
13	40.88	20.36	12.87	0.48	15.89	5.66	0.00	0.05	3.06	0.01	99.27
14	40.81	20.47	12.94	0.48	15.82	5.68	0.01	0.08	3.12	0.00	99.40
15	40.97	20.25	13.12	0.49	15.73	5.60	0.00	0.08	3.11	0.00	99.35
16	40.79	20.29	12.88	0.47	15.71	5.67	0.02	0.09	3.08	0.00	99.00
17	40.60	20.43	12.73	0.46	15.78	5.59	0.02	0.09	3.08	0.00	98.79
18	40.85	20.45	12.75	0.45	15.90	5.65	0.02	0.06	3.05	0.04	99.22
19	40.14	20.41	12.90	0.48	15.68	5.69	0.00	0.08	2.96	0.00	98.34
20	40.60	20.41	12.88	0.47	15.75	5.62	0.01	0.10	2.97	0.00	98.81
21	40.61	20.43	12.99	0.47	16.00	5.60	0.02	0.10	3.00	0.00	99.24
22	40.92	20.51	12.92	0.49	16.01	5.61	0.02	0.09	2.98	0.00	99.55
23	40.80	20.36	13.06	0.47	15.83	5.65	0.01	0.06	2.97	0.00	99.22
24	41.07	20.51	12.86	0.44	15.84	5.61	0.00	0.10	2.97	0.01	99.42
25	40.84	20.52	12.88	0.48	15.81	5.61	0.00	0.07	2.97	0.02	99.21
26	40.84	20.44	12.74	0.48	15.65	5.61	0.02	0.09	2.99	0.00	98.87
27	41.06	20.52	12.83	0.46	15.81	5.61	0.01	0.06	2.94	0.00	99.31
28	40.95	20.49	12.93	0.45	15.76	5.55	0.01	0.07	2.94	0.01	99.16
29	40.90	20.41	12.92	0.45	15.70	5.67	0.02	0.05	2.97	0.02	99.15
30	40.99	20.42	13.00	0.48	15.95	5.66	0.01	0.10	3.05	0.00	99.67
31	40.87	20.59	13.12	0.47	15.94	5.57	0.00	0.07	3.03	0.00	99.67
32	41.01	20.46	12.71	0.49	16.01	5.59	0.01	0.08	2.99	0.02	99.37
33	41.42	20.16	12.86	0.47	16.63	5.39	0.01	0.07	2.90	0.04	99.95
34	40.87	20.51	13.12	0.47	16.19	5.54	0.00	0.07	2.91	0.00	99.69
35	41.03	20.51	12.97	0.47	16.13	5.64	0.01	0.09	2.98	0.01	99.83
36	40.85	20.51	12.69	0.48	16.04	5.61	0.03	0.07	2.88	0.00	99.15
37	41.04	20.44	12.93	0.49	16.05	5.60	0.02	0.08	2.98	0.04	99.67
38	41.09	20.36	12.86	0.47	15.83	5.67	0.00	0.09	2.94	0.00	99.31
39	41.04	20.60	13.27	0.46	15.72	5.56	0.02	0.08	2.92	0.07	99.74
40	40.76	20.52	13.17	0.48	15.78	5.57	0.01	0.09	2.93	0.00	99.30

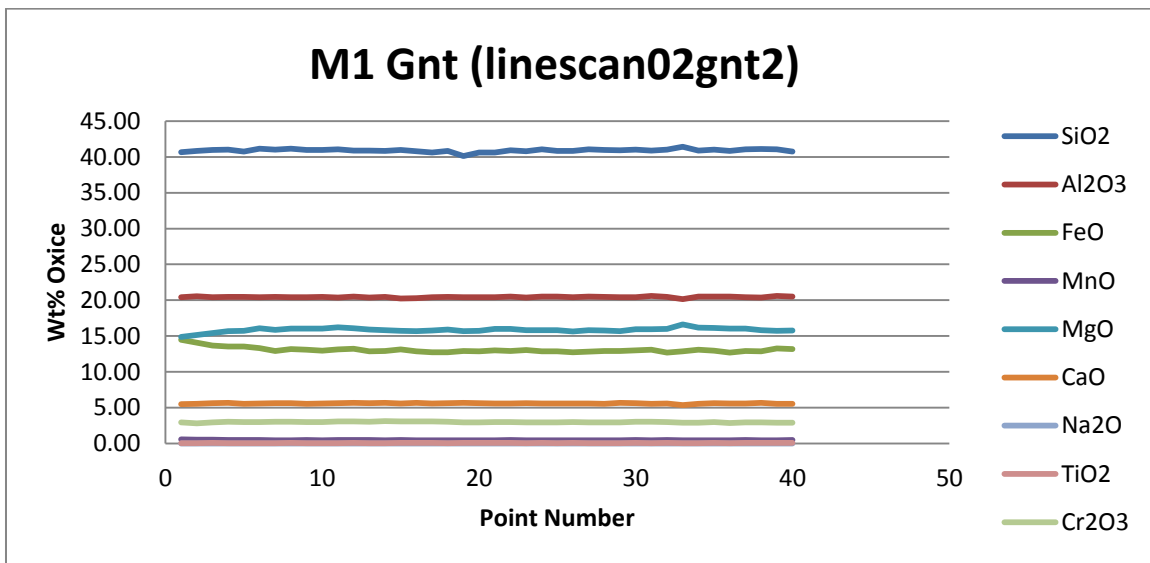


Figure A10. A linescan through a M1 garnet crystal in sample 2. The location is indicated in Fig. A1. For the EMP analyses of each individual point see the table above.

02gnt3	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	40.25	20.38	14.16	0.56	15.03	5.66	0.00	0.06	2.96	0.03	99.10	
2	40.37	20.23	13.79	0.52	15.31	5.53	0.03	0.07	3.01	0.00	98.87	
3	36.02	20.79	13.15	0.45	14.14	5.33	0.07	0.09	2.89	0.00	92.93	Crack
4	40.56	20.31	13.33	0.49	15.68	5.47	0.02	0.08	3.04	0.00	98.98	
5	40.09	20.09	13.25	0.49	15.29	5.62	0.00	0.08	3.10	0.01	98.01	
6	37.16	18.97	12.83	0.47	14.48	5.66	0.04	0.06	2.99	0.00	92.66	Crack
7	40.33	20.27	12.96	0.50	14.94	5.62	0.01	0.07	2.90	0.00	97.59	
8	39.02	22.52	12.74	0.45	14.94	5.31	0.03	0.07	2.72	0.01	97.80	
9	39.36	22.71	12.61	0.47	15.16	5.40	0.01	0.09	2.85	0.00	98.66	
10	38.98	21.91	12.45	0.45	15.69	5.46	0.03	0.08	2.75	0.00	97.80	Crack
11	41.85	21.07	12.67	0.47	16.20	5.51	0.01	0.07	2.98	0.02	100.85	
12	40.54	20.53	12.78	0.47	15.69	5.61	0.01	0.10	2.88	0.00	98.61	
13	40.57	20.34	12.97	0.47	15.75	5.60	0.02	0.05	2.97	0.02	98.76	
14	38.86	20.40	12.80	0.47	14.80	5.62	0.02	0.07	2.91	0.00	95.96	
15	39.55	20.34	12.53	0.45	15.28	5.58	0.02	0.07	2.94	0.00	96.76	
16	42.12	21.30	12.56	0.47	16.09	5.52	0.00	0.08	2.97	0.00	101.10	Crack
17	40.90	20.56	13.04	0.48	16.05	5.63	0.00	0.08	2.95	0.01	99.70	
18	40.61	20.28	12.88	0.52	16.03	5.60	0.00	0.08	2.97	0.00	98.97	
19	39.30	20.79	12.82	0.49	15.08	5.53	0.00	0.10	2.89	0.01	97.01	
20	40.60	20.49	12.95	0.49	15.96	5.51	0.01	0.10	3.00	0.02	99.12	
21	39.60	19.89	12.66	0.47	15.08	5.56	0.01	0.09	3.02	0.00	96.38	
22	40.69	20.36	13.05	0.49	15.48	5.58	0.00	0.09	2.98	0.01	98.73	
23	40.94	20.43	12.83	0.48	15.41	5.64	0.02	0.08	2.98	0.00	98.81	
24	40.94	20.63	13.00	0.49	15.39	5.60	0.00	0.08	2.98	0.01	99.11	
25	40.68	20.36	12.85	0.46	15.50	5.55	0.01	0.06	2.98	0.00	98.45	
26	39.32	19.58	12.92	0.46	15.11	5.57	0.00	0.10	2.93	0.00	96.00	Crack
27	40.95	20.65	12.91	0.50	15.30	5.54	0.02	0.06	2.95	0.02	98.90	
28	38.29	24.58	12.51	0.49	14.69	5.17	0.06	0.08	2.82	0.00	98.69	
29	40.17	20.17	13.51	0.50	15.36	5.56	0.00	0.06	3.03	0.02	98.38	Crack
30	40.59	20.24	13.54	0.54	15.20	5.43	0.01	0.06	2.95	0.00	98.56	

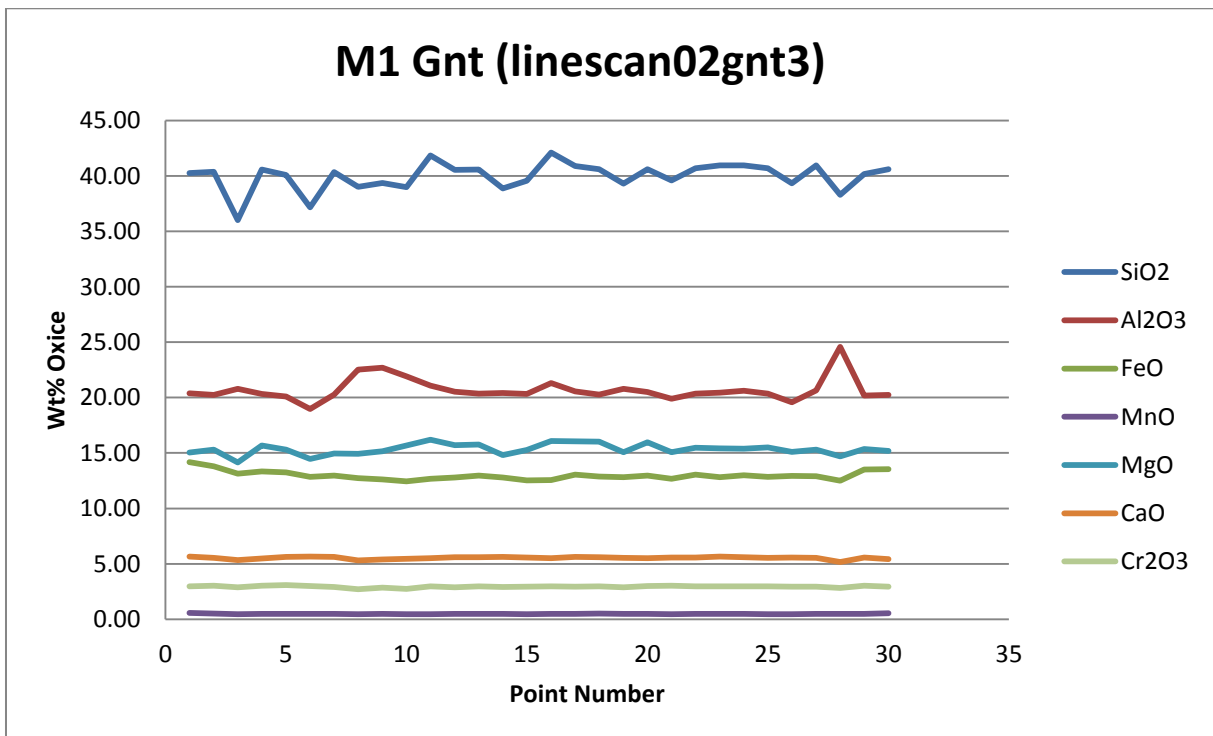


Figure A11. A linescan through a M1 garnet crystal in sample 2. The location is indicated in Fig. A1. For the EMP analyses of each individual point see the table above.

02opx1	Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	56.64	0.86	8.52	0.10	32.94	0.12	0.00	0.03	0.10	0.13	99.42
2	56.87	0.47	8.24	0.12	33.04	0.12	0.02	0.03	0.09	0.11	99.11
3	57.18	0.36	8.43	0.10	33.16	0.12	0.01	0.02	0.07	0.12	99.56
4	56.85	0.35	8.18	0.12	32.84	0.11	0.00	0.00	0.06	0.14	98.64
5	56.88	0.34	8.07	0.08	32.69	0.10	0.00	0.02	0.08	0.13	98.39
6	57.09	0.34	8.20	0.08	32.56	0.10	0.01	0.05	0.06	0.14	98.63
7	57.18	0.34	8.35	0.10	32.57	0.13	0.00	0.02	0.04	0.16	98.88
8	56.84	0.36	8.30	0.08	32.48	0.11	0.01	0.01	0.06	0.15	98.40
9	56.93	0.35	8.37	0.12	32.97	0.09	0.00	0.05	0.04	0.09	99.02
10	57.23	0.31	8.14	0.11	33.19	0.10	0.00	0.03	0.08	0.16	99.34
11	56.91	0.31	8.22	0.10	33.45	0.09	0.00	0.03	0.06	0.08	99.25
12	57.24	0.35	8.28	0.09	33.40	0.10	0.01	0.01	0.05	0.13	99.66
13	57.11	0.35	8.33	0.09	33.42	0.10	0.01	0.02	0.08	0.11	99.62
14	57.11	0.47	8.56	0.09	33.43	0.11	0.00	0.02	0.07	0.18	100.04
15	56.56	0.70	8.67	0.10	33.01	0.12	0.00	0.03	0.08	0.16	99.43

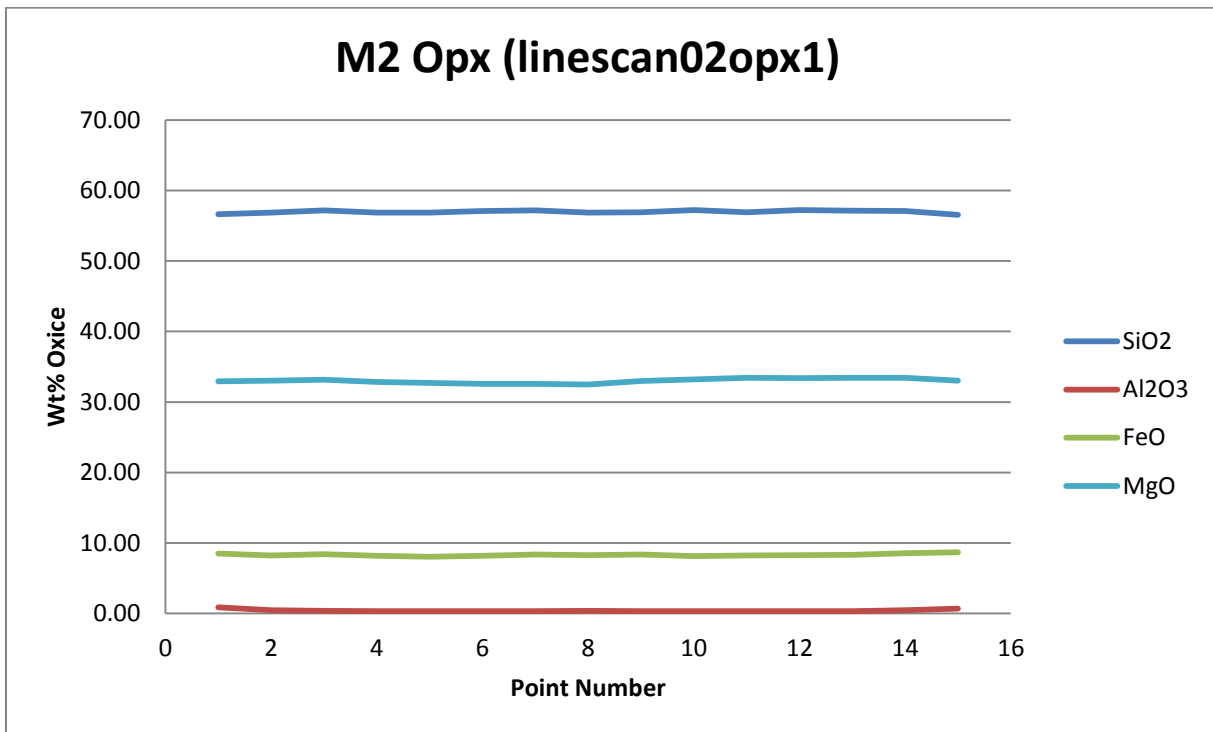


Figure A12. A linescan through a M2 orthopyroxene crystal in sample 2. The location is indicated in Fig. A3. For the EMP analyses of each individual point see the table above.

02opx2	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	56.29	0.53	8.44	0.06	32.80	0.12	0.00	0.05	0.09	0.13	98.52	
2	56.56	0.56	8.39	0.10	33.05	0.13	0.00	0.03	0.08	0.11	99.01	
3	56.76	0.53	8.24	0.10	33.40	0.10	0.00	0.04	0.08	0.12	99.36	
4	56.85	0.48	8.06	0.10	33.47	0.14	0.01	0.05	0.08	0.07	99.32	
5	56.80	0.52	8.33	0.10	33.36	0.14	0.02	0.03	0.08	0.09	99.47	
6	56.88	0.61	8.33	0.08	33.74	0.11	0.01	0.01	0.10	0.11	99.98	
7	56.20	0.72	8.18	0.09	33.01	0.13	0.00	0.02	0.10	0.18	98.64	
8	56.77	0.57	8.24	0.09	33.34	0.10	0.00	0.01	0.11	0.11	99.35	
9	57.24	0.63	8.39	0.09	33.20	0.13	0.00	0.02	0.13	0.14	99.96	
10	54.74	2.02	7.63	0.07	31.31	1.28	0.18	0.04	0.22	0.18	97.67	Crack
11	56.90	0.56	8.11	0.08	33.02	0.14	0.00	0.03	0.10	0.14	99.07	
12	56.53	0.56	8.20	0.10	33.02	0.12	0.00	0.04	0.10	0.13	98.79	
13	56.74	0.59	8.18	0.09	33.20	0.12	0.01	0.03	0.11	0.14	99.20	
14	56.90	0.62	8.23	0.08	33.36	0.13	0.00	0.05	0.11	0.16	99.65	
15	56.96	0.54	8.12	0.10	33.61	0.12	0.00	0.04	0.08	0.12	99.68	
16	56.98	0.71	8.12	0.11	33.82	0.12	0.02	0.02	0.14	0.15	100.18	
17	56.58	0.62	8.24	0.08	33.42	0.10	0.00	0.04	0.12	0.10	99.28	
18	55.30	0.60	7.92	0.10	31.20	0.43	0.00	0.02	0.14	0.12	95.84	Crack
19	56.72	0.62	7.97	0.10	32.94	0.13	0.00	0.06	0.11	0.15	98.82	
20	55.96	1.52	7.85	0.11	32.43	0.21	0.00	0.05	0.11	0.16	98.41	
21	56.44	0.62	8.26	0.10	32.37	0.12	0.00	0.02	0.10	0.11	98.15	
22	55.88	0.59	7.90	0.10	31.84	0.13	0.00	0.04	0.12	0.17	96.76	
23	54.44	0.69	8.08	0.11	30.99	0.14	0.00	0.03	0.13	0.10	94.71	Crack
24	50.32	0.69	8.00	0.10	29.17	0.12	0.01	0.03	0.13	0.13	88.68	Crack
25	53.11	0.66	7.96	0.09	31.01	0.12	0.01	0.06	0.14	0.15	93.33	Crack
26	56.00	0.65	8.18	0.09	32.79	0.13	0.00	0.04	0.12	0.08	98.08	
27	56.14	0.65	8.27	0.11	33.08	0.12	0.02	0.03	0.14	0.13	98.69	
28	56.40	0.64	8.11	0.09	33.34	0.13	0.01	0.03	0.12	0.10	98.99	
29	56.87	0.67	8.17	0.09	33.42	0.11	0.00	0.03	0.12	0.17	99.67	
30	56.68	0.64	8.26	0.09	33.30	0.12	0.00	0.02	0.12	0.13	99.36	

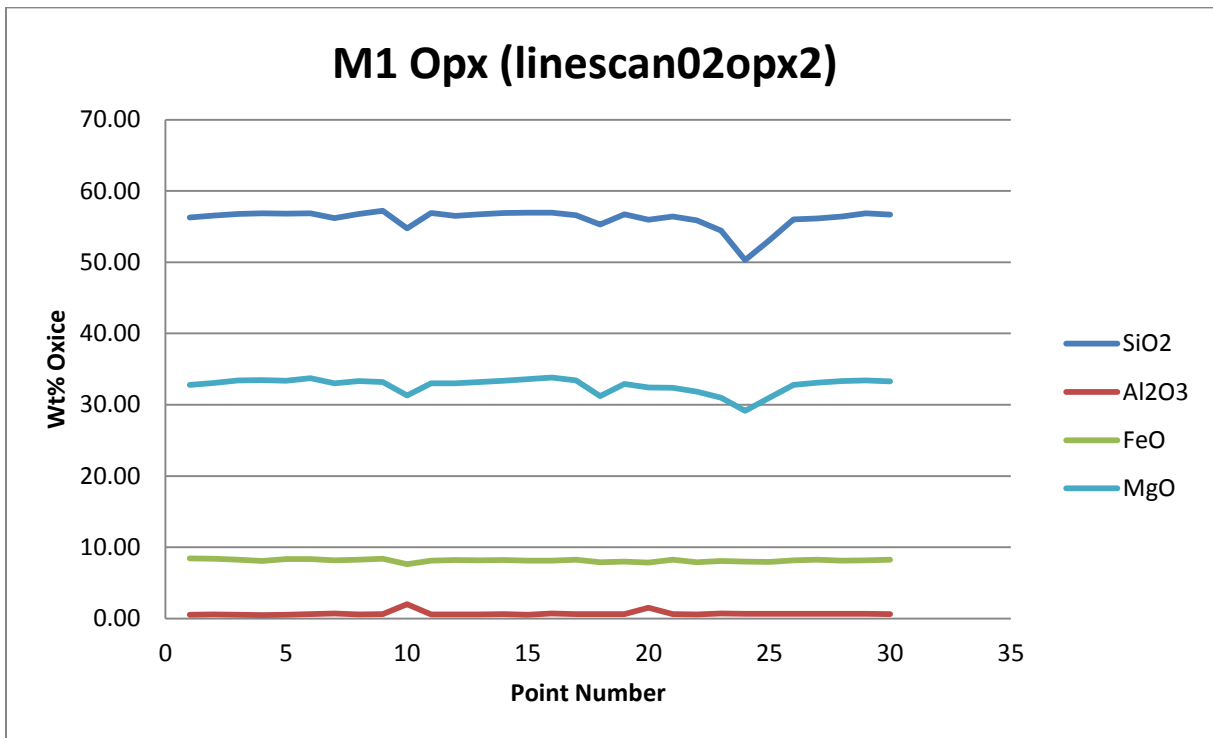


Figure A13. A linescan through a M1 orthopyroxene crystal in sample 2. The location is indicated in Fig. A1. For the EMP analyses of each individual point see the table above.

02opx3												Compound wt%	
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	56.81	0.49	7.98	0.09	32.81	0.14	0.00	0.04	0.05	0.13	98.55		
2	56.44	0.45	8.03	0.10	32.73	0.11	0.00	0.00	0.09	0.11	98.06		
3	55.87	0.44	7.99	0.09	32.92	0.12	0.01	0.03	0.06	0.11	97.64		
4	54.02	0.59	7.96	0.08	31.82	0.12	0.00	0.02	0.12	0.11	94.84		
5	52.41	0.89	8.05	0.08	30.53	0.14	0.00	0.03	0.12	0.10	92.36	Crack	
6	53.83	0.66	8.11	0.08	31.88	0.14	0.00	0.03	0.14	0.16	95.04		
7	55.14	0.77	8.13	0.08	31.69	0.17	0.01	0.07	0.14	0.09	96.28		
8	56.02	0.79	8.13	0.10	31.76	0.16	0.01	0.06	0.17	0.09	97.29		
9	52.66	5.00	7.92	0.09	28.92	0.39	0.01	0.03	0.17	0.12	95.31	Crack	
10	56.23	0.79	8.10	0.08	31.78	0.17	0.01	0.04	0.14	0.14	97.47		
11	56.07	0.82	8.08	0.08	31.35	0.18	0.00	0.03	0.16	0.15	96.92		
12	55.93	0.69	8.01	0.11	31.18	0.14	0.00	0.02	0.14	0.12	96.35		
13	56.62	0.45	8.00	0.12	31.44	0.10	0.00	0.03	0.12	0.11	96.99		
14	56.36	0.52	8.33	0.09	32.01	0.12	0.01	0.02	0.11	0.16	97.72		
15	56.59	0.58	8.50	0.11	32.36	0.12	0.00	0.03	0.07	0.16	98.50		
16	56.43	0.57	8.20	0.07	33.02	0.14	0.00	0.01	0.08	0.16	98.68		

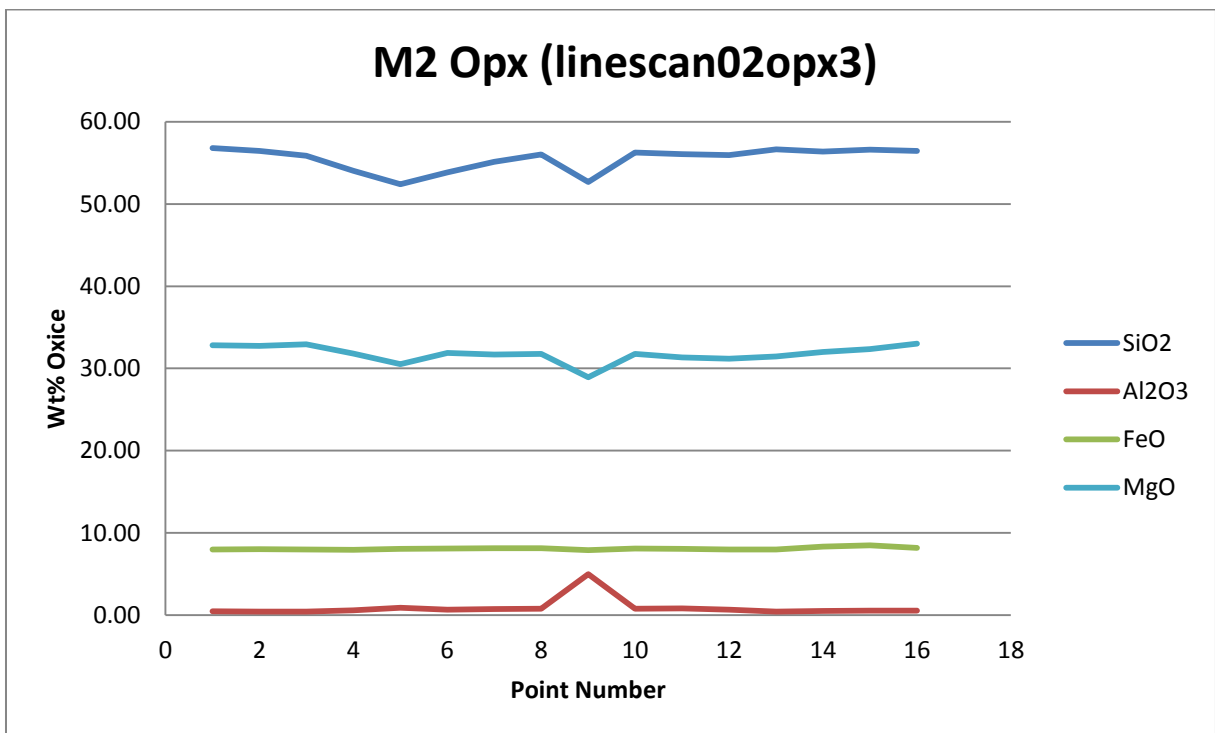


Figure A14. A linescan through a M2 orthopyroxene crystal in sample 2. The location is indicated in Fig. A5. For the EMP analyses of each individual point see the table above.

02ol1		Compound wt%							
point#	SiO2	MgO	CaO	FeO	MnO	Cr2O3	NiO	Sum	Comments
1	40.45	47.32	0.02	12.11	0.07	0.01	0.73	100.72	
2	32.84	37.35	0.16	11.68	0.05	0.01	0.70	82.79	Crack
3	34.15	36.59	0.13	11.81	0.07	0.00	0.71	83.45	Crack
4	38.52	44.65	0.02	12.22	0.07	0.00	0.68	96.16	
5	39.87	46.13	0.00	12.07	0.10	0.01	0.72	98.90	
6	40.60	49.13	0.02	12.21	0.06	0.00	0.74	102.75	
7	40.16	45.18	0.01	12.20	0.06	0.00	0.62	98.24	
8	37.89	48.89	0.11	11.87	0.05	0.00	0.74	99.54	
9	38.60	43.85	0.06	12.18	0.08	0.00	0.76	95.55	
10	41.86	44.17	0.00	11.88	0.05	0.00	0.78	98.74	
11	39.69	46.27	0.09	11.96	0.04	0.01	0.72	98.78	
12	33.45	34.23	0.14	11.84	0.08	0.02	0.67	80.43	Crack
13	39.57	45.60	0.01	12.27	0.07	0.00	0.72	98.24	
14	40.18	48.31	0.11	11.78	0.07	0.00	0.66	101.11	
15	40.76	45.42	0.04	12.13	0.06	0.00	0.71	99.12	
16	39.58	45.91	0.00	12.23	0.07	0.00	0.74	98.52	

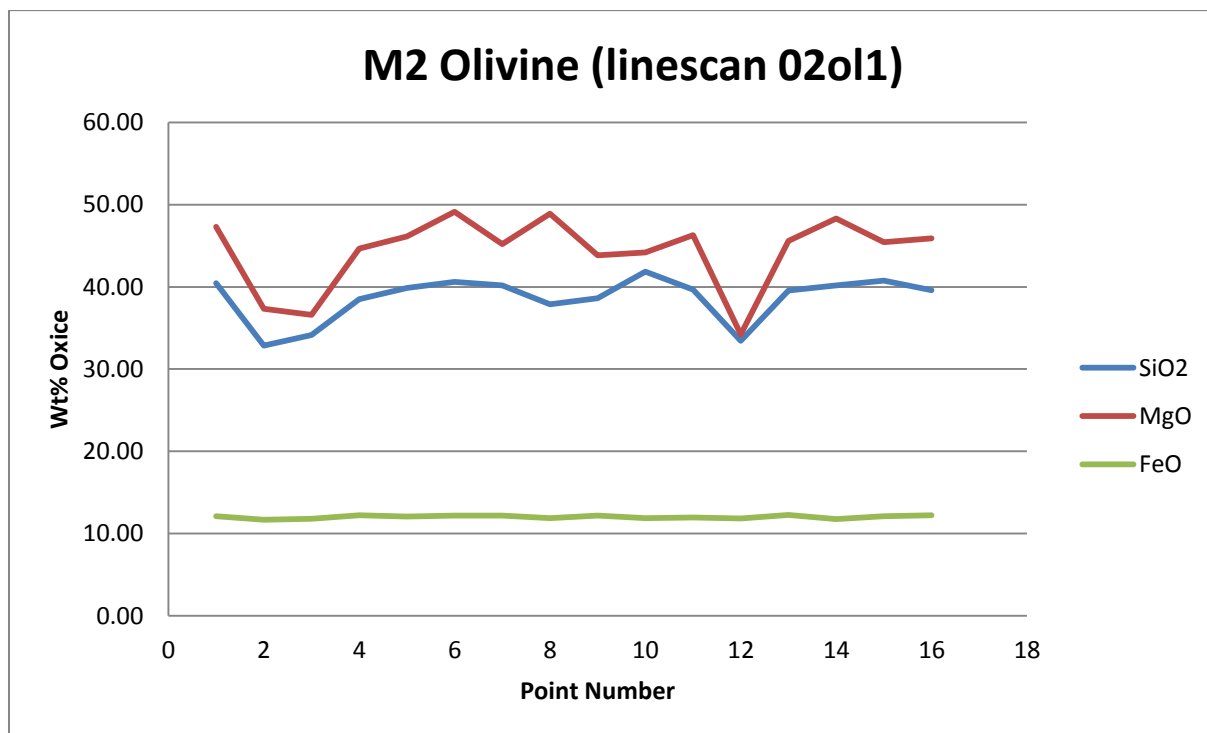


Figure A15. A linescan through a M2 olivine crystal in sample 2. The location is indicated in Fig. A5. For the EMP analyses of each individual point see the table above.

## Chapter 2. Linescan data and locations in sample 4

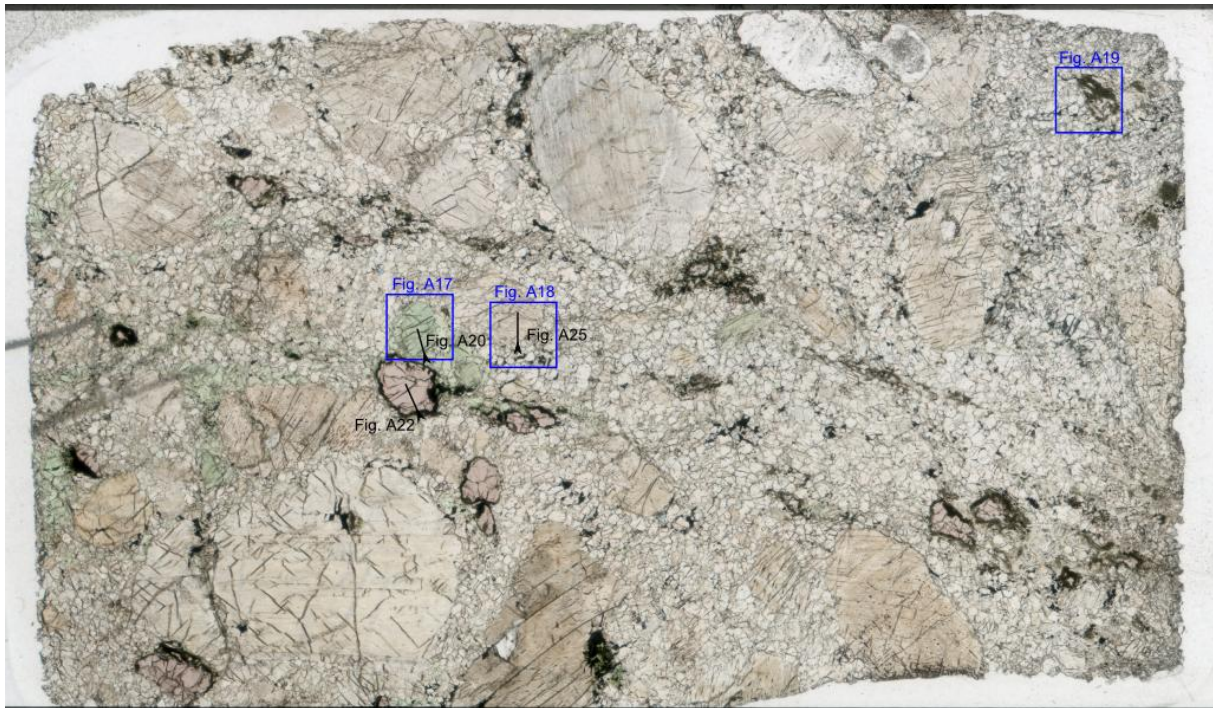


Figure A16. PPL Overview of a thin section made of sample 4 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

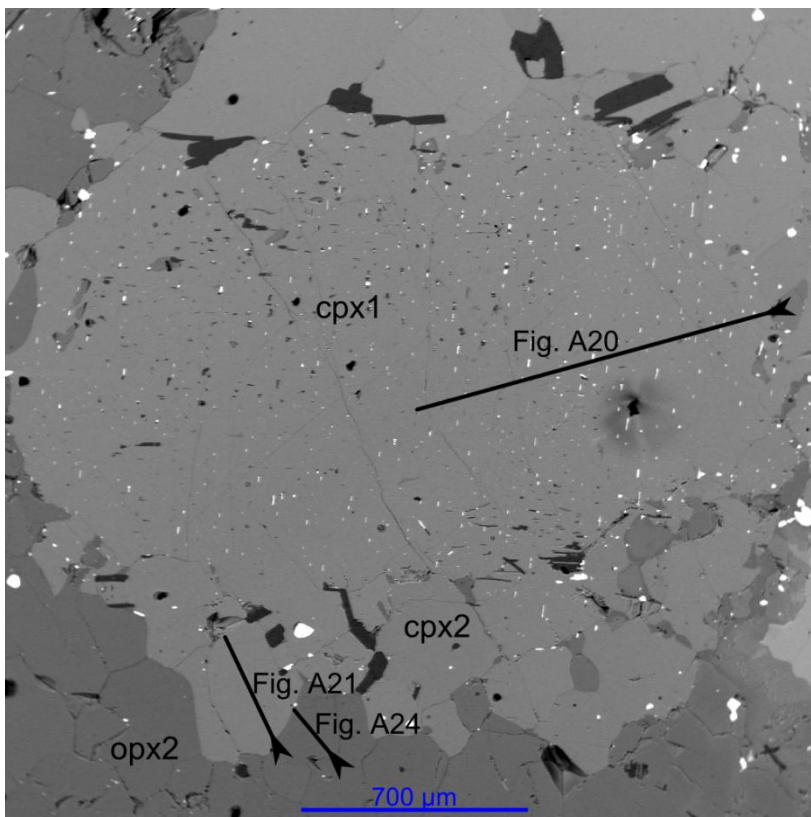


Figure A17. BSE image (sample 4) showing a M1 clinopyroxene porphyroblast with exsolution lamellae of spinel, surrounded by M2 orthopyroxene and recrystallizing into M2 clinopyroxene. The locations of the linescans illustrated in Figure A20, A21 and A24 are indicated.



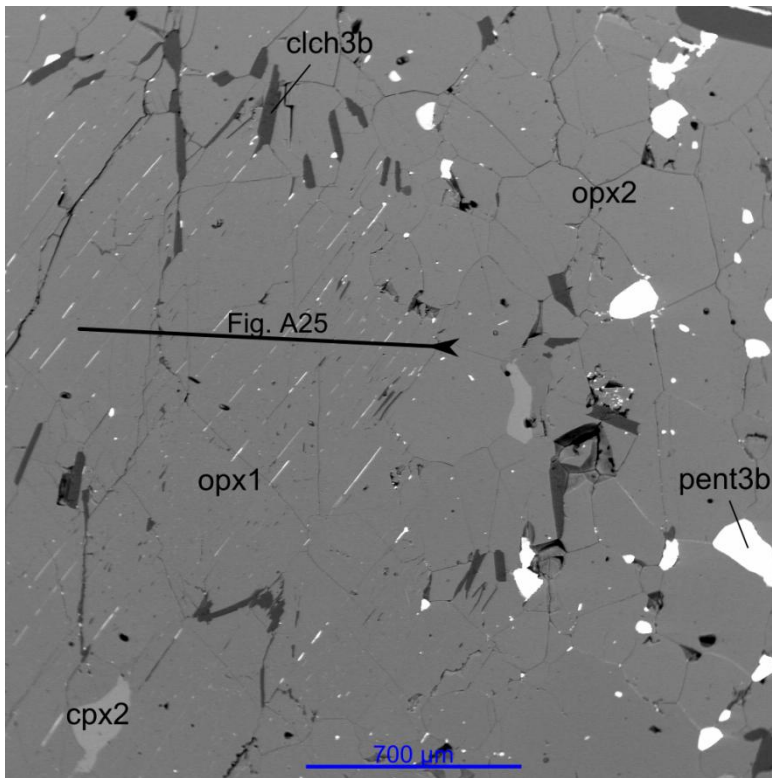


Figure A18. BSE image (sample 4) showing a M1 orthopyroxene porphyroclast surrounded by a recrystallized matrix of M2 orthopyroxene infiltrated by M3b pentlandite and clinocllore. The location of the linescan illustrated in Figure A25 is indicated.

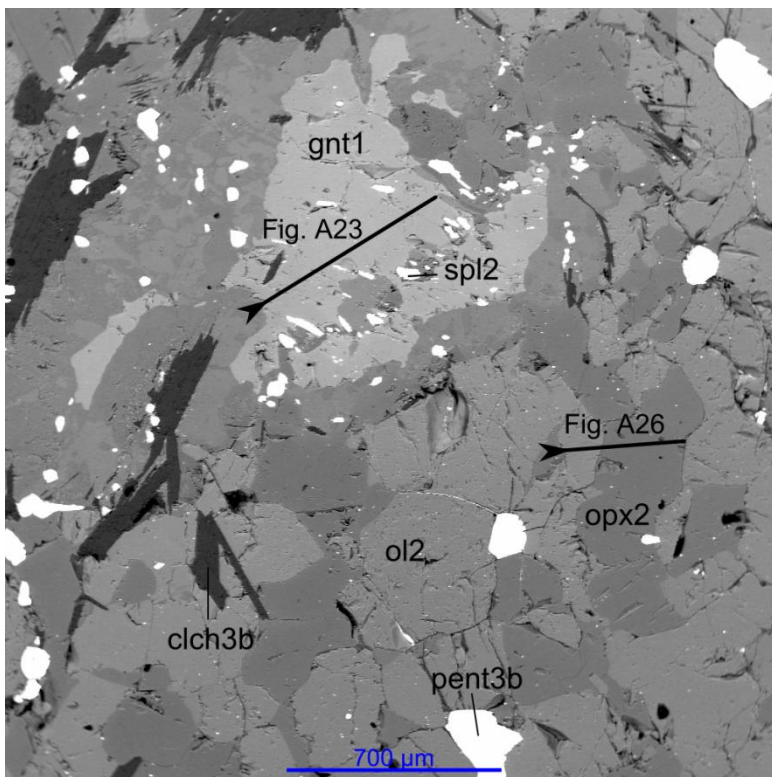


Figure A19. BSE image (sample 4) showing a M1 garnet porphyroclast, surrounded by a matrix of recrystallized M2 olivine and M2 orthopyroxene infiltrated by M3b clinocllore and M3b pentlandite. The locations of the linescans illustrated in Figure A23 and A26 are indicated.

Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	53.69	0.65	2.50	0.10	16.81	24.14	0.31	0.02	0.42	0.04	98.67	
2	53.42	0.95	2.66	0.07	16.27	23.38	0.75	0.04	0.67	0.06	98.25	
3	53.60	0.94	2.53	0.05	15.03	23.48	0.74	0.04	0.65	0.04	97.11	
4	6.34	13.05	33.92	0.85	6.55	2.06	0.05	0.47	36.36	0.14	99.79	Spinel
5	53.72	0.87	2.52	0.06	15.85	23.66	0.59	0.05	0.54	0.05	97.90	
6	54.01	0.92	2.64	0.04	16.06	23.66	0.69	0.04	0.60	0.05	98.71	
7	53.85	0.76	2.43	0.07	16.53	23.94	0.46	0.04	0.58	0.04	98.70	
8	54.02	0.87	2.49	0.08	16.62	23.69	0.59	0.03	0.60	0.06	99.05	
9	54.21	0.89	2.58	0.07	16.56	23.49	0.61	0.03	0.61	0.04	99.08	
10	54.23	0.80	2.52	0.07	16.88	23.83	0.46	0.03	0.48	0.02	99.33	
11	53.94	0.87	2.48	0.05	16.75	23.81	0.53	0.05	0.68	0.05	99.19	
12	54.17	0.83	2.49	0.05	16.61	23.77	0.58	0.02	0.53	0.06	99.12	
13	54.07	0.92	2.61	0.09	16.69	23.59	0.59	0.04	0.63	0.03	99.25	
14	53.80	0.78	2.60	0.07	15.48	23.85	0.50	0.04	0.55	0.07	97.74	
15	53.86	0.71	2.66	0.07	15.67	23.87	0.49	0.05	0.48	0.02	97.87	
16	53.96	0.65	2.52	0.06	16.06	24.11	0.37	0.02	0.39	0.05	98.19	
17	54.17	0.41	2.16	0.06	16.69	24.72	0.11	0.05	0.11	0.01	98.48	
18	53.97	0.82	2.47	0.05	16.47	23.87	0.52	0.04	0.51	0.04	98.75	
19	53.20	2.18	2.39	0.05	16.56	23.66	0.32	0.02	0.40	0.05	98.84	
20	51.40	1.09	2.85	0.06	16.24	22.41	0.53	0.06	0.82	0.01	95.47	Crack
21	53.86	0.85	2.48	0.07	16.67	23.90	0.47	0.06	0.55	0.08	98.99	
22	54.03	0.92	2.50	0.06	16.59	23.63	0.71	0.03	0.65	0.01	99.12	
23	53.91	0.99	2.48	0.04	16.40	23.36	0.73	0.04	0.66	0.03	98.63	
24	53.86	0.90	2.52	0.07	16.62	23.66	0.56	0.04	0.61	0.01	98.85	
25	53.94	1.03	2.59	0.06	16.62	23.41	0.61	0.05	0.58	0.08	98.96	
26	53.89	1.13	2.43	0.04	16.44	23.26	0.75	0.04	0.69	0.03	98.72	
27	54.17	0.98	2.40	0.05	16.42	23.36	0.76	0.02	0.70	0.04	98.91	
28	53.93	0.97	2.41	0.07	16.60	23.48	0.66	0.03	0.71	0.03	98.89	
29	53.84	0.88	2.39	0.06	16.70	23.78	0.52	0.05	0.52	0.04	98.78	
30	53.72	1.02	2.59	0.04	15.19	23.45	0.73	0.02	0.70	0.05	97.50	

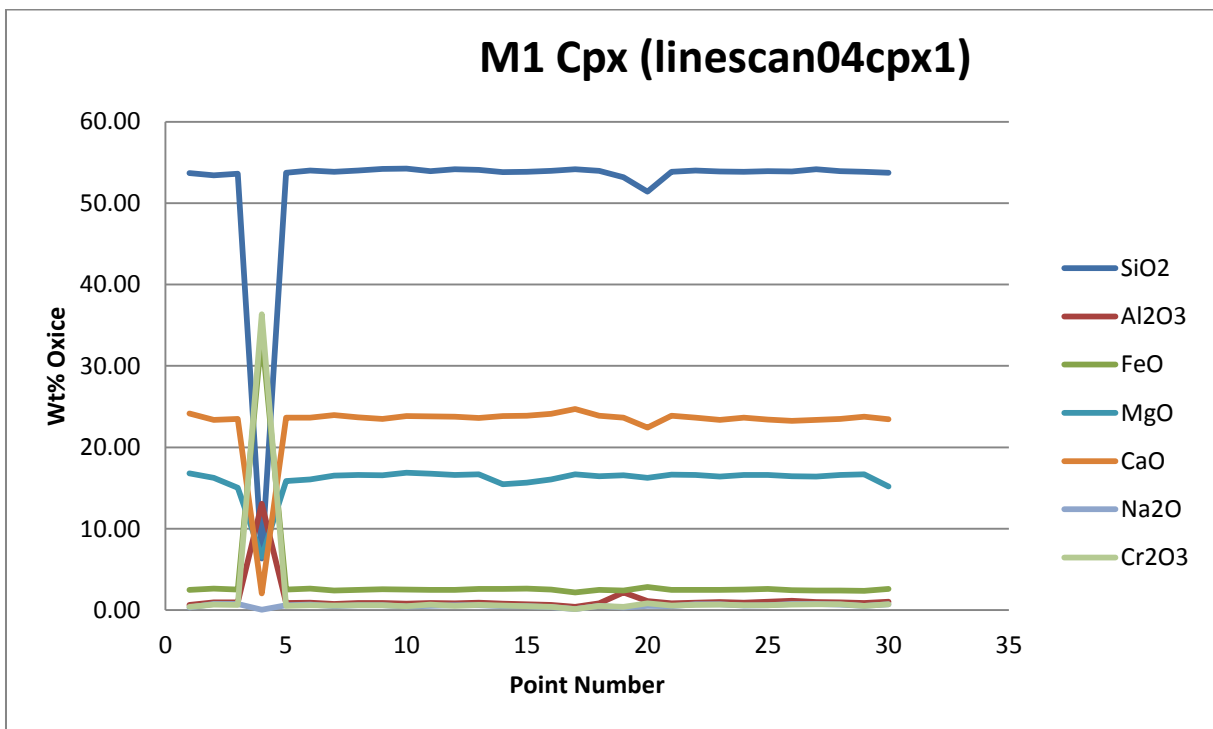


Figure A20. A linescan through a M1 clinopyroxene crystal in sample 4. The location is indicated in Fig. A16 and Fig. A17. For the EMP analyses of each individual point see the table above.

04cpx2		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	53.81	0.57	2.48	0.04	16.04	24.35	0.23	0.03	0.16	0.02	97.73	
2	53.87	0.66	2.50	0.06	16.34	24.28	0.33	0.03	0.20	0.03	98.30	
3	54.25	0.82	2.61	0.07	16.04	23.53	0.69	0.02	0.35	0.04	98.44	
4	54.10	0.93	2.60	0.07	16.11	23.43	0.84	0.04	0.50	0.03	98.65	
5	53.93	0.92	2.58	0.05	16.04	23.40	0.85	0.03	0.50	0.04	98.34	
6	54.03	0.89	2.50	0.08	16.20	23.19	0.86	0.01	0.54	0.05	98.35	
7	54.07	0.89	2.89	0.04	16.32	23.26	0.88	0.03	0.55	0.07	99.00	
8	53.96	0.88	2.48	0.06	16.45	23.41	0.87	0.03	0.48	0.07	98.68	
9	52.74	0.87	2.64	0.05	16.08	23.28	0.86	0.03	0.46	0.04	97.04	
10	48.40	0.86	2.76	0.05	14.94	23.40	0.84	0.03	0.40	0.03	91.70	Crack
11	49.35	0.87	2.57	0.09	15.24	23.40	0.78	0.03	0.38	0.01	92.72	Crack
12	52.31	0.79	2.57	0.04	16.27	23.53	0.69	0.05	0.37	0.05	96.68	Crack
13	53.77	0.77	2.50	0.05	16.07	23.66	0.64	0.03	0.35	0.04	97.88	
14	53.34	1.07	2.57	0.07	16.08	22.30	0.57	0.03	0.33	0.04	96.40	
15	53.91	0.73	2.41	0.06	16.24	23.88	0.57	0.05	0.32	0.04	98.21	
16	54.04	0.70	2.47	0.05	16.24	23.75	0.55	0.05	0.30	0.02	98.16	
17	53.93	0.67	2.46	0.06	16.70	23.93	0.49	0.04	0.29	0.04	98.60	
18	54.07	0.62	2.33	0.05	16.91	24.21	0.40	0.04	0.25	0.02	98.90	
19	53.90	0.64	2.39	0.06	17.04	24.26	0.33	0.04	0.24	0.09	98.99	
20	53.82	0.67	2.48	0.07	17.07	24.28	0.35	0.06	0.27	0.05	99.12	

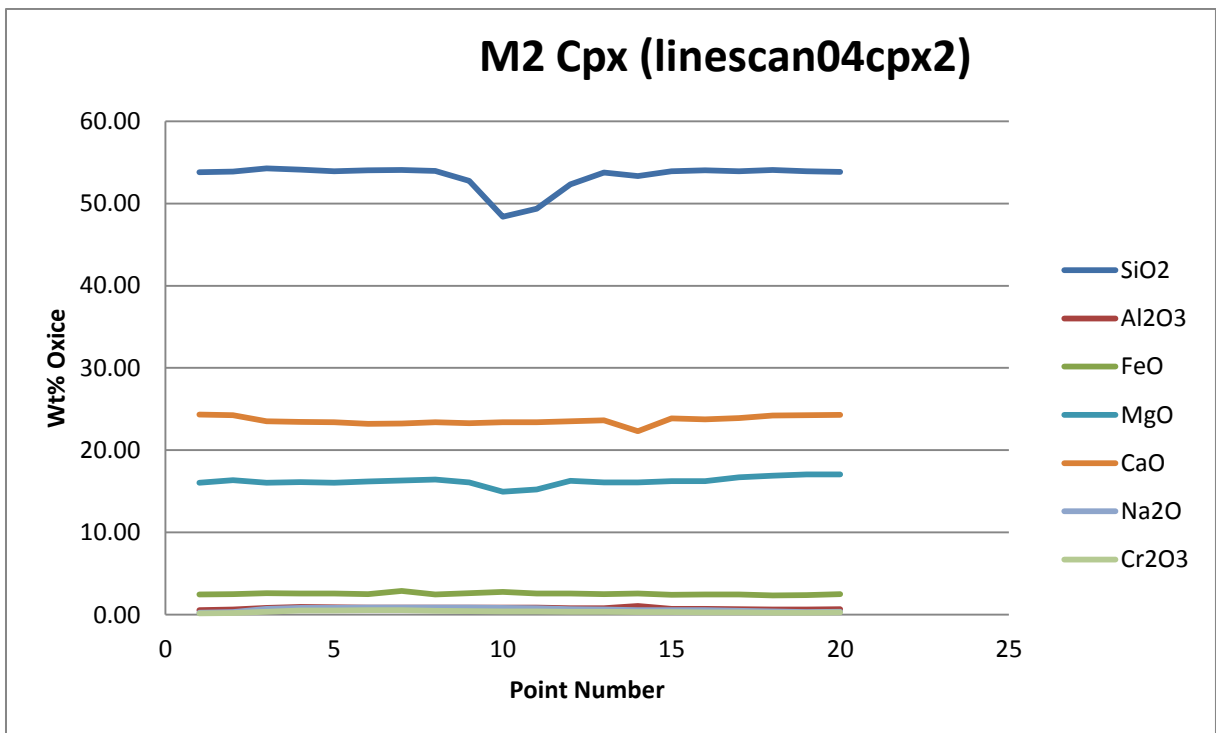


Figure A21. A linescan through a M2 clinopyroxene crystal in sample 4. The location is indicated in Fig. A17. For the EMP analyses of each individual point see the table above.

04gnt1												Comments
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	
1	40.50	20.32	15.36	0.59	14.30	5.77	0.00	0.05	3.09	0.01	100.00	
2	40.49	20.31	15.10	0.61	14.66	5.68	0.02	0.07	3.05	0.00	99.99	
3	41.10	20.73	15.09	0.58	14.88	5.75	0.00	0.08	3.03	0.00	101.24	
4	40.47	20.40	14.81	0.60	14.66	5.71	0.03	0.08	3.13	0.00	99.89	
5	40.52	20.36	14.78	0.57	14.68	5.72	0.01	0.07	3.12	0.00	99.83	
6	40.78	20.42	14.41	0.61	14.81	5.73	0.00	0.07	2.98	0.00	99.80	
7	40.55	20.11	14.61	0.58	12.60	5.73	0.02	0.07	3.07	0.04	97.36	Crack
8	42.86	22.02	14.59	0.60	14.16	5.51	0.02	0.06	2.98	0.00	102.81	Crack
9	40.48	20.20	14.40	0.59	13.15	5.70	0.00	0.05	3.05	0.00	97.62	
10	40.57	20.21	14.23	0.60	13.29	5.67	0.00	0.07	3.01	0.00	97.66	
11	40.44	20.34	14.73	0.61	13.17	5.68	0.02	0.06	3.07	0.01	98.12	
12	39.99	19.69	14.73	0.60	13.62	5.72	0.00	0.04	3.05	0.00	97.43	
13	40.30	20.23	14.79	0.62	13.58	5.72	0.01	0.06	3.09	0.01	98.41	
14	40.38	20.12	14.41	0.61	13.76	5.72	0.00	0.07	3.10	0.00	98.17	
15	40.67	20.19	14.58	0.57	13.90	5.77	0.01	0.07	3.10	0.00	98.87	
16	40.69	20.21	14.46	0.61	14.12	5.74	0.00	0.05	3.11	0.00	98.99	
17	40.61	20.25	14.35	0.59	14.35	5.78	0.01	0.07	3.12	0.02	99.16	
18	40.45	20.32	14.58	0.62	14.68	5.71	0.01	0.06	3.17	0.00	99.61	
19	40.63	20.28	14.94	0.59	14.85	5.81	0.01	0.07	3.14	0.00	100.32	
20	40.63	20.21	14.48	0.60	14.75	5.77	0.02	0.04	3.11	0.00	99.61	
21	40.70	20.34	14.68	0.61	14.93	5.78	0.00	0.06	3.13	0.00	100.24	
22	40.77	20.26	14.50	0.59	14.81	5.78	0.01	0.07	3.14	0.02	99.94	
23	40.63	20.14	14.46	0.58	14.90	5.81	0.01	0.08	3.11	0.02	99.74	
24	41.07	21.33	14.55	0.60	14.74	5.71	0.00	0.09	3.11	0.01	101.21	Crack
25	40.64	20.38	14.69	0.60	14.86	5.83	0.02	0.05	3.03	0.00	100.10	
26	40.81	20.60	14.69	0.60	15.47	5.78	0.00	0.07	3.07	0.00	101.08	
27	40.80	20.34	14.74	0.62	15.07	5.75	0.00	0.06	3.10	0.00	100.48	
28	40.73	20.43	14.73	0.60	14.94	5.69	0.01	0.07	3.02	0.00	100.21	
29	40.52	20.30	14.72	0.61	14.89	5.70	0.01	0.06	3.01	0.00	99.82	
30	40.70	20.24	14.67	0.61	14.91	5.71	0.03	0.08	3.03	0.00	99.98	

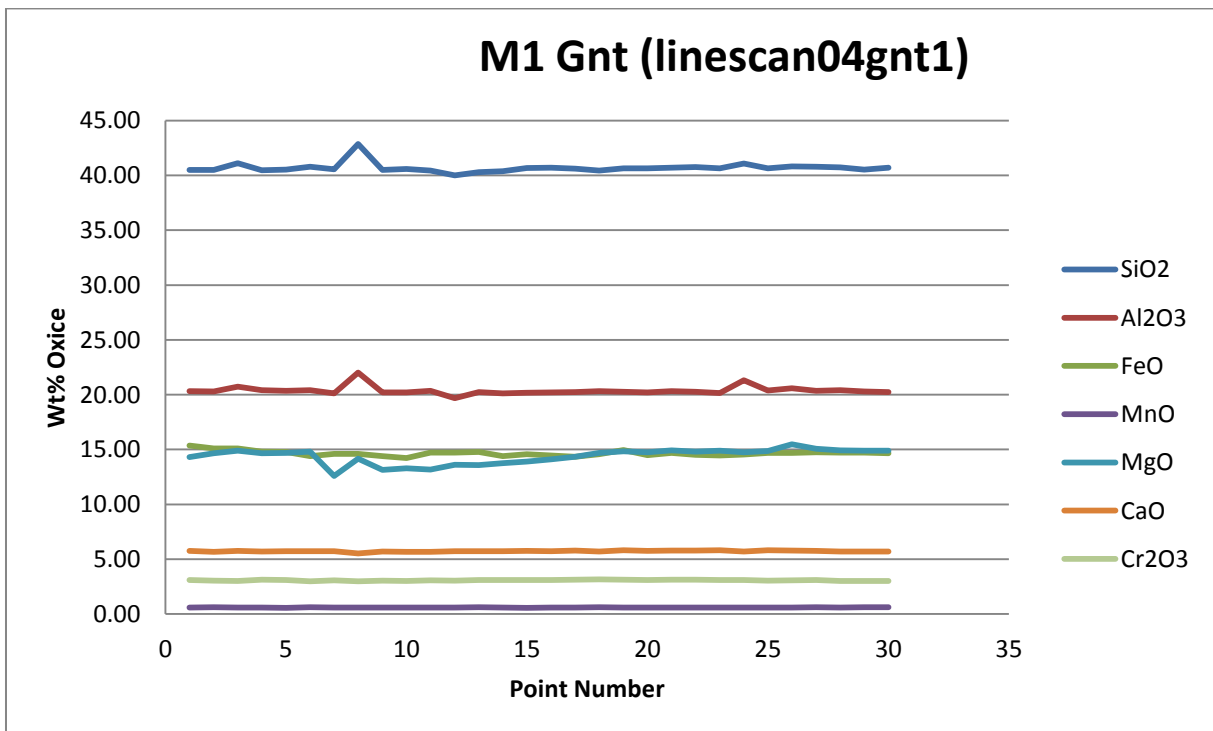


Figure A22. A linescan through a M1 garnet crystal in sample 4. The location is indicated in Fig. A16. For the EMP analyses of each individual point see the table above.

04gnt2		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	40.39	21.66	16.98	0.84	13.65	5.19	0.02	0.03	1.21	0.00	99.97	
2	40.34	21.76	16.84	0.83	13.79	5.13	0.01	0.00	1.14	0.03	99.87	
3	16.05	9.67	16.02	0.84	9.09	4.93	0.04	0.00	0.95	0.01	57.59	Crack
4	40.24	21.69	16.35	0.81	13.37	5.71	0.02	0.03	1.21	0.05	99.48	
5	40.38	21.56	16.82	0.90	13.20	5.91	0.01	0.01	1.28	0.03	100.10	
6	40.30	21.55	16.81	0.89	11.83	6.07	0.02	0.03	1.34	0.00	98.84	
7	40.57	21.51	16.99	0.89	12.52	5.70	0.00	0.03	1.25	0.00	99.46	
8	40.16	21.34	18.04	1.04	11.86	5.72	0.00	0.00	1.34	0.00	99.50	
9	28.91	19.46	17.61	0.99	5.45	5.36	0.04	0.02	1.15	0.00	79.00	Crack
10	40.17	21.59	17.72	1.02	12.38	5.53	0.07	0.00	1.33	0.01	99.82	
11	40.18	21.43	17.40	1.08	12.34	5.55	0.02	0.02	1.31	0.02	99.34	
12	40.31	21.58	17.87	1.10	12.40	5.59	0.03	0.02	1.33	0.02	100.25	
13	40.13	21.43	17.65	1.11	12.55	5.67	0.03	0.02	1.33	0.00	99.93	
14	40.05	21.39	17.84	1.12	12.58	5.73	0.04	0.01	1.36	0.03	100.15	
15	40.22	21.27	17.71	1.13	12.48	5.76	0.05	0.03	1.28	0.00	99.93	
16	40.19	21.39	17.72	1.15	12.39	5.80	0.03	0.03	1.35	0.01	100.06	
17	40.00	21.35	17.73	1.16	12.60	5.65	0.03	0.00	1.29	0.00	99.82	
18	40.22	21.67	17.84	1.15	12.56	5.63	0.02	0.02	1.22	0.04	100.36	
19	40.02	21.60	17.53	1.16	12.42	5.50	0.03	0.00	1.22	0.00	99.48	
20	40.03	21.28	17.62	1.14	11.76	5.57	0.03	0.06	1.27	0.00	98.76	
21	40.24	21.32	17.46	1.13	11.96	5.55	0.06	0.00	1.27	0.00	98.99	
22	40.01	21.43	17.27	1.10	12.54	5.43	0.02	0.00	1.17	0.00	98.97	
23	39.73	21.24	17.16	1.12	12.52	5.48	0.02	0.02	1.22	0.00	98.52	
24	40.23	21.29	17.16	1.07	12.87	5.60	0.02	0.01	1.30	0.01	99.54	
25	35.35	20.12	15.98	0.96	11.51	5.35	0.05	0.00	1.22	0.04	90.58	Crack
26	40.40	21.47	16.67	1.00	13.05	5.68	0.04	0.03	1.30	0.01	99.66	
27	40.18	21.45	17.04	0.99	13.06	5.68	0.03	0.00	1.34	0.02	99.79	
28	40.37	21.64	16.93	1.01	13.18	5.63	0.04	0.02	1.24	0.00	100.06	
29	40.41	21.27	16.97	0.94	11.77	5.76	0.01	0.04	1.31	0.00	98.48	
30	40.19	21.54	17.37	0.96	12.03	5.56	0.02	0.00	1.29	0.00	98.95	

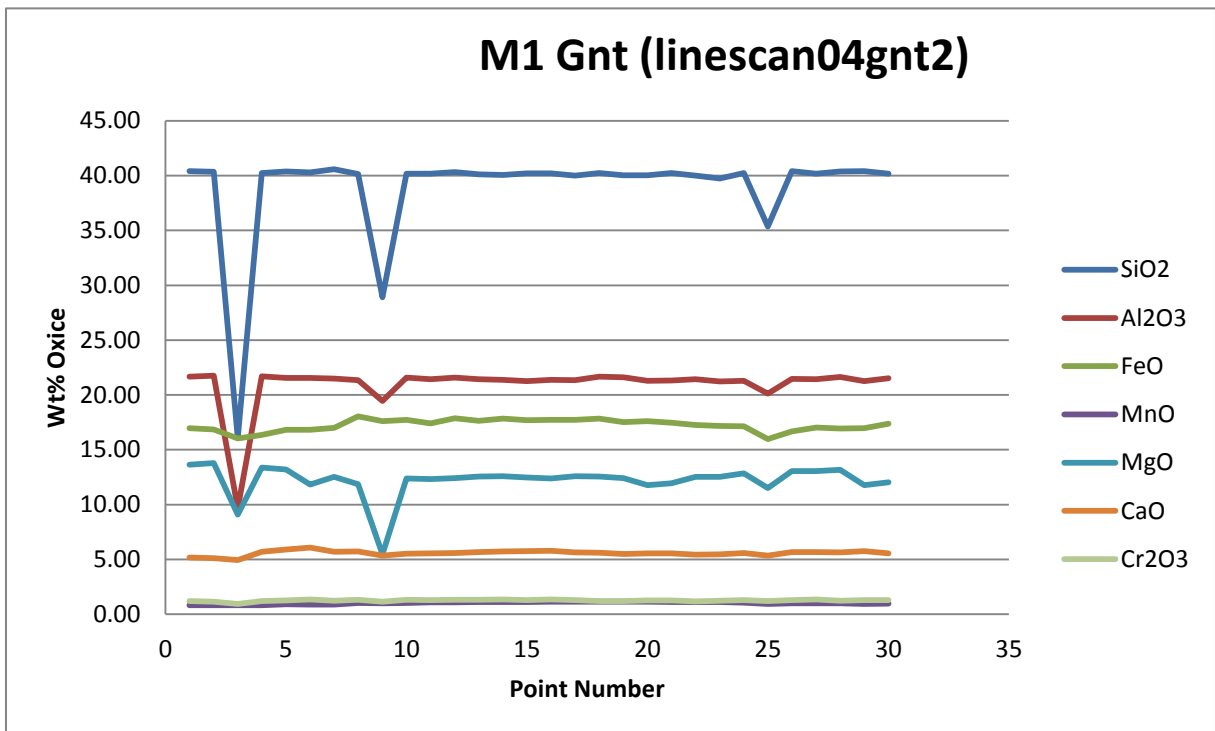


Figure A23. A linescan through a M1 garnet crystal in sample 4. The location is indicated in Fig. A19. For the EMP analyses of each individual point see the table above.

04opx1		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	56.56	0.37	10.09	0.12	32.57	0.17	0.00	0.00	0.06	0.06	100.01
2	56.27	0.34	9.83	0.13	32.46	0.14	0.01	0.03	0.07	0.09	99.35
3	56.33	0.37	10.04	0.14	32.46	0.14	0.00	0.04	0.06	0.11	99.69
4	56.34	0.31	10.05	0.13	30.14	0.12	0.01	0.01	0.05	0.09	97.25
5	56.45	0.30	9.92	0.13	31.24	0.11	0.00	0.01	0.04	0.08	98.29
6	56.37	0.25	10.16	0.13	32.12	0.11	0.00	0.00	0.07	0.06	99.26
7	56.40	0.30	9.94	0.11	32.11	0.12	0.00	0.02	0.05	0.07	99.13
8	56.41	0.31	9.88	0.14	32.24	0.11	0.00	0.03	0.08	0.10	99.30
9	56.36	0.34	10.01	0.13	32.45	0.14	0.00	0.01	0.07	0.10	99.61
10	56.39	0.38	10.06	0.12	31.64	0.13	0.01	0.03	0.06	0.07	98.89
11	56.55	0.42	10.15	0.14	32.51	0.13	0.00	0.03	0.07	0.08	100.07
12	56.30	0.45	9.91	0.13	32.35	0.11	0.00	0.02	0.09	0.08	99.44
13	55.83	0.40	9.95	0.11	28.04	0.13	0.01	0.00	0.06	0.00	94.52
14	55.84	0.47	10.12	0.13	27.56	0.15	0.03	0.02	0.09	0.09	94.50
15	55.73	0.51	10.21	0.15	28.53	0.16	0.00	0.04	0.08	0.06	95.48
16	55.90	0.57	9.88	0.15	28.27	0.13	0.00	0.02	0.09	0.04	95.04

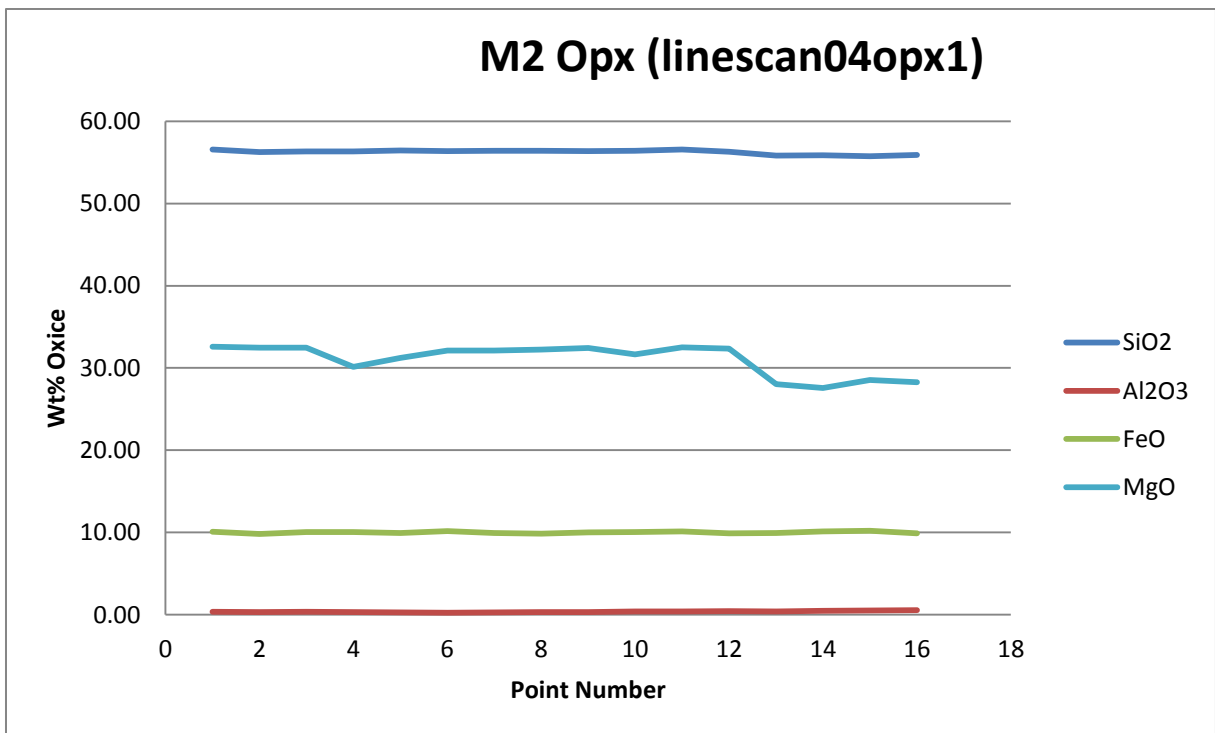


Figure A24. A linescan through a M2 orthopyroxene crystal in sample 4. The location is indicated in Fig. A17. For the EMP analyses of each individual point see the table above.

04opx2		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	56.20	0.50	9.88	0.15	29.80	0.12	0.00	0.03	0.06	0.07	96.80	
2	56.02	0.53	9.86	0.16	30.03	0.13	0.01	0.04	0.09	0.06	96.94	
3	56.04	0.56	9.92	0.15	30.28	0.14	0.00	0.02	0.08	0.05	97.24	
4	56.30	0.56	9.94	0.14	31.06	0.15	0.00	0.03	0.08	0.10	98.37	
5	56.24	0.58	9.88	0.13	31.75	0.13	0.00	0.05	0.09	0.06	98.91	
6	56.31	0.43	9.63	0.15	32.20	0.13	0.00	0.03	0.08	0.07	99.03	
7	56.32	0.55	9.61	0.14	32.31	0.12	0.00	0.03	0.05	0.07	99.21	
8	56.29	0.53	9.81	0.14	32.35	0.12	0.00	0.03	0.09	0.08	99.44	
9	55.94	0.46	9.70	0.15	32.19	0.10	0.00	0.01	0.05	0.09	98.68	
10	53.61	0.63	9.88	0.12	30.90	0.14	0.00	0.02	0.08	0.08	95.47	
11	53.54	0.65	9.90	0.11	30.93	0.12	0.01	0.02	0.08	0.07	95.44	
12	45.73	5.50	7.66	0.10	29.18	0.09	0.00	0.06	0.36	0.17	88.84	Crack
13	54.36	0.61	9.78	0.13	27.73	0.13	0.00	0.03	0.06	0.11	92.95	Crack
14	55.66	0.50	9.84	0.13	29.04	0.16	0.00	0.04	0.08	0.06	95.51	
15	55.90	0.41	9.71	0.13	30.33	0.14	0.02	0.02	0.08	0.00	96.73	
16	56.01	0.44	9.72	0.11	30.73	0.12	0.00	0.01	0.10	0.09	97.32	
17	55.97	0.44	9.62	0.11	30.69	0.14	0.01	0.03	0.08	0.09	97.17	
18	56.03	0.55	9.74	0.13	31.07	0.14	0.02	0.02	0.10	0.11	97.90	
19	56.35	0.44	9.67	0.13	31.19	0.13	0.00	0.02	0.08	0.08	98.10	
20	55.14	0.57	5.39	0.08	22.88	14.70	0.21	0.04	0.23	0.07	99.32	Crack
21	53.21	0.52	9.44	0.11	30.38	0.13	0.00	0.02	0.12	0.07	94.00	
22	56.42	0.47	9.65	0.12	32.15	0.12	0.01	0.01	0.10	0.10	99.13	
23	56.55	0.52	10.07	0.14	32.34	0.11	0.00	0.02	0.08	0.16	99.99	
24	56.77	1.03	7.49	0.15	30.74	0.23	0.05	0.05	0.09	0.11	96.70	
25	56.54	0.45	9.69	0.15	32.58	0.14	0.01	0.04	0.06	0.03	99.70	
26	56.16	0.40	9.92	0.16	32.49	0.15	0.01	0.01	0.06	0.03	99.37	
27	54.07	0.53	9.49	0.12	30.70	0.15	0.00	0.02	0.09	0.05	95.22	Crack
28	56.47	0.50	9.86	0.12	32.45	0.14	0.01	0.02	0.07	0.09	99.72	
29	52.36	1.10	11.92	0.19	30.66	0.11	0.00	0.18	3.00	0.00	99.51	
30	56.43	0.43	9.61	0.14	32.30	0.15	0.00	0.03	0.09	0.05	99.23	

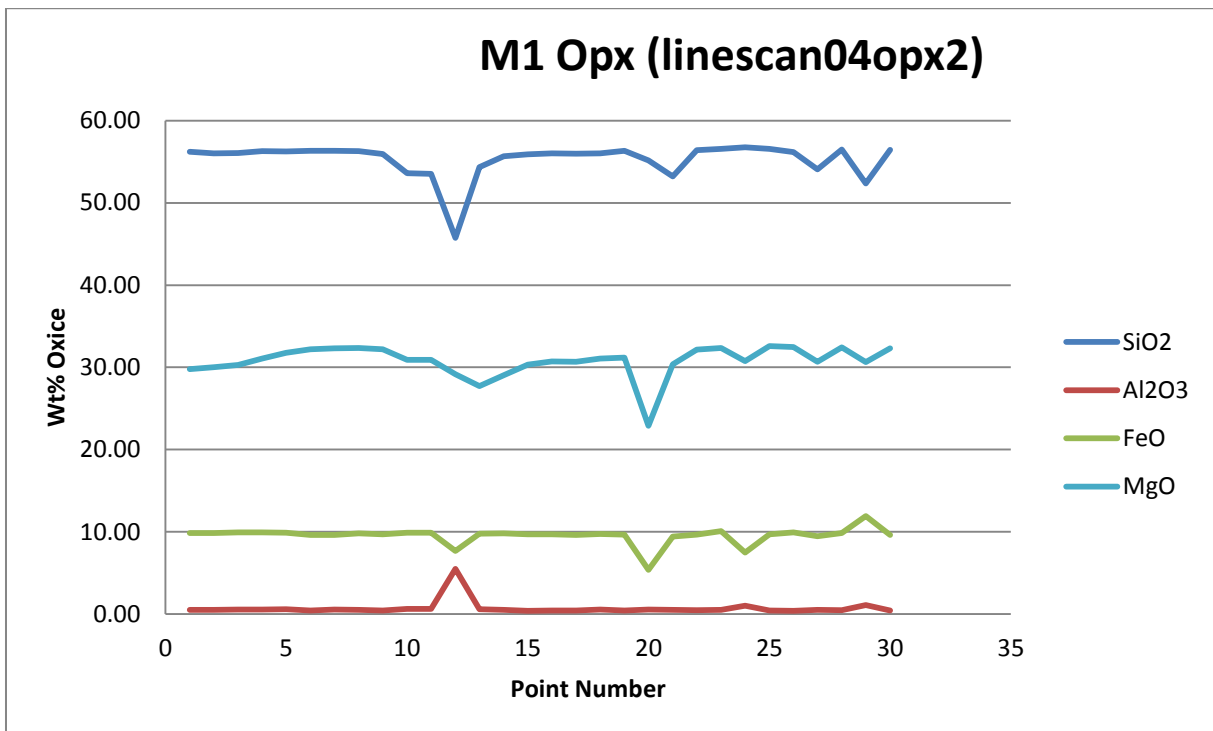


Figure A25. A linescan through a M1 orthopyroxene crystal in sample 4. The location is indicated in Fig. A18. For the EMP analyses of each individual point see the table above.

04lscn1	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	39.27	0.01	15.45	0.16	41.12	0.00	0.00	0.00	0.00	0.42	96.44	Olivine
2	39.30	0.00	15.62	0.15	42.27	0.00	0.00	0.00	0.00	0.45	97.80	Olivine
3	39.19	0.00	15.80	0.14	42.44	0.00	0.00	0.00	0.00	0.40	97.97	Olivine
4	39.11	0.01	15.71	0.13	42.31	0.00	0.00	0.00	0.00	0.44	97.71	Olivine
5	39.25	0.01	16.00	0.12	42.92	0.00	0.00	0.00	0.00	0.41	98.71	Olivine
6	39.09	0.01	16.21	0.18	43.06	0.00	0.00	0.03	0.01	0.37	98.95	Olivine
7	39.22	0.01	16.44	0.17	43.50	0.00	0.03	0.00	0.00	0.38	99.76	Olivine
8	39.25	0.00	16.65	0.16	43.38	0.00	0.00	0.01	0.00	0.41	99.86	Olivine
9	39.05	0.00	16.00	0.16	43.56	0.00	0.00	0.00	0.01	0.42	99.20	Olivine
10	55.94	0.41	10.15	0.11	31.97	0.12	0.00	0.00	0.07	0.10	98.87	Opx
11	56.09	0.37	10.07	0.14	30.66	0.11	0.00	0.05	0.03	0.08	97.60	Opx
12	55.99	0.39	9.91	0.13	29.92	0.12	0.00	0.02	0.06	0.10	96.64	Opx
13	55.78	0.83	10.12	0.13	30.03	0.13	0.00	0.02	0.08	0.07	97.20	Opx
14	56.11	0.36	9.98	0.10	31.14	0.13	0.00	0.02	0.07	0.08	97.98	Opx
15	49.92	1.49	10.41	0.15	28.21	0.18	0.03	0.02	0.07	0.06	90.55	Crack
16	56.37	0.34	10.00	0.11	32.09	0.13	0.00	0.04	0.04	0.06	99.18	Opx
17	56.34	0.34	9.95	0.12	32.43	0.12	0.01	0.02	0.05	0.06	99.45	Opx
18	56.51	0.35	9.71	0.14	32.27	0.14	0.02	0.01	0.06	0.08	99.28	Opx
19	56.28	0.33	9.99	0.12	32.54	0.11	0.02	0.03	0.05	0.10	99.57	Opx
20	56.52	0.35	9.87	0.14	32.30	0.13	0.01	0.04	0.05	0.09	99.50	Opx
21	56.41	0.36	9.81	0.11	32.39	0.10	0.01	0.01	0.07	0.02	99.30	Opx
22	56.01	0.34	9.74	0.11	29.93	0.12	0.01	0.02	0.05	0.03	96.36	Crack
23	56.20	0.33	9.68	0.12	30.93	0.10	0.00	0.03	0.06	0.08	97.52	Opx
24	56.25	0.35	9.85	0.12	31.48	0.11	0.04	0.01	0.06	0.13	98.40	Opx
25	56.21	0.37	9.89	0.14	32.21	0.10	0.01	0.02	0.03	0.08	99.07	Opx
26	56.10	0.34	9.85	0.12	32.36	0.13	0.00	0.00	0.07	0.09	99.06	Opx
27	56.02	0.33	9.83	0.14	32.31	0.11	0.00	0.02	0.07	0.06	98.88	Opx
28	56.16	0.37	9.87	0.11	32.13	0.11	0.00	0.04	0.03	0.05	98.88	Opx
29	56.82	0.37	10.05	0.13	32.64	0.11	0.00	0.03	0.04	0.08	100.28	Opx
30	55.72	0.36	10.17	0.13	27.18	0.12	0.00	0.03	0.06	0.07	93.84	Opx

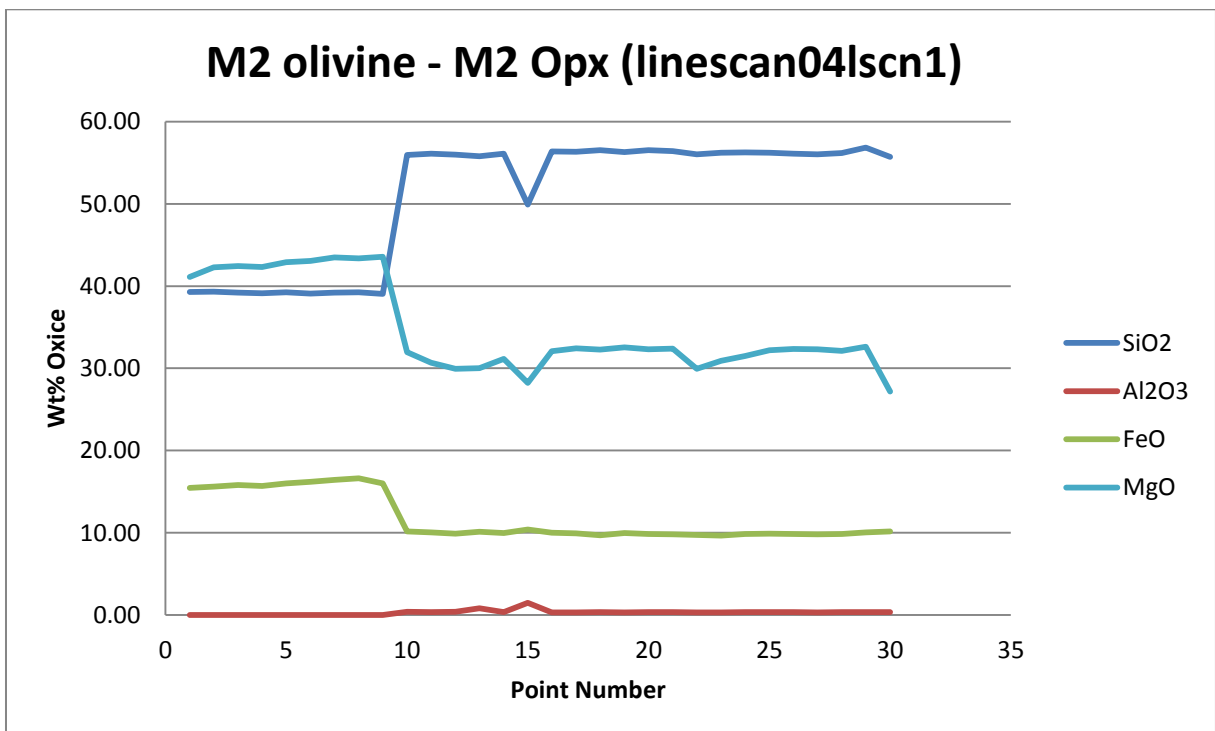


Figure A26. A linescan through a M2 olivine crystal and an adjacent M2 orthopyroxene crystal in sample 4. The location is indicated in Fig. A19. For the EMP analyses of each individual point see the table above.



### Chapter 3. Linescan data and locations in sample 7

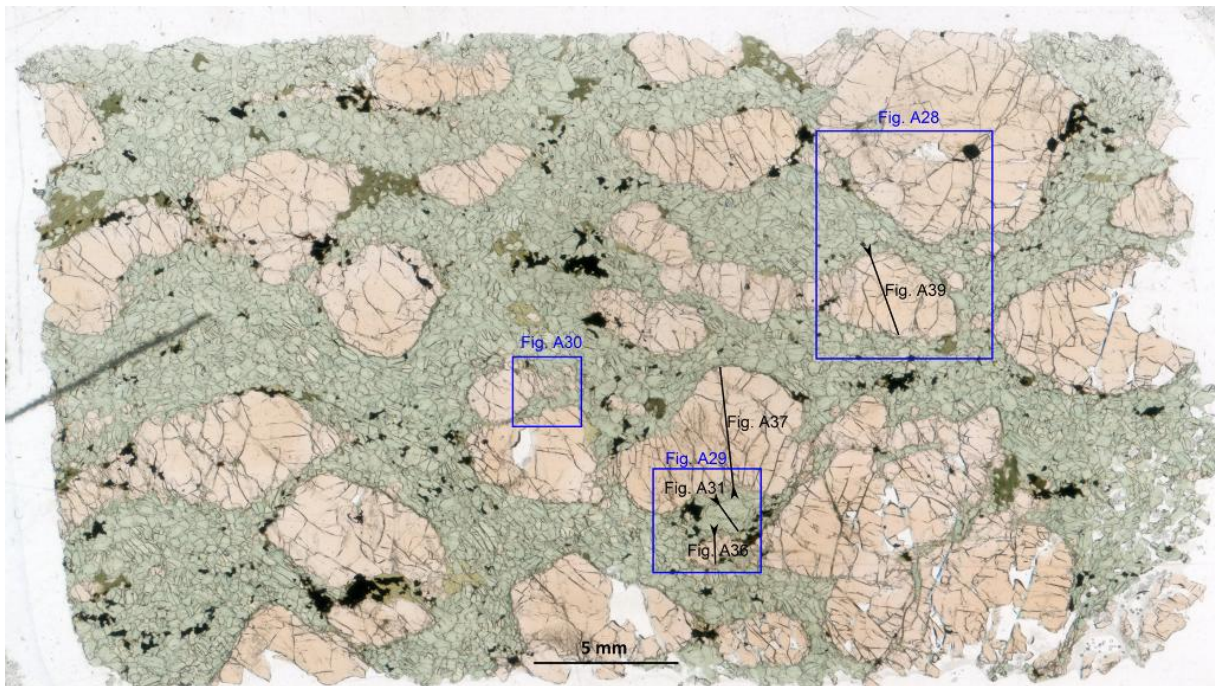


Figure A27. PPL Overview of a thin section made of sample 7 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

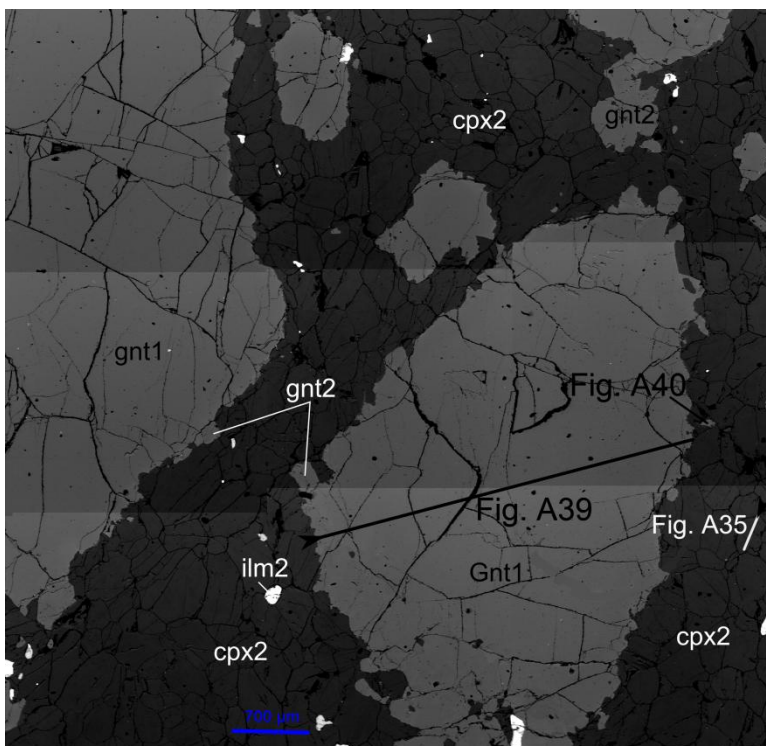


Figure A28. BSE image (sample 7) showing M1 garnet porphyroclast recrystallizing to M2 garnet around the rims. The matrix consists of recrystallized M2 clinopyroxene. The locations of the linescans illustrated in Figure A35, A39 and A40 are indicated.

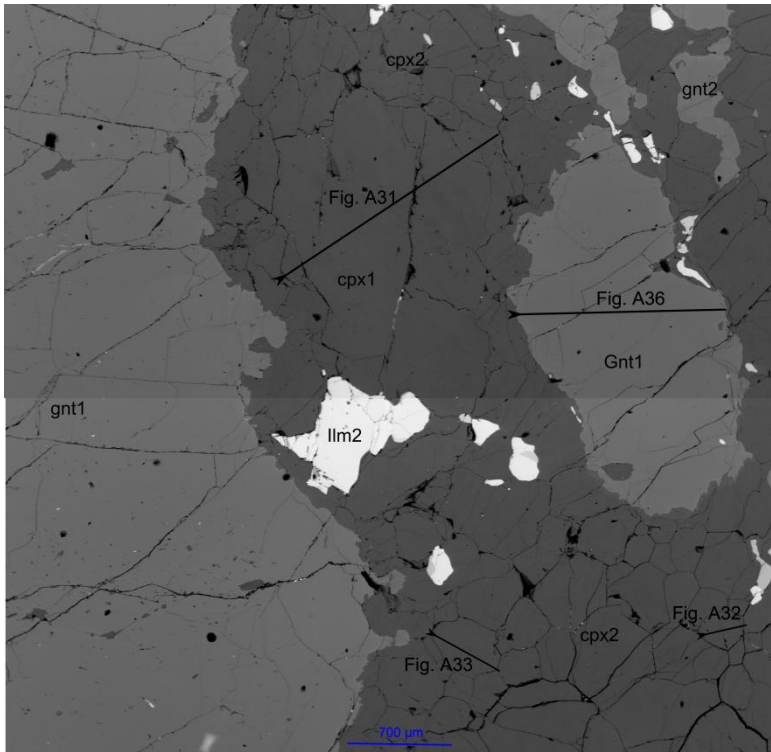


Figure A29. BSE image (sample 7) showing M1 garnet porphyroclasts with a M1 clinopyroxene porphyroclast in between, surrounded by a recrystallized matrix of M2 clinopyroxene and ilmenite. The locations of the linescans found in Figure A31, A32, A33 and A36 are indicated.

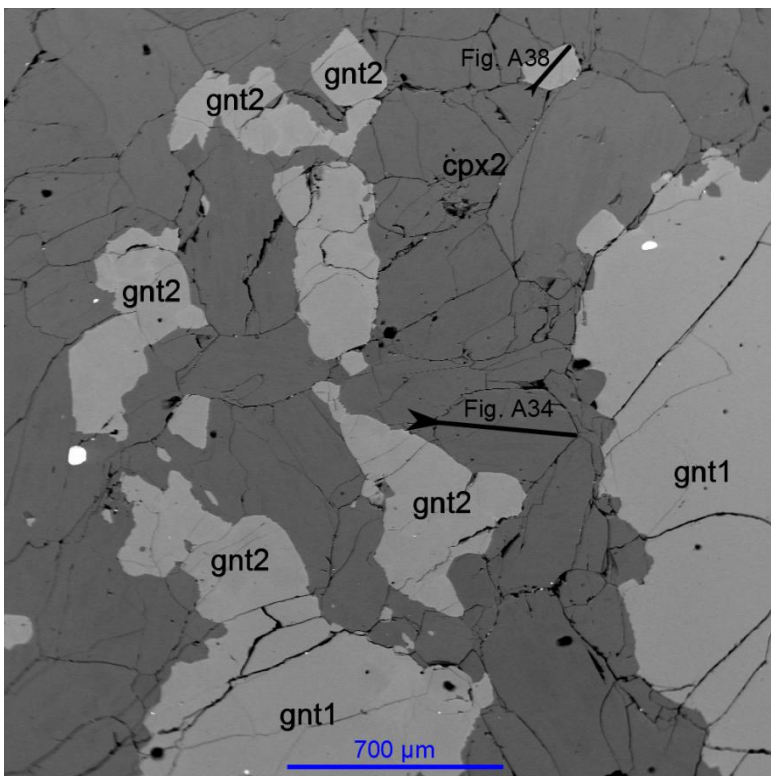


Figure A30. BSE image (sample 7) showing M1 garnet porphyroclasts recrystallizing to M2 garnet. The matrix consists of M2 clinopyroxene. The locations of the linescans found in Figure A34 and A38 are indicated.

07cpx1		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	53.74	5.04	5.86	0.02	12.15	18.60	3.25	0.13	0.05	0.02	98.85
2	54.30	5.06	4.87	0.02	12.39	18.38	3.51	0.08	0.05	0.02	98.69
3	53.97	4.98	5.28	0.04	12.24	18.54	3.46	0.09	0.04	0.02	98.66
4	54.00	4.97	5.96	0.01	12.10	18.68	3.30	0.13	0.06	0.03	99.24
5	53.75	4.55	5.51	0.02	12.40	18.94	3.31	0.11	0.05	0.02	98.66
6	53.61	4.32	5.48	0.03	12.53	18.86	3.03	0.10	0.04	0.05	98.05
7	54.34	4.38	4.88	0.03	12.87	19.21	3.19	0.09	0.02	0.04	99.06
8	53.76	4.55	5.55	0.02	12.61	18.94	3.16	0.12	0.03	0.02	98.77
9	53.87	4.61	5.60	0.02	12.42	18.91	3.17	0.13	0.04	0.04	98.81
10	54.16	4.50	5.33	0.02	12.58	19.20	3.09	0.11	0.04	0.05	99.09
11	54.42	4.57	4.95	0.03	12.63	18.75	3.41	0.09	0.03	0.00	98.87
12	54.51	4.71	4.94	0.01	12.53	18.72	3.46	0.10	0.06	0.00	99.04
13	54.12	5.16	5.32	0.02	12.09	18.16	3.76	0.13	0.06	0.04	98.85
14	53.80	5.05	5.96	0.02	12.20	18.81	3.33	0.20	0.05	0.00	99.43
15	54.35	5.14	5.18	0.02	12.20	18.24	3.74	0.09	0.04	0.05	99.05
16	54.59	5.04	5.00	0.01	12.43	18.45	3.60	0.08	0.04	0.01	99.26
17	54.48	4.79	4.76	0.00	12.39	18.58	3.62	0.09	0.06	0.04	98.82
18	53.90	4.96	5.53	0.03	12.17	18.55	3.41	0.14	0.05	0.03	98.78
19	54.45	5.53	4.93	0.00	12.09	18.00	4.06	0.11	0.06	0.01	99.25
20	54.28	4.95	5.00	0.03	12.67	18.39	3.73	0.08	0.05	0.04	99.21
21	54.01	5.35	5.54	0.02	12.00	18.32	3.55	0.13	0.04	0.00	98.97
22	53.90	4.96	5.55	0.03	12.23	18.56	3.43	0.11	0.06	0.02	98.85
23	54.41	4.25	5.11	0.03	13.09	19.34	3.14	0.10	0.06	0.04	99.57
24	54.07	4.24	4.86	0.03	12.95	19.34	3.15	0.09	0.03	0.00	98.74
25	53.65	4.86	5.79	0.04	12.21	18.78	3.28	0.15	0.04	0.04	98.85
26	53.99	4.48	5.60	0.02	12.46	19.18	3.10	0.11	0.04	0.02	99.00
27	53.85	5.46	5.68	0.01	11.75	18.09	3.66	0.16	0.05	0.02	98.74
28	53.40	5.00	5.97	0.00	12.15	19.02	3.21	0.21	0.00	0.01	98.98
29	53.93	4.99	5.78	0.00	12.18	18.66	3.33	0.14	0.05	0.04	99.09
30	53.81	4.89	5.83	0.03	12.06	18.95	3.25	0.16	0.06	0.07	99.12

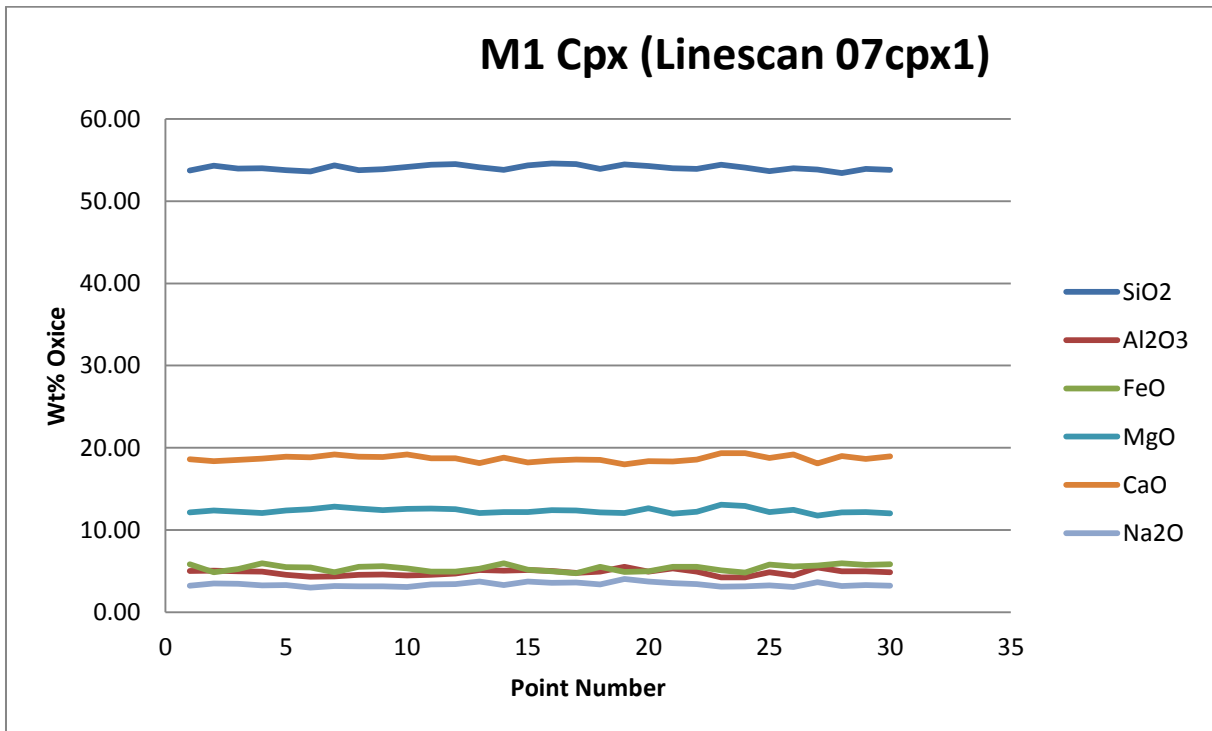


Figure A31. A linescan through a M1 clinopyroxene crystal in sample 7. The location is indicated in Fig. A27 and Fig. A29. For the EMP analyses of each individual point see the table above.

07cpx2		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	53.64	5.10	5.35	0.02	12.15	18.33	3.58	0.17	0.05	0.04	98.43
2	54.09	4.63	4.92	0.02	12.68	18.66	3.38	0.09	0.05	0.02	98.55
3	54.54	4.65	4.63	0.01	12.75	18.63	3.48	0.07	0.03	0.01	98.80
4	53.87	5.43	5.38	0.00	11.94	18.15	3.65	0.13	0.06	0.00	98.61
5	53.74	5.24	5.61	0.03	11.88	18.22	3.53	0.12	0.06	0.03	98.45
6	54.11	5.12	5.63	0.03	12.29	18.63	3.42	0.12	0.05	0.00	99.40
7	54.11	5.27	5.05	0.01	12.11	17.99	3.75	0.12	0.07	0.00	98.49
8	54.51	4.95	4.82	0.01	12.38	18.43	3.62	0.09	0.03	0.02	98.86
9	54.33	4.28	4.63	0.00	12.72	19.17	3.21	0.08	0.03	0.05	98.50
10	53.82	4.89	5.68	0.05	11.77	18.50	3.45	0.13	0.05	0.00	98.34
11	54.00	5.33	5.60	0.02	11.83	18.29	3.56	0.15	0.04	0.04	98.84
12	54.08	5.07	5.13	0.00	12.32	18.46	3.50	0.10	0.06	0.03	98.76
13	54.36	4.99	5.20	0.01	12.30	18.38	3.57	0.11	0.05	0.03	99.00
14	54.13	5.17	5.21	0.02	12.06	18.11	3.59	0.14	0.06	0.04	98.51
15	53.91	5.12	5.61	0.04	11.97	18.48	3.56	0.15	0.04	0.04	98.94

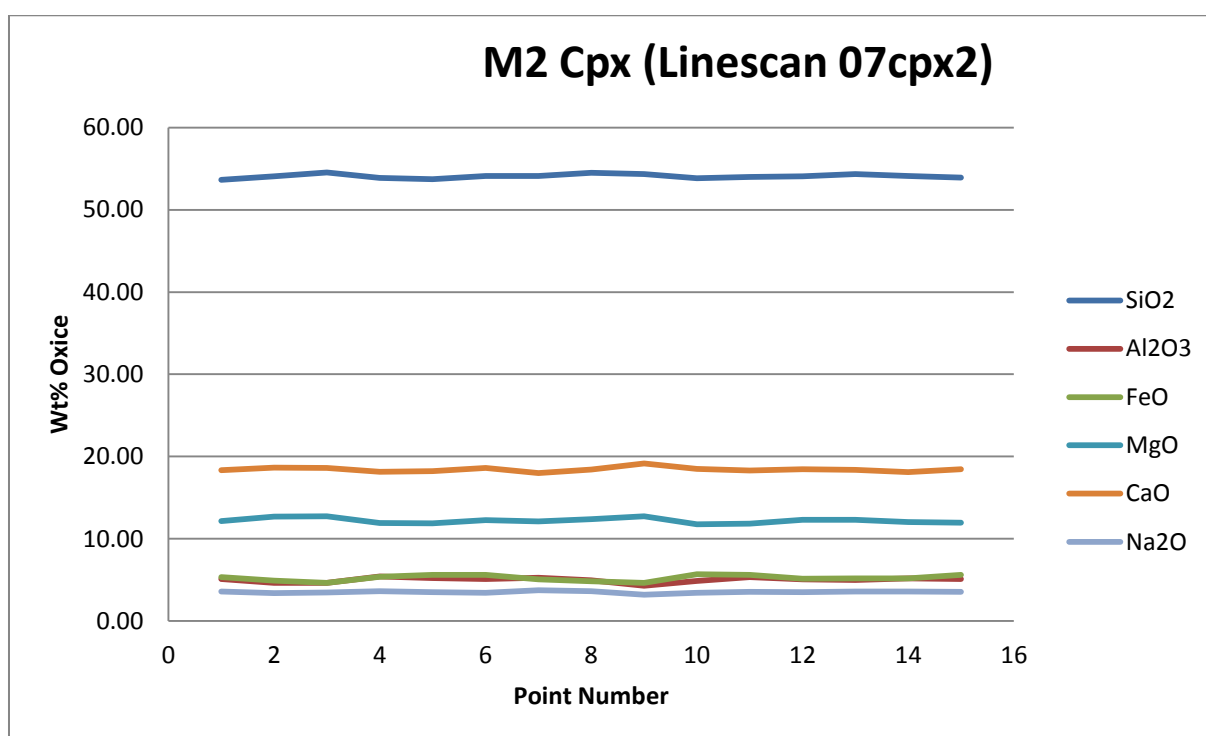


Figure A32. A linescan through a M2 clinopyroxene crystal in sample 7. The location is indicated in Fig. A29. For the EMP analyses of each individual point see the table above.

07cpx3		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	54.39	5.41	5.41	0.04	11.97	17.93	4.06	0.12	0.05	0.00	99.37
2	54.17	5.37	5.49	0.01	11.94	18.04	3.79	0.14	0.05	0.01	99.00
3	53.89	5.59	5.79	0.01	11.56	17.81	3.74	0.18	0.07	0.00	98.66
4	53.97	5.34	5.73	0.02	11.78	18.11	3.59	0.15	0.08	0.02	98.79
5	54.18	4.60	5.34	0.02	12.52	18.93	3.17	0.14	0.05	0.00	98.93
6	54.05	4.87	5.63	0.01	12.27	18.75	3.40	0.11	0.04	0.00	99.13
7	54.42	4.95	5.27	0.03	12.35	18.53	3.49	0.11	0.04	0.01	99.19
8	54.35	5.10	4.88	0.04	12.32	18.39	3.67	0.09	0.03	0.00	98.85
9	54.03	4.94	5.65	0.01	12.09	18.52	3.47	0.13	0.03	0.03	98.90
10	54.29	4.98	5.58	0.01	12.17	18.57	3.59	0.14	0.05	0.05	99.43
11	54.59	5.25	5.05	0.03	12.09	18.07	3.72	0.10	0.04	0.08	99.02
12	54.40	5.26	5.10	0.02	12.00	17.97	3.82	0.13	0.04	0.03	98.76
13	54.49	5.34	5.54	0.02	11.75	17.68	3.99	0.13	0.05	0.03	99.02
14	54.17	5.24	5.49	0.00	12.01	17.91	3.83	0.14	0.06	0.00	98.86
15	53.91	5.07	5.66	0.02	12.10	18.52	3.66	0.16	0.05	0.00	99.16

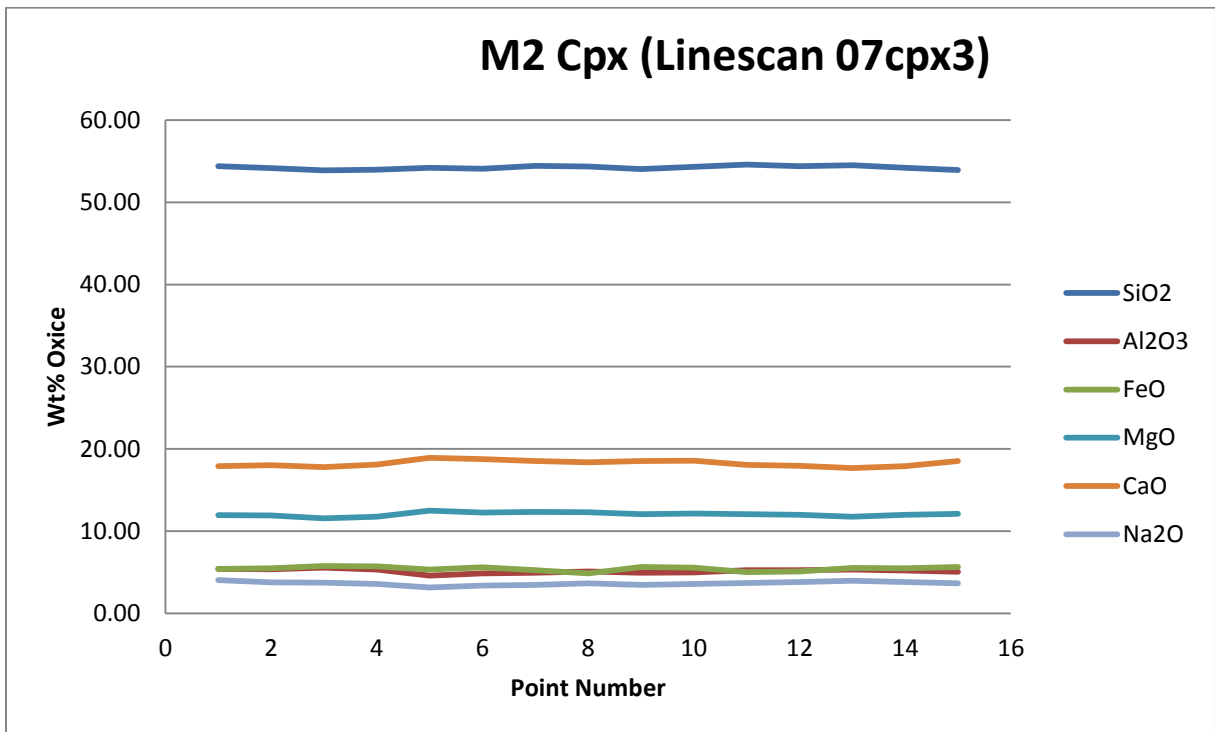


Figure A33. A linescan through a M2 clinopyroxene crystal in sample 7. The location is indicated in Fig. A29. For the EMP analyses of each individual point see the table above.

07cpx4	Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	54.04	5.14	5.76	0.02	11.87	18.32	3.62	0.13	0.08	0.01	98.99
2	54.06	5.22	5.62	0.03	11.89	18.22	3.59	0.16	0.07	0.02	98.87
3	53.14	5.03	5.32	0.01	12.21	18.06	3.25	0.11	0.03	0.06	97.22
4	54.03	5.23	5.18	0.00	12.11	18.56	3.54	0.14	0.06	0.00	98.86
5	53.93	5.44	5.60	0.01	11.81	18.20	3.66	0.15	0.03	0.04	98.88
6	53.98	5.27	5.31	0.02	11.97	18.54	3.51	0.11	0.03	0.00	98.74
7	53.96	5.03	5.24	0.02	12.17	18.66	3.44	0.13	0.03	0.02	98.69
8	54.19	5.02	5.50	0.01	12.22	18.53	3.44	0.11	0.06	0.02	99.09
9	53.91	5.21	5.47	0.02	11.96	18.35	3.47	0.14	0.07	0.00	98.60
10	54.58	5.14	4.89	0.01	12.11	18.13	3.80	0.08	0.05	0.04	98.83
11	54.00	5.16	5.31	0.02	11.83	18.51	3.42	0.13	0.05	0.02	98.45
12	54.10	4.87	5.18	0.00	11.85	18.53	3.53	0.11	0.06	0.05	98.29
13	53.88	5.25	5.55	0.02	11.27	18.52	3.51	0.15	0.05	0.07	98.28
14	53.76	5.20	5.70	0.03	11.10	18.36	3.55	0.11	0.02	0.00	97.82
15	53.97	5.17	5.64	0.03	11.47	18.54	3.55	0.16	0.04	0.03	98.59

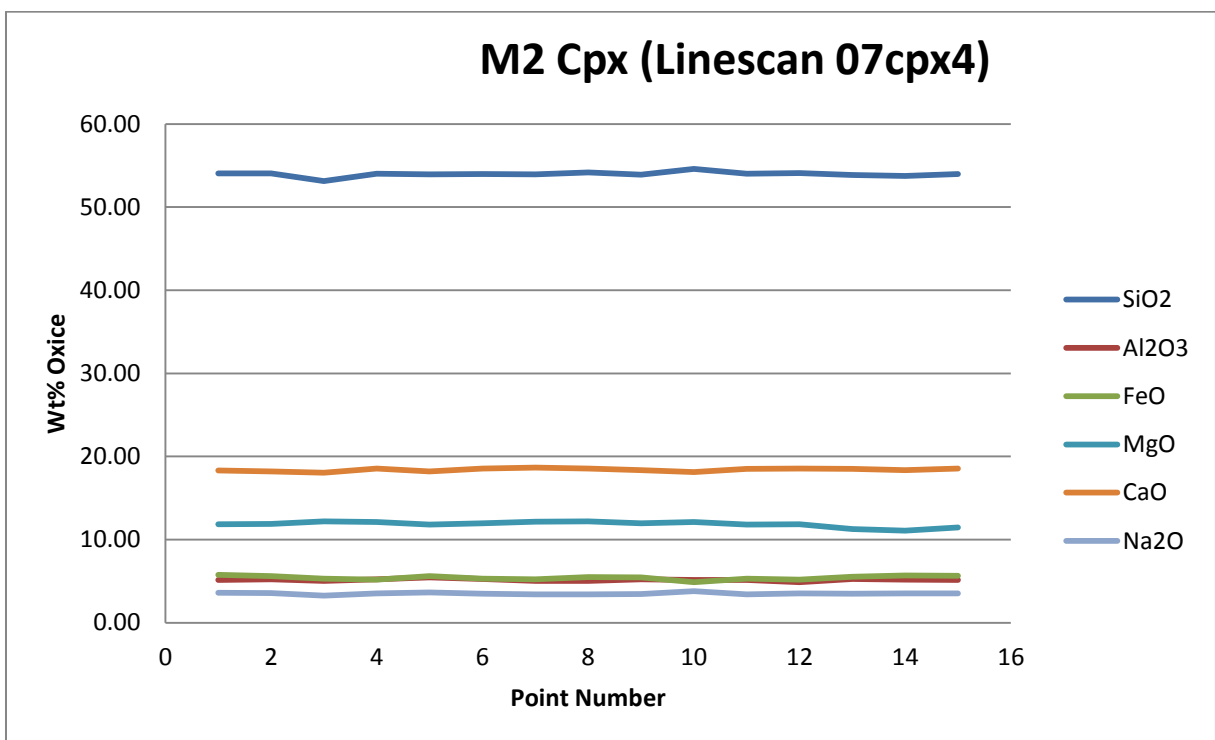


Figure A34. A linescan through a M2 clinopyroxene crystal in sample 7. The location is indicated in Fig. A30. For the EMP analyses of each individual point see the table above.

07cpx5		Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	53.41	5.08	5.61	0.04	12.04	18.48	3.39	0.15	0.06	0.00	98.25		
2	53.93	4.51	5.34	0.00	12.73	19.13	3.14	0.13	0.04	0.01	98.95		
3	48.72	13.14	6.04	0.03	10.12	16.92	1.78	0.15	0.07	0.01	96.96	Crack	
4	54.03	4.25	5.03	0.02	12.76	19.36	3.03	0.10	0.04	0.02	98.64		
5	53.93	4.84	5.67	0.02	12.14	18.55	3.39	0.14	0.05	0.03	98.75		
6	53.93	4.79	5.60	0.04	12.33	18.64	3.34	0.13	0.05	0.04	98.88		
7	54.20	4.56	4.89	0.01	12.59	18.86	3.37	0.09	0.04	0.03	98.64		
8	53.91	4.79	5.56	0.04	12.00	18.68	3.41	0.13	0.06	0.06	98.62		
9	52.74	4.76	5.49	0.03	12.11	18.42	2.99	0.12	0.06	0.02	96.73		
10	53.72	4.79	5.52	0.00	12.34	18.83	3.27	0.13	0.07	0.05	98.71		
11	53.99	4.57	5.55	0.02	12.61	19.10	3.13	0.13	0.05	0.00	99.16		
12	54.07	4.47	5.18	0.05	12.68	19.07	3.26	0.12	0.03	0.03	98.94		
13	53.92	5.10	5.81	0.00	12.09	18.53	3.40	0.14	0.07	0.03	99.10		
14	53.70	5.10	5.66	0.03	11.98	18.54	3.47	0.14	0.04	0.03	98.70		
15	53.84	5.02	5.66	0.00	12.21	18.58	3.51	0.15	0.07	0.04	99.10		

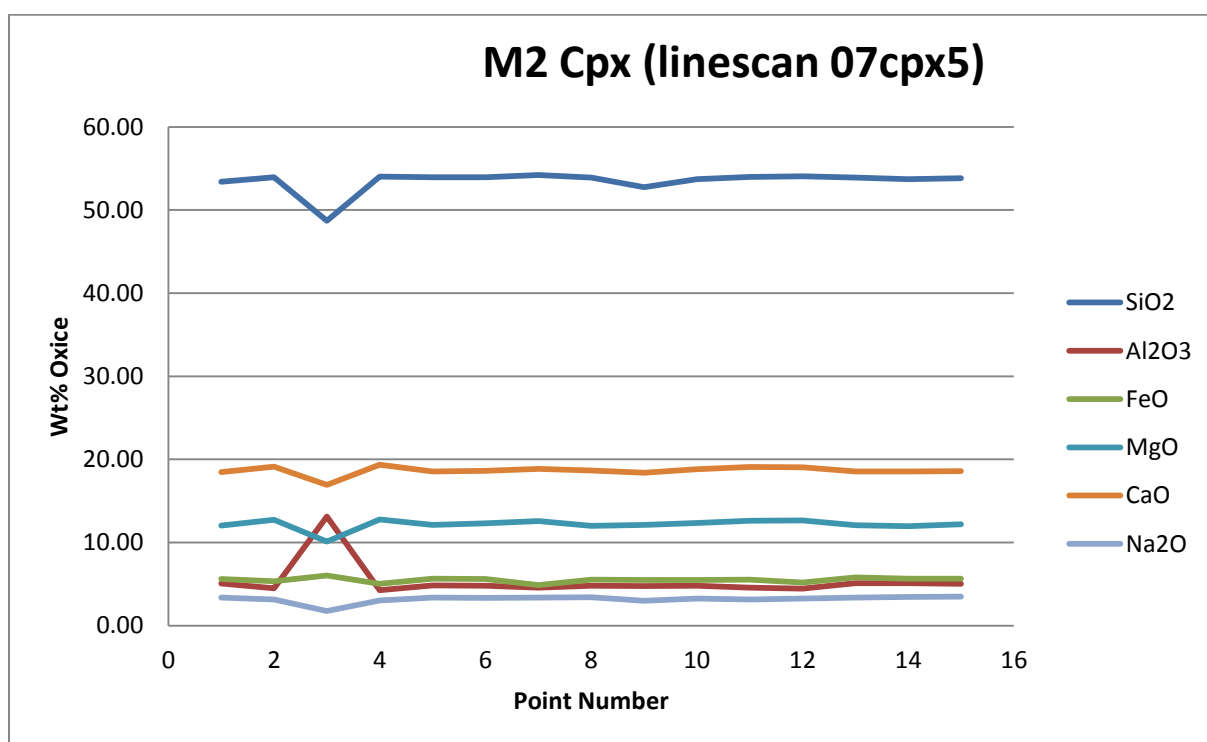


Figure A35. A linescan through a M2 clinopyroxene crystal in sample 7. The location is indicated in Fig. A28. For the EMP analyses of each individual point see the table above.

07gnt1		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	39.50	21.62	21.69	0.64	7.61	8.77	0.01	0.04	0.03	0.00	99.90
2	39.81	21.71	20.84	0.55	8.79	8.53	0.03	0.10	0.05	0.02	100.42
3	39.66	21.74	20.39	0.51	8.71	8.77	0.02	0.12	0.03	0.00	99.95
4	40.00	21.65	20.69	0.53	8.70	9.06	0.01	0.12	0.05	0.00	100.82
5	39.74	21.66	20.41	0.51	8.54	9.14	0.02	0.10	0.05	0.00	100.18
6	39.42	21.68	20.25	0.56	8.58	9.08	0.05	0.12	0.04	0.02	99.79
7	39.61	21.85	20.36	0.48	8.57	9.10	0.05	0.07	0.02	0.00	100.11
8	39.89	21.83	20.50	0.52	8.61	9.02	0.01	0.08	0.04	0.01	100.51
9	39.75	21.77	20.25	0.50	8.62	8.98	0.03	0.08	0.04	0.00	100.01
10	40.05	21.82	20.22	0.49	8.73	9.02	0.05	0.10	0.04	0.00	100.53
11	39.85	22.04	20.75	0.54	8.72	8.77	0.05	0.08	0.03	0.01	100.84
12	39.87	21.75	20.53	0.55	8.80	8.81	0.02	0.09	0.02	0.01	100.45
13	39.76	21.68	20.72	0.52	8.91	8.57	0.03	0.10	0.04	0.00	100.32
14	39.74	21.71	20.99	0.56	8.89	8.42	0.01	0.08	0.04	0.02	100.45
15	39.72	21.74	21.52	0.56	8.73	8.22	0.02	0.04	0.06	0.00	100.62
16	39.68	21.75	20.82	0.54	7.57	9.69	0.01	0.03	0.02	0.00	100.11

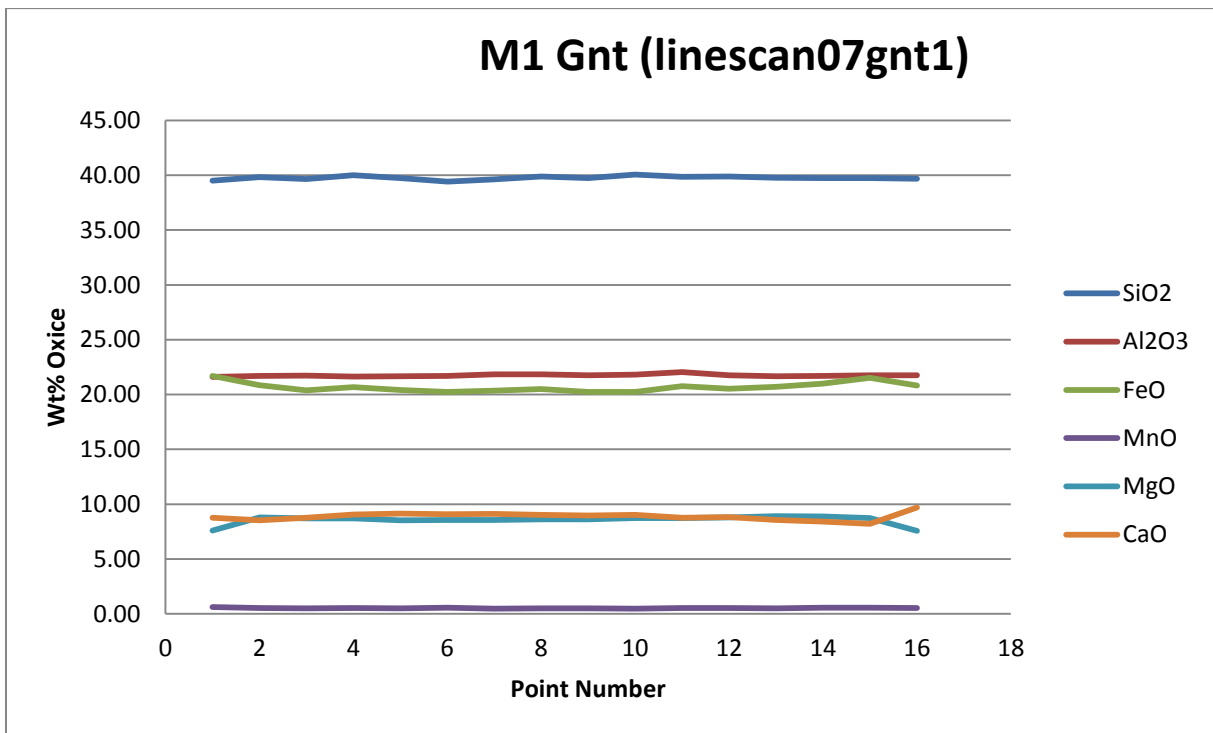


Figure A36. A linescan through a M1 garnet crystal in sample 7. The location is indicated in Fig. A27 and Fig. A29. For the EMP analyses of each individual point see the table above.



07gnt2		Compound wt%											Sum	Comments
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO				
1	40.02	22.07	20.20	0.58	8.69	9.35	0.00	0.04	0.04	0.00	100.99			
2	39.83	21.86	20.87	0.52	8.62	8.55	0.03	0.08	0.03	0.01	100.39			
3	39.62	21.74	21.25	0.47	8.22	8.97	0.04	0.05	0.03	0.00	100.39			
4	39.81	21.86	21.10	0.59	8.42	8.74	0.03	0.02	0.04	0.01	100.63			
5	39.85	21.89	20.50	0.55	8.61	8.97	0.03	0.06	0.04	0.01	100.52			
6	39.83	21.86	20.54	0.51	8.54	9.24	0.04	0.11	0.05	0.00	100.71			
7	39.77	21.87	19.97	0.55	8.47	9.48	0.02	0.07	0.04	0.00	100.24			
8	39.70	21.65	20.14	0.51	8.46	9.32	0.01	0.05	0.04	0.00	99.88			
9	39.59	21.77	20.16	0.52	8.20	9.64	0.02	0.08	0.03	0.02	100.03			
10	39.58	21.77	20.04	0.56	8.16	9.56	0.01	0.06	0.04	0.00	99.78			
11	39.86	21.80	20.49	0.52	8.24	9.66	0.02	0.10	0.03	0.02	100.75			
12	39.63	21.71	19.92	0.53	8.12	9.81	0.02	0.07	0.04	0.00	99.85			
13	39.69	21.74	20.47	0.53	8.15	9.78	0.01	0.04	0.03	0.00	100.43			
14	39.75	21.52	20.35	0.53	7.95	10.08	0.00	0.06	0.05	0.00	100.30			
15	39.68	21.84	20.50	0.52	8.20	9.84	0.00	0.14	0.05	0.01	100.78			
16	39.61	21.82	19.90	0.51	8.18	9.75	0.00	0.12	0.05	0.00	99.95			
17	40.60	22.72	19.98	0.51	8.53	9.69	0.01	0.12	0.03	0.03	102.24	Crack		
18	39.81	21.74	20.23	0.50	8.27	9.85	0.03	0.14	0.04	0.01	100.62			
19	39.64	21.73	19.70	0.49	8.33	9.85	0.02	0.09	0.02	0.06	99.93			
20	39.78	21.88	20.00	0.47	8.39	9.79	0.00	0.11	0.02	0.01	100.45			
21	39.82	22.06	20.16	0.49	8.37	9.75	0.02	0.13	0.06	0.03	100.89			
22	39.88	21.87	20.44	0.47	8.32	9.71	0.02	0.13	0.03	0.02	100.90			
23	40.29	24.37	19.83	0.47	8.42	9.48	0.03	0.11	0.02	0.00	103.02	Crack		
24	39.79	21.90	19.88	0.46	8.32	9.89	0.03	0.12	0.03	0.02	100.45			
25	39.60	21.68	19.97	0.48	8.25	9.83	0.02	0.14	0.02	0.03	100.03			
26	39.72	21.78	20.18	0.47	8.26	9.68	0.03	0.14	0.03	0.00	100.28			
27	39.56	21.84	20.04	0.45	8.16	9.81	0.03	0.11	0.01	0.00	100.02			
28	39.69	21.79	19.86	0.45	8.30	9.70	0.01	0.10	0.03	0.00	99.94			
29	39.59	21.92	19.88	0.48	8.50	9.76	0.01	0.13	0.03	0.02	100.32			
30	39.89	21.93	19.90	0.48	8.52	9.68	0.01	0.12	0.04	0.00	100.56			
31	39.66	21.90	20.24	0.50	8.50	9.71	0.00	0.11	0.05	0.00	100.68			
32	39.65	21.75	19.85	0.51	8.55	9.61	0.04	0.11	0.03	0.02	100.12			
33	39.69	21.91	19.77	0.51	8.51	9.75	0.03	0.05	0.02	0.01	100.26			
34	39.80	21.93	19.90	0.51	8.44	9.66	0.00	0.05	0.03	0.00	100.31			
35	39.86	21.84	20.09	0.50	8.52	9.54	0.00	0.04	0.02	0.01	100.41			
36	39.91	21.92	20.05	0.50	8.51	9.49	0.02	0.10	0.04	0.03	100.56			
37	39.93	21.90	19.92	0.51	8.50	9.55	0.00	0.09	0.03	0.03	100.45			
38	39.82	21.88	20.09	0.51	8.51	9.53	0.04	0.10	0.05	0.00	100.53			
39	39.46	21.80	19.93	0.50	8.41	9.53	0.02	0.13	0.04	0.00	99.82			
40	39.81	21.81	19.98	0.49	8.25	9.63	0.03	0.08	0.05	0.01	100.14			
41	31.53	27.87	18.43	0.36	7.44	7.73	0.06	0.11	0.04	0.00	93.56	Crack		
42	39.52	21.83	20.30	0.46	8.22	9.58	0.02	0.13	0.04	0.00	100.12			
43	39.53	21.86	20.02	0.46	8.34	9.55	0.05	0.14	0.05	0.00	100.02			
44	39.71	21.85	20.25	0.47	8.58	9.65	0.02	0.13	0.05	0.03	100.73			
45	39.84	21.80	20.24	0.50	8.53	9.74	0.03	0.11	0.03	0.00	100.82			
46	39.48	21.77	19.82	0.48	8.63	9.48	0.01	0.12	0.05	0.00	99.85			
47	39.81	21.96	20.20	0.49	8.65	9.45	0.03	0.08	0.05	0.00	100.72			
48	39.94	21.86	20.38	0.54	8.83	9.03	0.02	0.09	0.04	0.00	100.72			
49	39.88	21.83	20.54	0.56	8.72	8.69	0.00	0.08	0.03	0.04	100.38			
50	39.65	21.91	21.66	0.59	7.82	8.72	0.01	0.04	0.04	0.01	100.45			

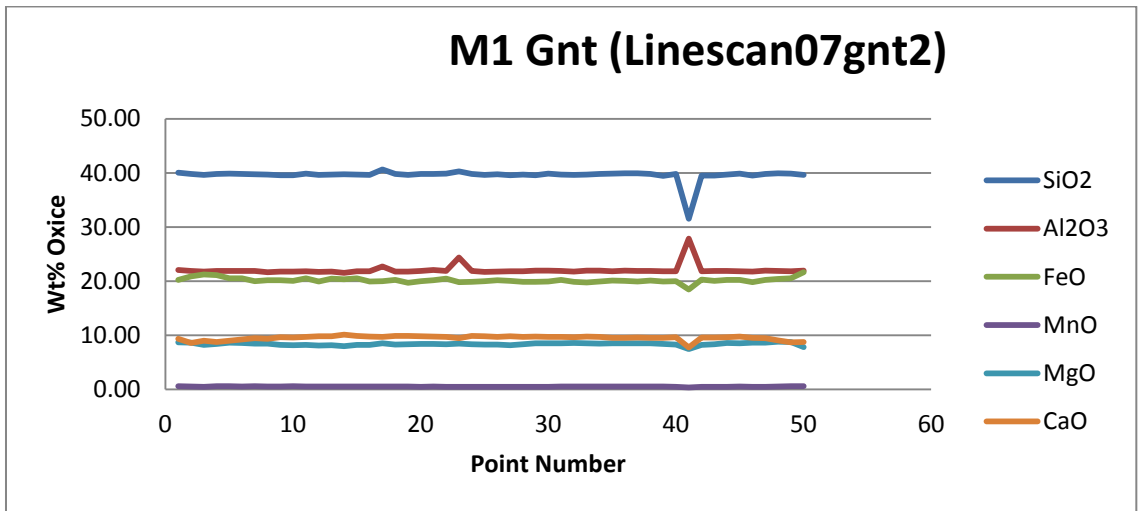


Figure A37. A linescan through a M1 garnet crystal in sample 7. The location is indicated in Fig. A27. For the EMP analyses of each individual point see the table above.

07gnt3	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	
1	39.46	21.77	22.15	0.59	7.65	8.07	0.02	0.06	0.03	0.00	99.80	
2	39.79	21.99	21.61	0.58	8.60	8.09	0.02	0.09	0.02	0.03	100.82	
3	39.75	21.94	21.29	0.60	8.69	8.05	0.02	0.05	0.02	0.01	100.43	
4	39.57	21.81	20.39	0.57	7.77	9.85	0.00	0.03	0.01	0.00	100.00	
5	39.92	21.84	20.58	0.56	7.98	9.74	0.00	0.05	0.02	0.00	100.69	
6	39.56	21.87	20.34	0.53	8.19	9.92	0.01	0.04	0.04	0.00	100.49	
7	39.71	21.82	20.47	0.59	8.50	9.26	0.04	0.05	0.04	0.01	100.48	
8	40.65	22.31	20.29	0.57	8.81	9.07	0.04	0.04	0.02	0.03	101.83	
9	39.82	21.77	21.56	0.59	8.04	8.90	0.02	0.05	0.03	0.03	100.80	
10	39.35	21.76	21.92	0.58	7.74	9.05	0.01	0.04	0.02	0.01	100.49	

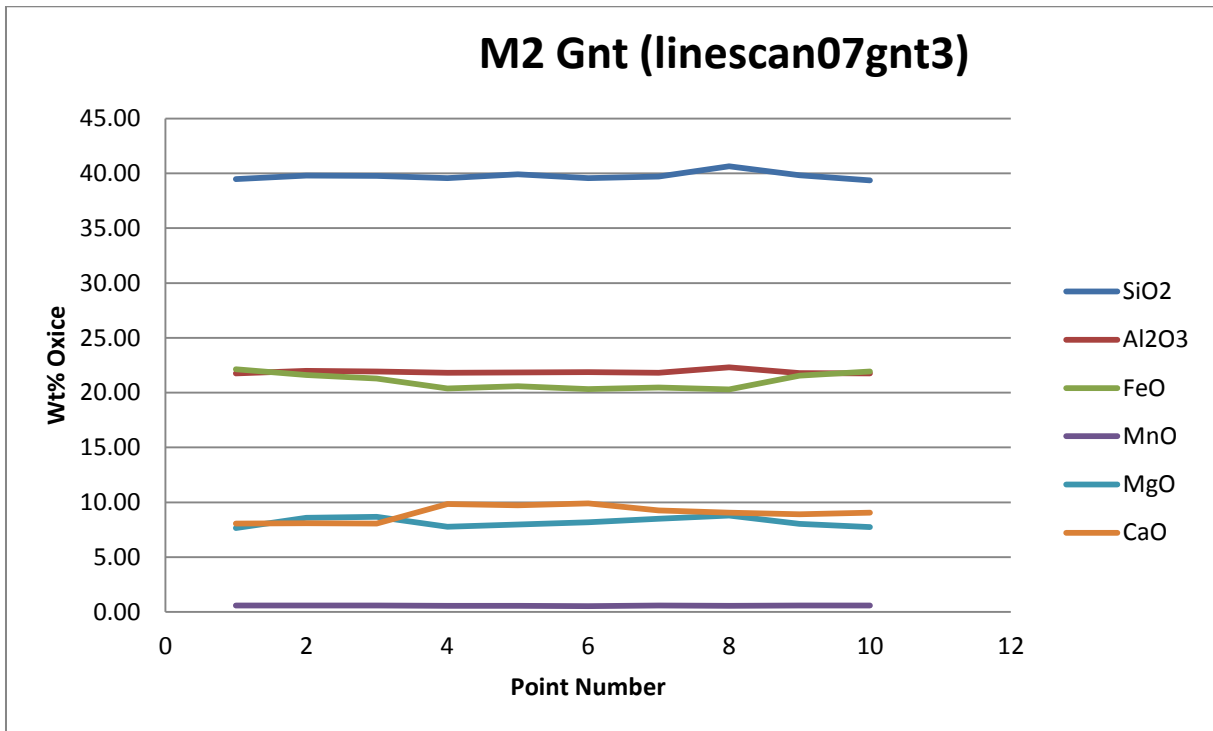


Figure A38. A linescan through a M2 garnet crystal in sample 7. The location is indicated in Fig. A30. For the EMP analyses of each individual point see the table above.

07gnt4												Compound wt%	
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	39.48	21.71	20.55	0.58	7.20	10.51	0.00	0.00	0.03	0.00	100.07		
2	40.00	21.95	21.16	0.59	8.49	8.19	0.03	0.02	0.04	0.00	100.47		
3	38.64	25.36	20.00	0.54	8.16	7.82	0.01	0.06	0.05	0.00	100.66	Crack	
4	40.07	21.94	20.65	0.55	8.74	8.81	0.02	0.05	0.05	0.02	100.90		
5	39.84	22.08	20.36	0.54	8.67	8.85	0.01	0.01	0.02	0.00	100.38		
6	39.96	21.86	19.89	0.52	8.53	9.26	0.01	0.06	0.05	0.00	100.14		
7	39.78	21.81	20.24	0.46	8.45	9.48	0.05	0.12	0.04	0.00	100.44		
8	39.84	21.82	19.92	0.48	8.28	9.57	0.02	0.13	0.04	0.00	100.10		
9	39.72	21.78	20.74	0.48	8.25	9.57	0.02	0.09	0.04	0.00	100.70		
10	39.85	21.72	20.09	0.46	8.28	9.61	0.01	0.12	0.06	0.00	100.21		
11	39.89	21.83	20.55	0.42	8.22	9.70	0.05	0.13	0.05	0.00	100.84		
12	39.74	21.71	20.24	0.48	8.10	9.77	0.03	0.09	0.03	0.04	100.24		
13	43.41	24.54	19.93	0.43	8.35	9.42	0.04	0.10	0.04	0.00	106.26	Crack	
14	39.86	21.77	20.35	0.46	8.16	9.76	0.03	0.11	0.03	0.00	100.52		
15	39.69	21.92	20.56	0.45	8.04	9.73	0.04	0.13	0.07	0.01	100.62		
16	39.52	21.76	20.58	0.42	8.03	9.74	0.06	0.18	0.04	0.00	100.32		
17	39.74	21.70	20.38	0.43	7.82	9.72	0.06	0.17	0.04	0.01	100.06		
18	39.86	21.74	20.35	0.45	7.87	9.73	0.03	0.15	0.03	0.00	100.19		
19	39.76	21.66	20.31	0.44	8.07	9.76	0.06	0.18	0.04	0.00	100.26		
20	39.32	21.59	20.34	0.47	8.05	9.64	0.05	0.16	0.03	0.03	99.68		
21	40.00	21.89	20.26	0.44	8.15	9.64	0.03	0.12	0.04	0.00	100.58		
22	39.80	21.69	20.39	0.44	8.13	9.67	0.03	0.14	0.06	0.00	100.35		
23	39.92	21.81	20.49	0.46	8.26	9.61	0.03	0.14	0.07	0.01	100.79		
24	39.81	21.82	20.00	0.47	8.36	9.45	0.05	0.12	0.02	0.00	100.11		
25	39.77	21.76	20.35	0.50	8.50	9.47	0.05	0.10	0.03	0.00	100.52		
26	39.63	21.63	20.55	0.53	8.55	9.06	0.05	0.09	0.03	0.00	100.13		
27	39.88	21.83	21.07	0.56	8.75	8.61	0.01	0.03	0.04	0.00	100.77		
28	39.75	21.87	20.91	0.59	8.45	8.78	0.00	0.03	0.04	0.03	100.45		
29	39.79	21.68	21.35	0.60	8.09	8.76	0.01	0.04	0.02	0.00	100.33		
30	39.53	21.55	20.96	0.56	7.65	9.60	0.04	0.05	0.05	0.00	99.99		

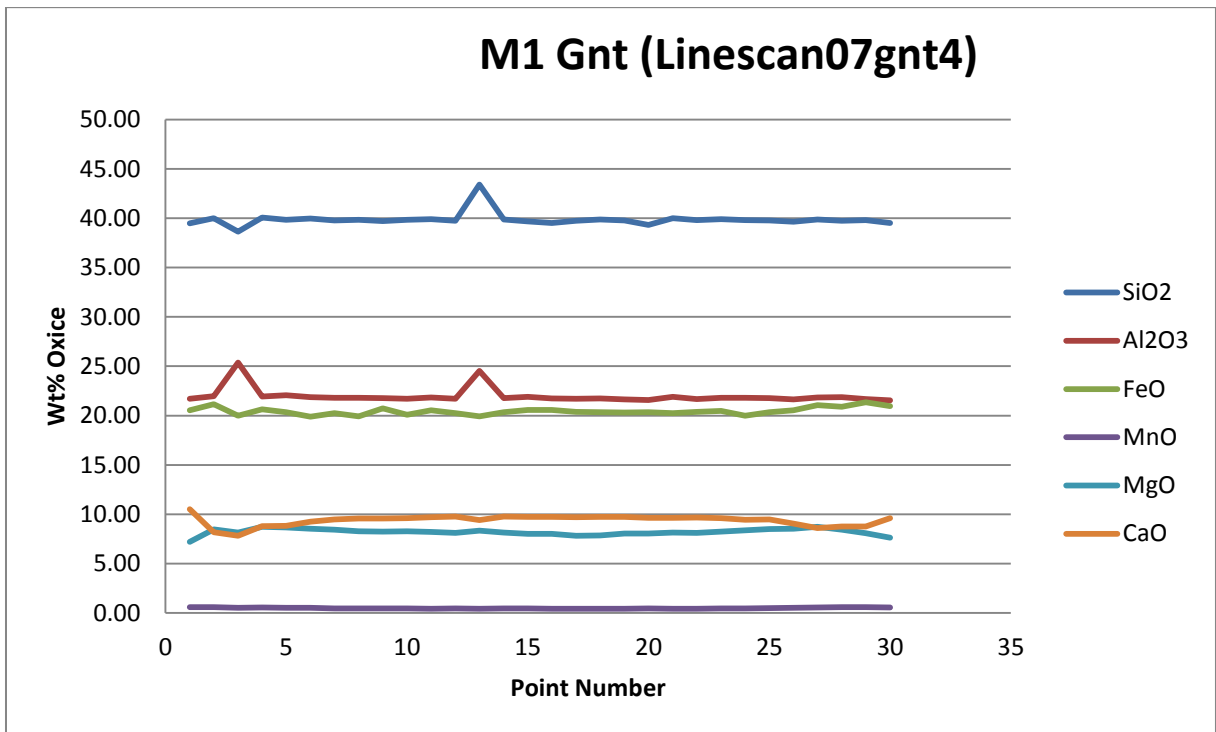


Figure A39. A linescan through a M1 garnet crystal in sample 7. The location is indicated in Fig. A28. For the EMP analyses of each individual point see the table above.

07gnt5		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	39.53	21.61	21.83	0.60	7.21	9.34	0.01	0.04	0.03	0.03	100.23
2	39.64	21.70	20.63	0.62	7.50	9.75	0.02	0.07	0.05	0.00	99.98
3	39.66	21.78	20.31	0.60	7.70	9.43	0.04	0.06	0.06	0.00	99.64
4	39.69	21.97	20.09	0.57	7.55	10.29	0.01	0.05	0.03	0.00	100.26
5	39.58	21.80	20.94	0.43	6.79	10.87	0.02	0.05	0.04	0.02	100.53
6	39.46	21.88	20.51	0.40	6.96	10.91	0.02	0.06	0.03	0.00	100.23

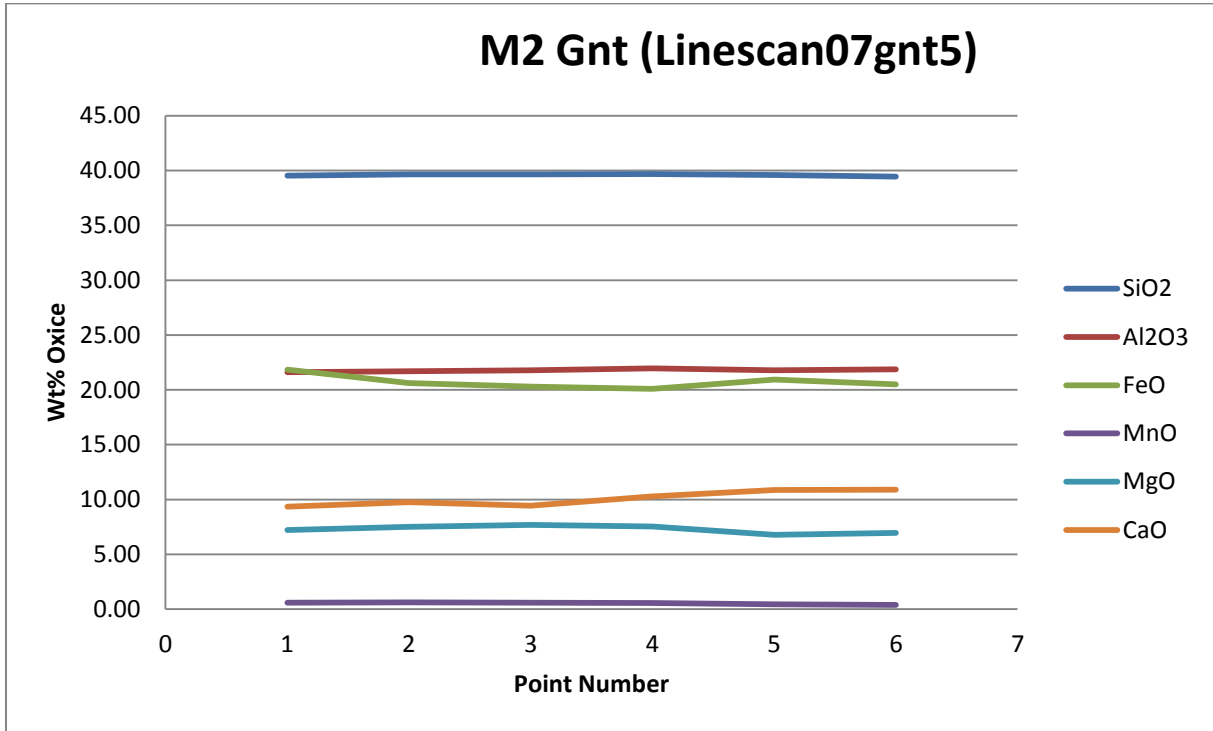


Figure A40. A linescan through a M2 garnet crystal in sample 7. The location is indicated in Fig. A28. For the EMP analyses of each individual point see the table above.

## Chapter 4. Linescan data and locations in sample 9

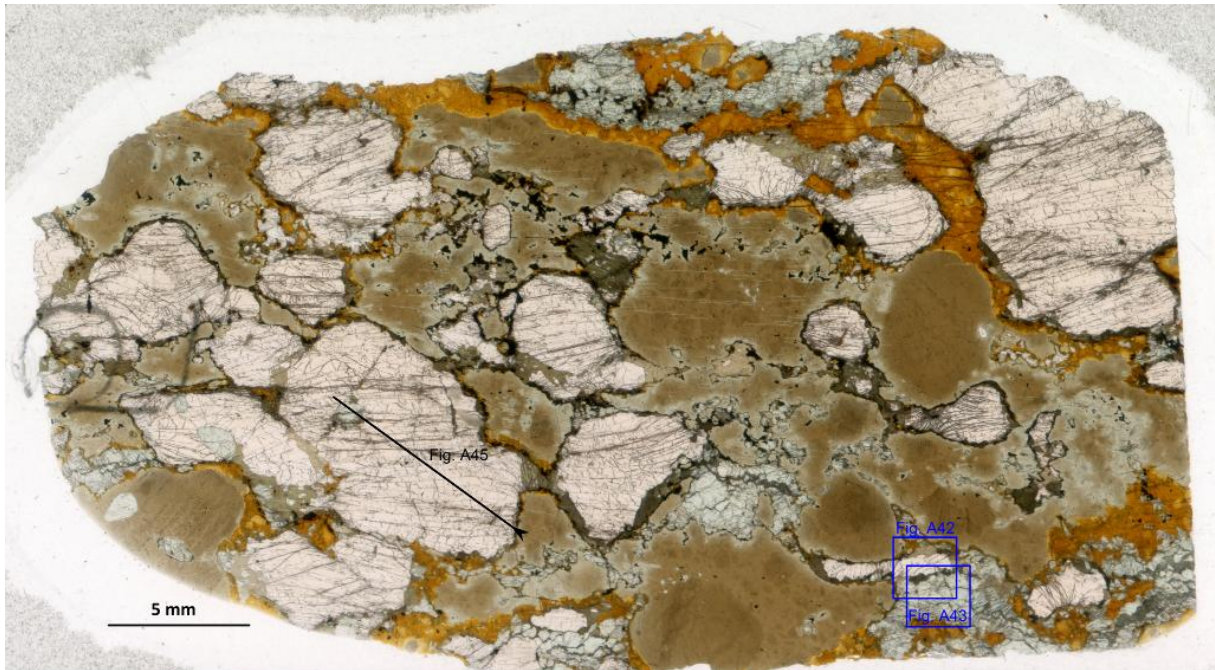


Figure A41. PPL Overview of a thin section made of sample 9 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

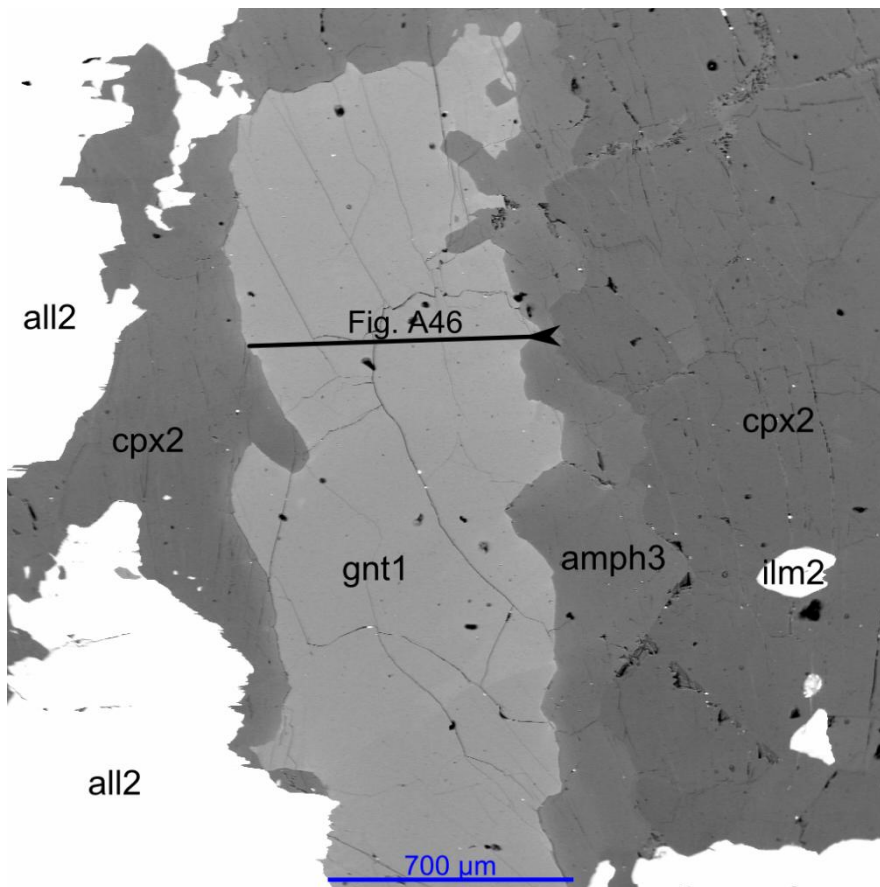


Figure A42. BSE image (sample 9) showing a M1 garnet porphyroclast surrounded by M2 clinopyroxene and allanite. The location of the linescans illustrated in Figure A46 is indicated.

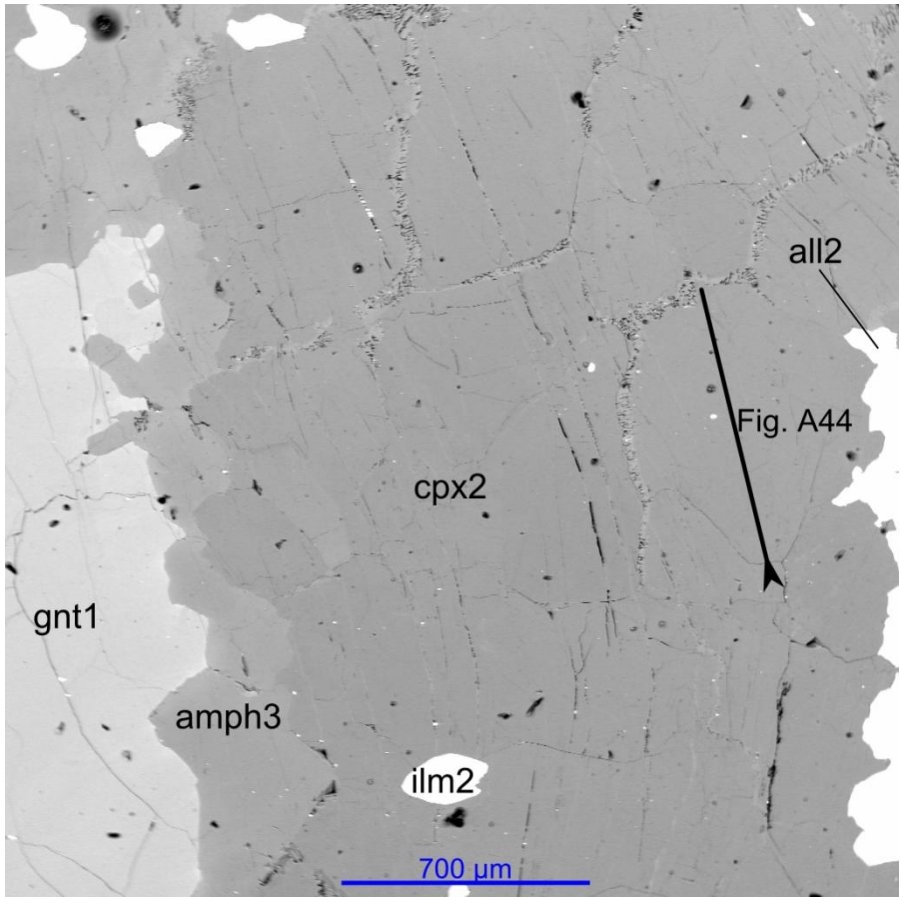


Figure A43. BSE image (sample 9) showing the recrystallized of M2 clinopyroxene. The location of the linescan illustrated in Figure A44 is indicated.

09cpx1		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	54.36	6.94	5.46	0.00	10.70	16.52	4.74	0.13	0.04	0.00	98.91
2	54.55	6.87	5.73	0.01	10.81	16.66	4.71	0.14	0.04	0.00	99.52
3	54.65	6.78	5.41	0.00	10.98	16.76	4.65	0.11	0.06	0.01	99.41
4	54.65	6.78	5.22	0.02	11.05	17.10	4.49	0.12	0.06	0.00	99.48
5	54.91	6.71	5.26	0.00	11.07	17.15	4.55	0.11	0.07	0.09	99.91
6	54.87	6.78	5.01	0.00	11.08	17.03	4.57	0.13	0.04	0.01	99.50
7	54.50	7.25	5.07	0.03	10.75	16.80	4.73	0.29	0.05	0.01	99.51
8	54.82	6.37	5.67	0.03	10.94	17.21	4.51	0.12	0.04	0.00	99.72
9	54.70	6.31	5.64	0.02	10.86	17.09	4.47	0.11	0.04	0.00	99.23
10	54.85	6.29	5.52	0.01	11.17	16.98	4.44	0.11	0.02	0.00	99.39
11	54.76	6.30	5.61	0.00	11.10	16.96	4.46	0.11	0.03	0.01	99.35
12	55.04	6.25	5.48	0.04	11.09	17.08	4.50	0.13	0.02	0.00	99.64
13	53.87	7.98	5.19	0.05	10.50	16.23	4.16	0.11	0.02	0.03	98.12
14	54.77	6.75	5.47	0.03	11.24	16.74	4.77	0.15	0.03	0.00	99.95
15	54.59	7.34	5.62	0.02	10.56	16.37	4.83	0.15	0.05	0.03	99.58

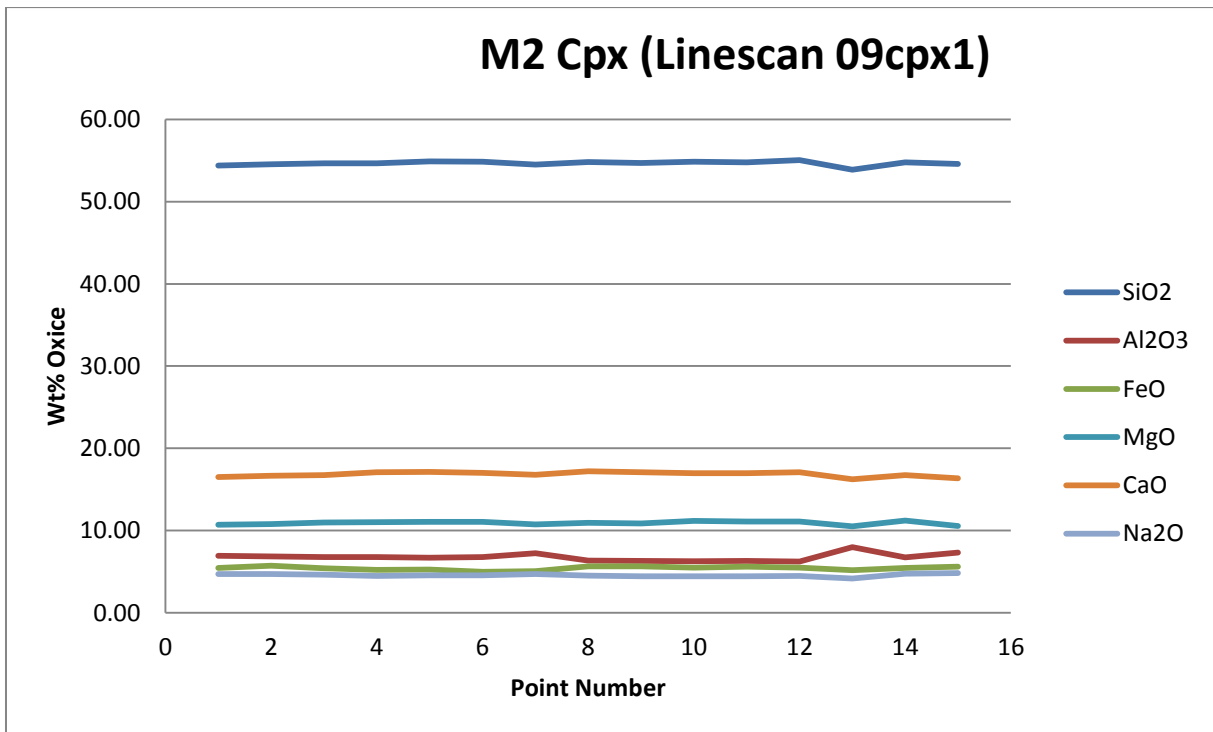


Figure A44. A linescan through a M2 clinopyroxene crystal in sample 9. The location is indicated in Fig. A43. For the EMP analyses of each individual point see the table above.

09gnt1		Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	39.79	21.88	21.18	0.50	8.10	9.42	0.02	0.06	0.03	0.01	100.98		
2	41.26	23.62	20.89	0.50	8.48	9.12	0.05	0.05	0.03	0.00	104.02		
3	39.89	21.86	21.19	0.52	7.76	9.19	0.02	0.06	0.05	0.02	100.57		
4	55.13	6.92	5.73	0.03	10.45	16.73	4.51	0.17	0.01	0.02	99.71	Cpx inclusion	
5	55.27	6.79	5.82	0.00	10.42	16.84	4.43	0.18	0.04	0.04	99.84	Cpx inclusion	
6	55.13	6.91	5.87	0.01	10.60	16.70	4.47	0.18	0.04	0.00	99.91	Cpx inclusion	
7	57.64	11.02	5.99	0.00	10.36	15.47	3.99	0.17	0.03	0.00	104.67	Cpx inclusion	
8	39.60	21.71	21.54	0.53	7.54	9.09	0.01	0.04	0.04	0.03	100.13		
9	39.41	21.61	20.99	0.49	8.10	9.52	0.02	0.04	0.03	0.01	100.24		
10	37.02	20.65	20.90	0.48	7.24	9.56	0.03	0.09	0.03	0.02	96.03	Crack	
11	38.81	24.05	20.48	0.45	7.48	9.25	0.02	0.07	0.03	0.02	100.66		
12	38.70	22.34	20.54	0.47	7.79	9.57	0.01	0.06	0.02	0.00	99.50		
13	39.88	21.75	20.80	0.49	8.00	9.55	0.03	0.07	0.02	0.01	100.59		
14	40.94	23.22	20.75	0.49	7.82	9.39	0.03	0.08	0.03	0.00	102.73		
15	39.81	23.67	20.48	0.49	7.97	9.18	0.04	0.09	0.06	0.01	101.79		
16	39.82	21.91	20.69	0.47	8.39	9.35	0.00	0.06	0.03	0.02	100.73		
17	40.10	21.88	20.57	0.48	8.73	9.01	0.00	0.04	0.01	0.01	100.84		
18	40.51	22.85	20.89	0.53	8.08	9.31	0.01	0.05	0.03	0.00	102.27		
19	39.44	21.67	21.53	0.50	7.92	9.44	0.01	0.05	0.07	0.01	100.66		
20	39.88	21.86	20.92	0.53	8.37	8.98	0.02	0.03	0.03	0.00	100.62		
21	41.63	24.52	20.21	0.49	8.70	8.91	0.02	0.01	0.04	0.00	104.54	Crack	
22	40.04	21.74	20.75	0.49	8.09	9.21	0.02	0.02	0.01	0.03	100.41		
23	39.83	21.42	20.65	0.47	7.82	9.45	0.00	0.06	0.01	0.00	99.71		
24	39.52	21.62	20.92	0.51	7.60	9.55	0.02	0.07	0.04	0.00	99.84		
25	39.84	21.73	20.59	0.46	7.50	9.52	0.00	0.05	0.02	0.01	99.72		
26	36.92	19.18	20.89	0.49	7.19	9.24	0.02	0.04	0.04	0.00	94.02	Crack	
27	43.90	24.49	20.67	0.47	8.43	9.23	0.03	0.06	0.02	0.00	107.32	Crack	
28	40.39	21.89	21.16	0.45	7.98	9.73	0.03	0.06	0.04	0.00	101.75		
29	37.38	20.28	20.75	0.46	7.68	9.49	0.03	0.07	0.00	0.00	96.15	Crack	
30	39.98	21.62	20.88	0.46	8.01	9.62	0.02	0.08	0.05	0.00	100.74		
31	45.03	25.69	19.80	0.45	8.78	8.54	0.06	0.09	0.04	0.01	108.47		
32	40.25	21.76	20.91	0.50	8.24	9.50	0.03	0.07	0.04	0.00	101.31		
33	36.91	26.66	1.40	0.03	0.36	6.70	1.42	0.00	0.00	0.04	73.50	Crack	
34	39.76	21.69	20.81	0.48	8.35	9.33	0.01	0.08	0.02	0.00	100.53		
35	35.92	22.64	17.57	0.26	5.16	8.37	0.17	0.08	0.02	0.00	90.18	Crack	
36	35.55	21.67	17.12	0.46	7.72	11.66	0.16	0.07	0.03	0.03	94.47	Crack	
37	43.20	24.02	20.62	0.50	9.62	8.42	0.07	0.09	0.03	0.01	106.58	Crack	
38	39.98	21.75	21.40	0.55	8.77	8.05	0.01	0.06	0.01	0.03	100.61		
39	40.26	22.00	21.67	0.59	7.12	9.73	0.04	0.06	0.03	0.01	101.51		
40	39.88	21.50	21.20	0.61	7.63	9.41	0.00	0.06	0.00	0.00	100.30		

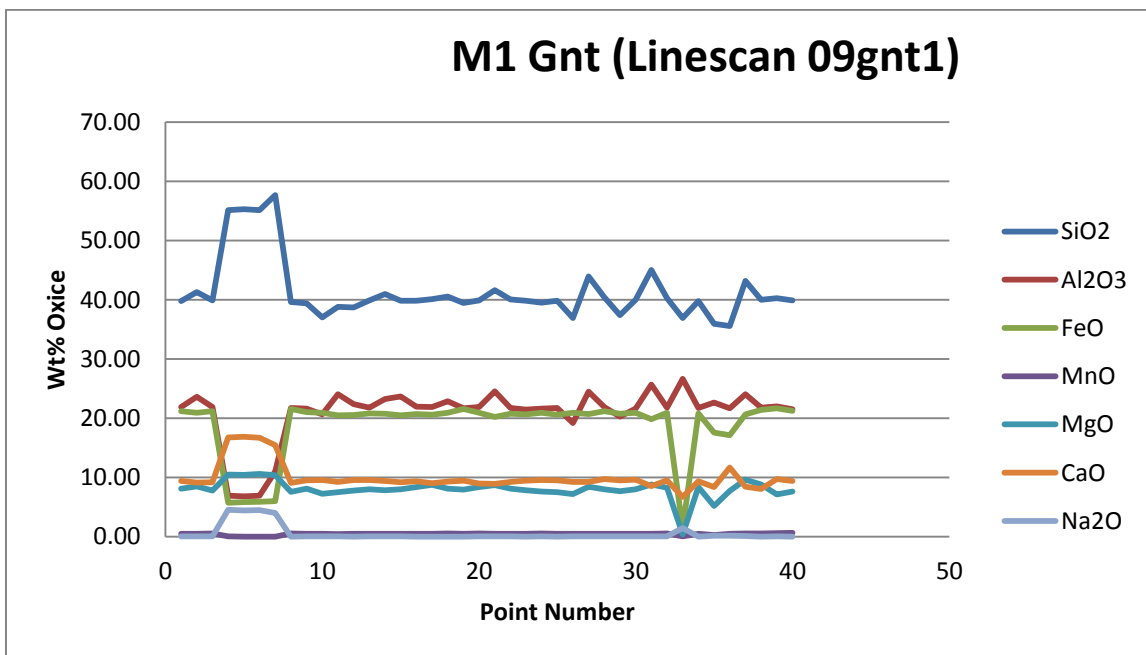


Figure A45. A linescan through a M1 garnet crystal in sample 9. The location is indicated in Fig. A41. For the EMP analyses of each individual point see the table above.



09gnt2	Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	39.09	21.60	23.61	0.77	7.07	7.52	0.01	0.03	0.03	0.00	99.73
2	39.19	21.84	22.67	0.72	7.18	8.45	0.00	0.04	0.04	0.04	100.17
3	39.55	21.85	22.36	0.64	7.62	8.31	0.03	0.04	0.05	0.00	100.45
4	39.57	21.72	21.48	0.59	6.99	10.05	0.01	0.04	0.04	0.00	100.48
5	39.57	21.67	20.48	0.57	6.82	11.04	0.02	0.04	0.02	0.01	100.23
6	39.70	21.92	19.66	0.48	7.01	11.73	0.04	0.05	0.02	0.00	100.60
7	39.81	22.29	19.18	0.52	7.05	9.76	0.05	0.04	0.03	0.00	98.73
8	39.84	22.03	21.59	0.57	8.58	8.00	0.01	0.04	0.03	0.03	100.73
9	39.63	21.90	20.09	0.51	7.24	11.05	0.00	0.04	0.03	0.00	100.49
10	39.45	21.51	21.03	0.57	7.78	9.88	0.00	0.03	0.02	0.00	100.27
11	39.66	21.85	21.18	0.58	7.65	9.86	0.00	0.04	0.04	0.00	100.87
12	39.59	21.69	19.90	0.56	6.81	12.12	0.02	0.12	0.01	0.00	100.82
13	39.65	21.93	20.93	0.59	7.29	10.49	0.02	0.05	0.03	0.02	101.00
14	39.73	21.89	20.60	0.57	7.09	10.98	0.01	0.06	0.04	0.00	100.96
15	39.40	21.63	23.17	0.85	6.65	8.72	0.03	0.04	0.02	0.06	100.57

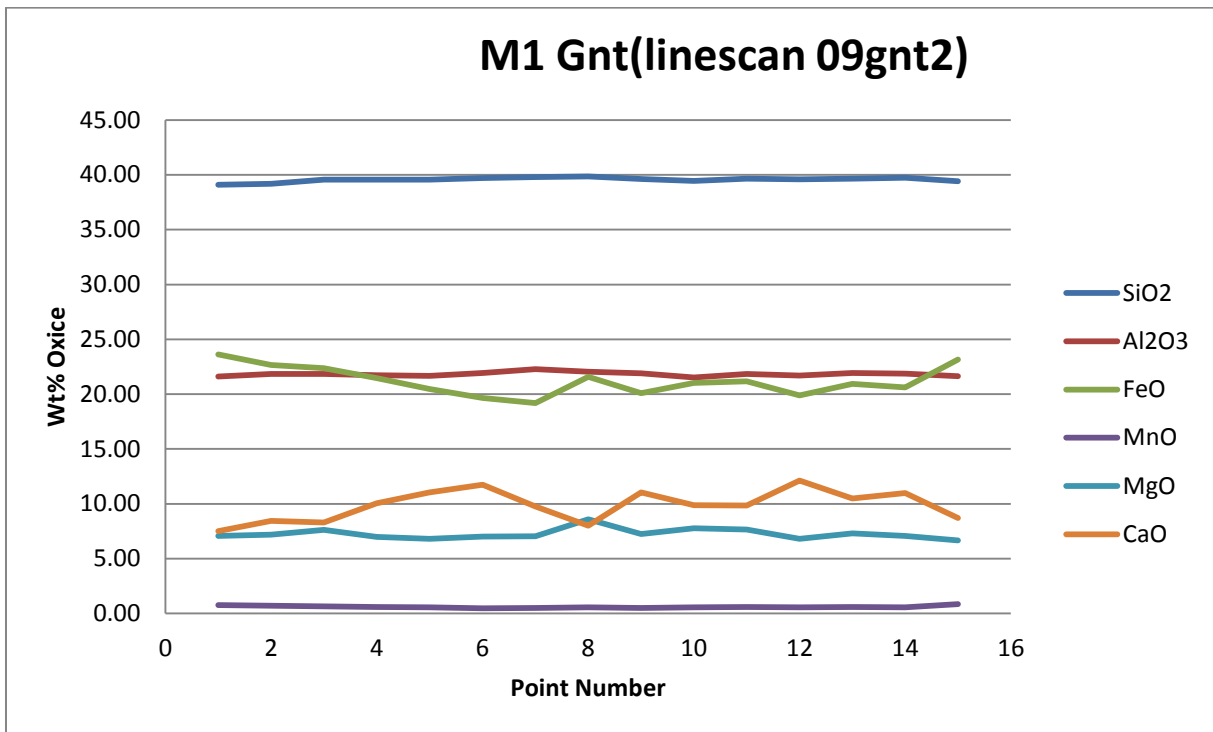


Figure A46. A linescan through a M1 garnet crystal in sample 9. The location is indicated in Fig. A42. For the EMP analyses of each individual point see the table above.

**Chapter 5. Linescan data and locations in sample 11**

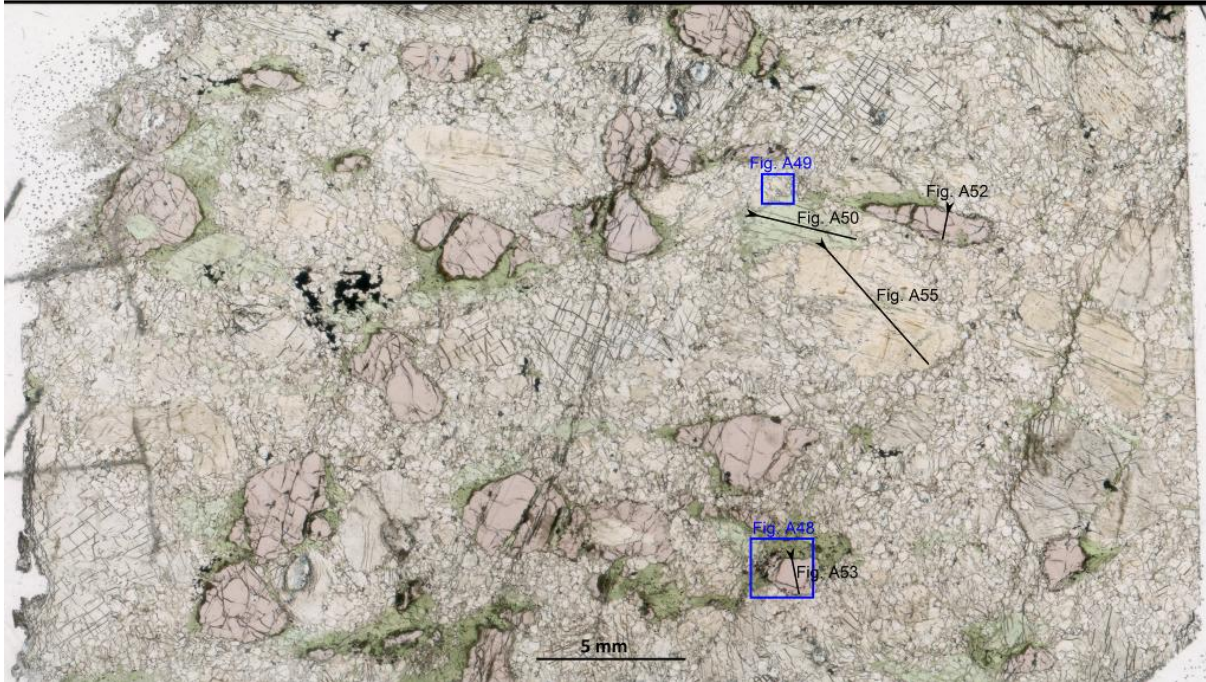


Figure A47. PPL Overview of a thin section made of sample 11 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

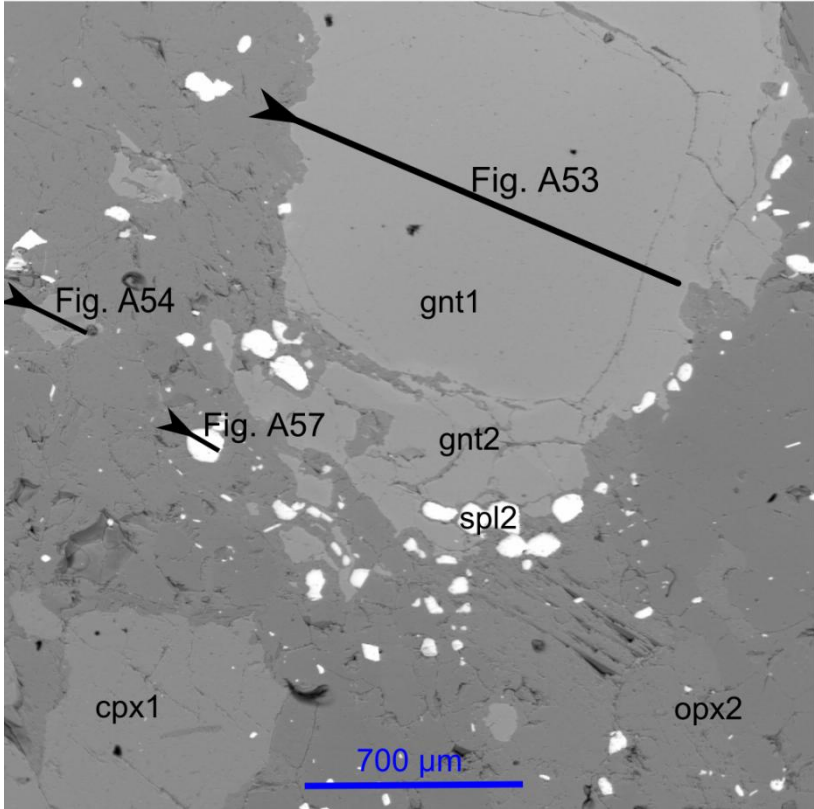


Figure A48. BSE image (sample 11) showing a M1 garnet porphyroblast recrystallizing to M2 garnet + M2 spinel. The locations of the linescans illustrated in Figure A53, A54 and A57 are indicated.

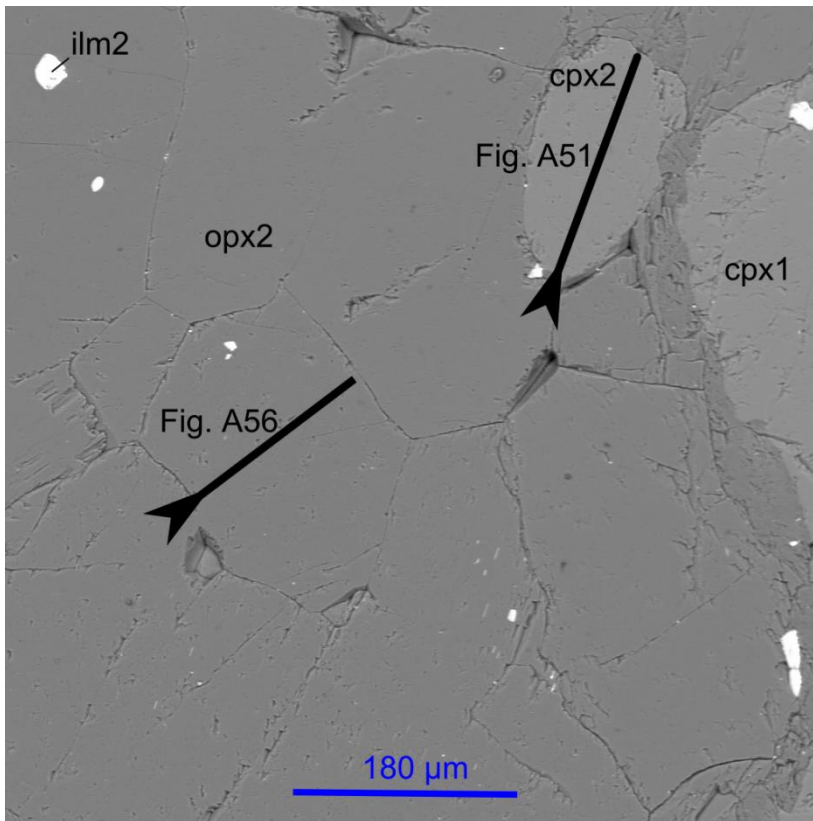


Figure A49. BSE image (sample 11) showing the recrystallized matrix of M2 orthopyroxene and M2 clinopyroxene. The locations of the linescans illustrated in Figure A51 and A56 are indicated.

11cpx1		Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	54.40	0.86	2.58	0.03	16.54	23.55	0.65	0.03	0.78	0.06	99.50		
2	53.91	1.39	2.49	0.07	16.29	23.19	0.78	0.05	0.85	0.06	99.09		
3	54.10	1.18	2.31	0.05	16.20	23.13	0.86	0.04	0.86	0.11	98.85		
4	53.28	1.30	2.29	0.06	15.69	23.30	0.85	0.05	0.92	0.04	97.78		
5	53.14	2.87	2.61	0.05	16.07	23.23	0.42	0.06	0.34	0.02	98.79		
6	53.76	1.19	2.38	0.03	16.06	22.66	0.94	0.05	0.86	0.04	97.97		
7	54.40	1.34	2.30	0.04	16.20	23.36	0.94	0.05	0.88	0.06	99.57		
8	54.74	1.31	2.31	0.05	16.27	23.15	0.91	0.06	0.89	0.03	99.73		
9	55.11	2.53	2.43	0.05	16.25	22.42	0.99	0.04	0.85	0.08	100.75		
10	54.36	1.11	2.49	0.07	16.61	23.41	0.69	0.05	0.69	0.02	99.49		
11	54.56	1.17	2.28	0.05	16.27	23.23	0.93	0.06	0.88	0.07	99.52		
12	54.44	1.29	2.45	0.05	16.26	23.07	0.90	0.05	0.86	0.07	99.43		
13	52.28	1.73	2.52	0.07	15.59	23.13	0.73	0.06	0.79	0.03	96.92	Crack	
14	55.04	1.19	2.43	0.06	16.43	23.13	0.91	0.07	0.88	0.04	100.16		
15	54.98	1.50	2.39	0.07	16.51	23.05	1.00	0.05	0.88	0.04	100.48		
16	52.50	1.24	2.53	0.06	16.50	23.19	0.72	0.05	0.72	0.03	97.55	Crack	
17	54.27	1.13	2.44	0.06	16.45	23.16	0.82	0.04	0.84	0.08	99.28		
18	55.90	1.25	2.43	0.05	17.22	22.92	0.95	0.03	0.81	0.06	101.61		
19	54.53	1.01	2.59	0.06	16.49	23.20	0.75	0.01	0.70	0.07	99.40		
20	54.48	1.11	2.56	0.05	16.31	23.18	0.74	0.03	0.72	0.05	99.22		
21	54.61	0.87	2.63	0.05	16.54	23.63	0.63	0.02	0.62	0.05	99.66		
22	54.51	0.60	2.46	0.06	16.99	23.92	0.37	0.03	0.32	0.04	99.29		
23	54.71	0.92	2.52	0.02	16.48	23.38	0.73	0.04	0.52	0.06	99.38		
24	54.65	1.10	2.56	0.04	16.19	22.76	1.08	0.02	0.72	0.05	99.17		
25	45.18	10.64	5.15	0.06	18.19	11.80	2.32	0.30	1.34	0.11	95.09	Crack	
26	54.43	1.30	2.50	0.04	16.02	22.81	1.04	0.03	0.70	0.04	98.90		
27	54.53	1.18	2.56	0.07	16.44	22.67	1.13	0.03	0.79	0.00	99.39		
28	54.91	1.34	2.52	0.05	16.04	22.51	1.29	0.02	0.92	0.02	99.63		
29	54.76	0.98	2.26	0.04	16.46	23.24	0.92	0.01	0.72	0.02	99.40		
30	54.66	1.08	2.45	0.03	16.32	22.98	0.89	0.05	0.79	0.08	99.33		

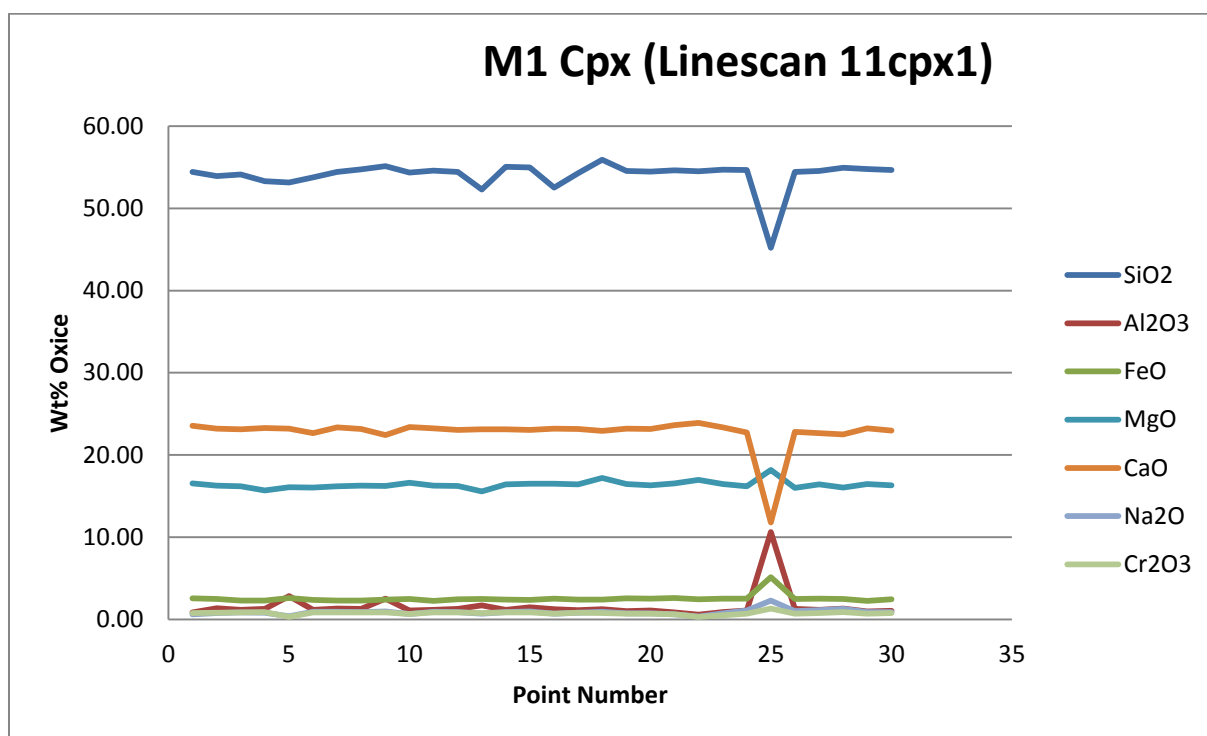


Figure A50. A linescan through a M1 clinopyroxene crystal in sample 11. The location is indicated in Fig. A47. For the EMP analyses of each individual point see the table above.

11cpx2		Compound Wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	54.88	1.06	2.56	0.06	16.26	23.12	0.87	0.04	0.53	0.04	99.43	
2	54.68	1.07	2.68	0.03	16.33	22.97	0.82	0.03	0.70	0.08	99.39	
3	49.74	6.36	2.98	0.06	14.26	21.33	0.73	0.05	0.55	0.03	96.08	Crack
4	54.63	1.07	2.60	0.06	16.43	22.99	0.70	0.05	0.57	0.05	99.15	
5	54.91	1.08	2.63	0.05	16.58	23.01	0.78	0.04	0.66	0.09	99.82	
6	54.78	1.10	2.68	0.06	16.57	22.94	0.85	0.03	0.66	0.06	99.72	
7	54.71	1.09	2.69	0.06	16.43	22.81	0.80	0.01	0.69	0.06	99.35	
8	50.60	7.15	2.99	0.05	14.49	20.70	0.73	0.03	0.61	0.08	97.43	Crack
9	54.62	1.14	2.58	0.03	16.27	23.04	0.82	0.05	0.67	0.05	99.27	
10	54.63	1.05	2.69	0.04	16.23	22.93	0.91	0.01	0.67	0.02	99.19	
11	55.07	1.16	2.61	0.05	16.20	23.01	0.87	0.02	0.63	0.00	99.61	
12	54.54	1.34	2.57	0.04	16.14	22.93	0.87	0.03	0.62	0.04	99.12	
13	55.22	1.05	2.55	0.03	16.31	22.91	1.00	0.01	0.70	0.02	99.80	
14	53.57	1.26	2.78	0.07	15.97	23.17	0.92	0.03	0.69	0.06	98.53	
15	54.75	0.91	2.69	0.06	16.49	23.12	0.82	0.03	0.50	0.00	99.36	

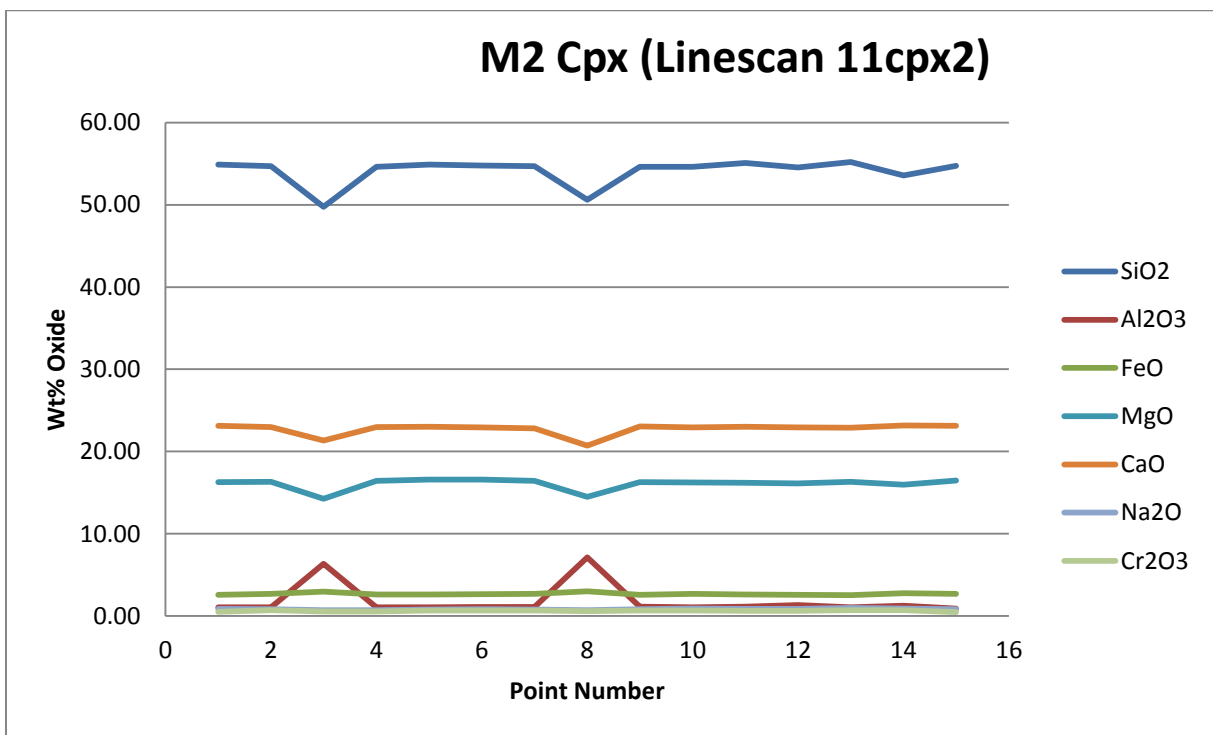


Figure A51. A linescan through a M2 clinopyroxene crystal in sample 11. The location is indicated in Fig. A49. For the EMP analyses of each individual point see the table above.

11gnt1	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	40.33	20.97	15.70	0.67	14.59	5.16	0.04	0.02	2.38	0.01	99.85	
2	40.31	20.99	15.89	0.69	14.35	5.47	0.00	0.05	2.28	0.00	100.03	
3	40.20	20.32	15.53	0.64	14.45	5.53	0.00	0.06	2.88	0.00	99.61	
4	40.06	20.38	15.13	0.59	14.73	5.50	0.00	0.06	2.88	0.00	99.33	
5	40.40	20.44	14.94	0.57	14.99	5.56	0.00	0.07	2.78	0.02	99.77	
6	40.24	20.61	14.66	0.58	15.20	5.60	0.01	0.06	2.85	0.00	99.81	
7	40.32	20.51	14.69	0.56	15.20	5.53	0.00	0.06	2.82	0.00	99.68	
8	40.35	20.59	14.48	0.54	15.28	5.58	0.00	0.05	2.82	0.00	99.68	
9	40.66	20.60	14.41	0.56	15.34	5.55	0.01	0.07	2.81	0.03	100.06	
10	40.38	20.50	14.33	0.55	15.30	5.64	0.00	0.05	2.86	0.01	99.61	
11	40.15	20.50	14.39	0.55	15.28	5.59	0.00	0.03	2.85	0.03	99.36	
12	40.16	20.57	14.39	0.55	15.30	5.52	0.01	0.07	2.77	0.03	99.37	
13	40.24	20.58	14.46	0.53	15.29	5.61	0.00	0.07	2.85	0.03	99.66	
14	40.49	20.46	14.32	0.56	15.20	5.62	0.02	0.08	2.87	0.01	99.63	
15	40.19	20.51	15.03	0.58	15.13	5.57	0.00	0.06	2.88	0.00	99.96	
16	40.14	20.49	15.13	0.55	14.88	5.61	0.02	0.07	2.81	0.00	99.69	
17	40.07	20.49	15.11	0.58	14.82	5.58	0.03	0.06	2.80	0.00	99.54	
18	40.09	20.43	15.26	0.56	14.66	5.49	0.00	0.06	2.75	0.00	99.29	
19	40.50	20.51	15.38	0.56	14.73	5.54	0.01	0.04	2.71	0.00	99.99	
20	40.00	20.54	15.64	0.59	14.49	5.52	0.01	0.05	2.66	0.00	99.50	
21	40.05	20.48	15.70	0.62	14.55	5.58	0.01	0.04	2.71	0.03	99.76	
22	40.11	20.63	15.46	0.62	14.43	5.56	0.00	0.03	2.71	0.03	99.58	
23	40.12	20.70	15.73	0.62	14.33	5.61	0.01	0.04	2.76	0.00	99.91	
24	39.88	20.48	15.78	0.64	14.24	5.68	0.02	0.04	2.70	0.00	99.48	
25	40.00	20.44	15.41	0.69	14.40	5.59	0.00	0.04	2.64	0.00	99.21	
26	39.94	20.54	15.64	0.68	14.33	5.61	0.00	0.04	2.74	0.02	99.54	
27	39.15	28.35	13.81	0.61	13.47	4.80	0.02	0.03	2.23	0.00	102.46	Crack
28	40.36	21.74	15.69	0.66	14.74	5.27	0.01	0.01	1.39	0.00	99.87	
29	40.26	21.79	15.83	0.73	14.80	5.07	0.00	0.00	1.34	0.00	99.81	
30	40.15	21.38	16.26	0.70	14.00	5.56	0.00	0.00	1.45	0.00	99.50	

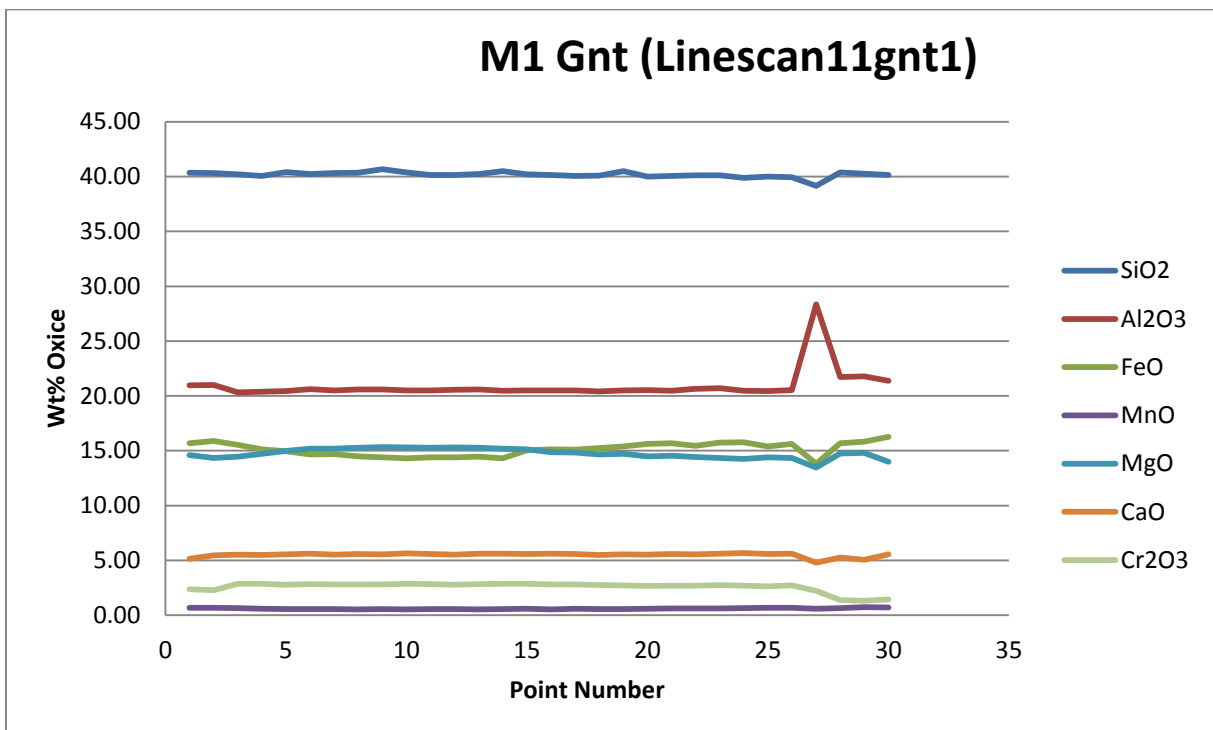


Figure A52. A linescan through a M1 garnet crystal in sample 11. The location is indicated in Fig. A47. For the EMP analyses of each individual point see the table above.

11gnt2		Compound Wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	44.42	12.43	5.80	0.08	17.20	11.51	2.26	0.33	1.41	0.16	95.61	
2	39.43	20.21	17.90	1.14	11.58	5.87	0.01	0.02	2.60	0.00	98.75	
3	40.25	20.51	15.59	0.68	14.04	5.98	0.02	0.03	2.66	0.03	99.80	
4	40.06	20.63	15.69	0.70	14.12	5.70	0.01	0.02	2.67	0.00	99.59	
5	40.16	20.68	15.40	0.68	14.17	5.66	0.00	0.04	2.57	0.01	99.36	
6	40.28	20.54	15.43	0.64	14.16	5.72	0.01	0.05	2.75	0.02	99.60	
7	39.92	20.58	15.38	0.63	14.23	5.61	0.02	0.05	2.71	0.00	99.14	
8	40.09	20.64	15.58	0.61	14.38	5.60	0.01	0.05	2.69	0.00	99.66	
9	40.35	20.59	15.51	0.62	14.32	5.64	0.00	0.02	2.67	0.02	99.76	
10	40.20	20.40	15.17	0.59	14.45	5.72	0.01	0.06	2.85	0.00	99.44	
11	40.30	20.59	15.17	0.58	14.66	5.59	0.00	0.05	2.69	0.00	99.63	
12	39.73	20.36	14.99	0.58	14.66	5.56	0.02	0.08	2.79	0.01	98.77	
13	40.30	20.49	14.87	0.55	15.00	5.60	0.00	0.06	2.78	0.00	99.65	
14	40.45	20.48	14.81	0.56	14.92	5.62	0.00	0.05	2.79	0.00	99.68	
15	40.24	20.53	14.48	0.58	14.84	5.55	0.00	0.06	2.80	0.00	99.06	
16	39.71	20.25	14.65	0.54	14.82	5.58	0.00	0.04	2.79	0.02	98.40	
17	40.20	20.46	14.57	0.58	15.15	5.63	0.00	0.07	2.84	0.00	99.50	
18	40.45	20.44	14.68	0.54	15.12	5.59	0.02	0.08	2.86	0.00	99.79	
19	40.55	20.33	14.44	0.57	15.08	5.63	0.00	0.06	2.77	0.03	99.47	
20	40.48	20.46	14.35	0.56	15.14	5.56	0.02	0.06	2.89	0.04	99.56	
21	40.41	20.42	14.40	0.53	15.18	5.49	0.02	0.06	2.81	0.00	99.32	
22	40.32	20.35	14.59	0.58	14.90	5.65	0.00	0.04	2.83	0.00	99.27	
23	40.40	21.91	14.82	0.57	13.44	5.50	0.01	0.08	2.80	0.00	99.53	
24	40.33	20.48	15.31	0.58	14.60	5.57	0.00	0.03	2.71	0.00	99.61	
25	40.22	20.35	15.46	0.64	14.89	5.59	0.02	0.04	2.78	0.00	100.01	
26	40.11	20.46	15.78	0.67	14.07	5.66	0.00	0.05	2.81	0.00	99.62	
27	39.31	21.17	14.43	0.75	20.41	1.93	0.05	0.02	1.17	0.04	99.28	
28	44.78	27.94	14.36	0.60	17.18	3.81	0.04	0.03	1.44	0.00	110.18	Crack
29	40.52	21.54	16.06	0.65	14.51	4.94	0.00	0.02	1.49	0.01	99.75	
30	56.52	0.60	10.32	0.17	31.77	0.13	0.00	0.04	0.09	0.07	99.71	

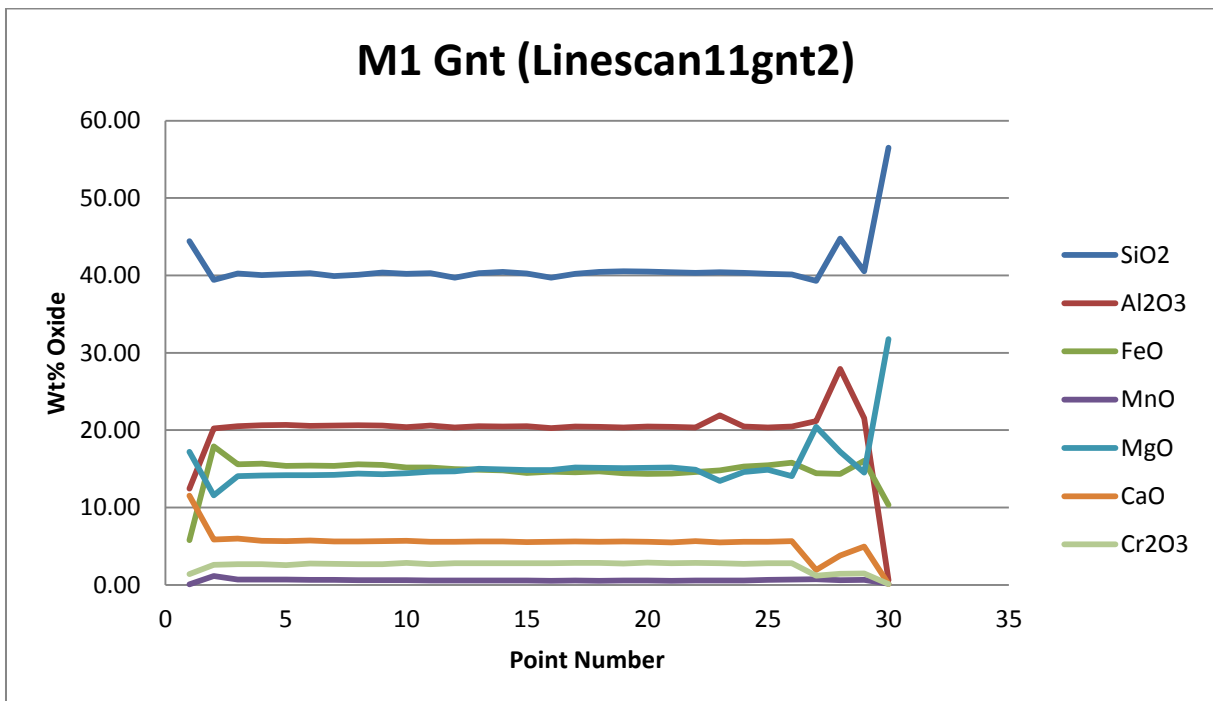


Figure A53. A linescan through a M1 garnet crystal in sample 11. The location is indicated in Fig. A48. For the EMP analyses of each individual point see the table above.

11gnt3		Compound Wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	35.89	19.23	15.99	0.64	12.45	5.16	0.00	0.04	1.61	0.01	91.00
2	42.10	22.52	15.42	0.61	14.57	5.11	0.01	0.03	1.66	0.00	102.03
3	40.65	22.18	15.43	0.59	14.24	5.07	0.00	0.03	1.55	0.02	99.76
4	40.40	21.41	15.73	0.61	14.54	5.08	0.01	0.02	1.59	0.00	99.39
5	40.31	21.41	15.57	0.61	14.71	4.95	0.02	0.01	1.58	0.00	99.17
6	40.38	21.35	15.93	0.63	14.71	5.21	0.00	0.02	1.77	0.02	100.02
7	40.79	21.39	15.88	0.64	14.74	5.12	0.00	0.03	1.82	0.00	100.41
8	40.18	21.27	15.61	0.63	14.51	5.10	0.04	0.03	1.70	0.01	99.09
9	40.23	21.24	15.62	0.64	14.51	5.24	0.01	0.03	1.87	0.00	99.38
10	40.30	21.30	15.68	0.64	14.61	5.13	0.01	0.04	1.67	0.00	99.39
11	40.22	21.20	15.77	0.64	14.57	5.05	0.01	0.05	1.68	0.06	99.24
12	40.29	21.34	16.00	0.61	14.61	5.08	0.01	0.01	1.69	0.02	99.66
13	40.24	21.31	15.60	0.62	14.58	5.13	0.02	0.03	1.70	0.00	99.24
14	40.34	21.30	15.84	0.59	14.45	5.07	0.00	0.03	1.63	0.00	99.25
15	39.45	20.63	17.59	0.89	12.65	5.18	0.01	0.03	1.87	0.00	98.30

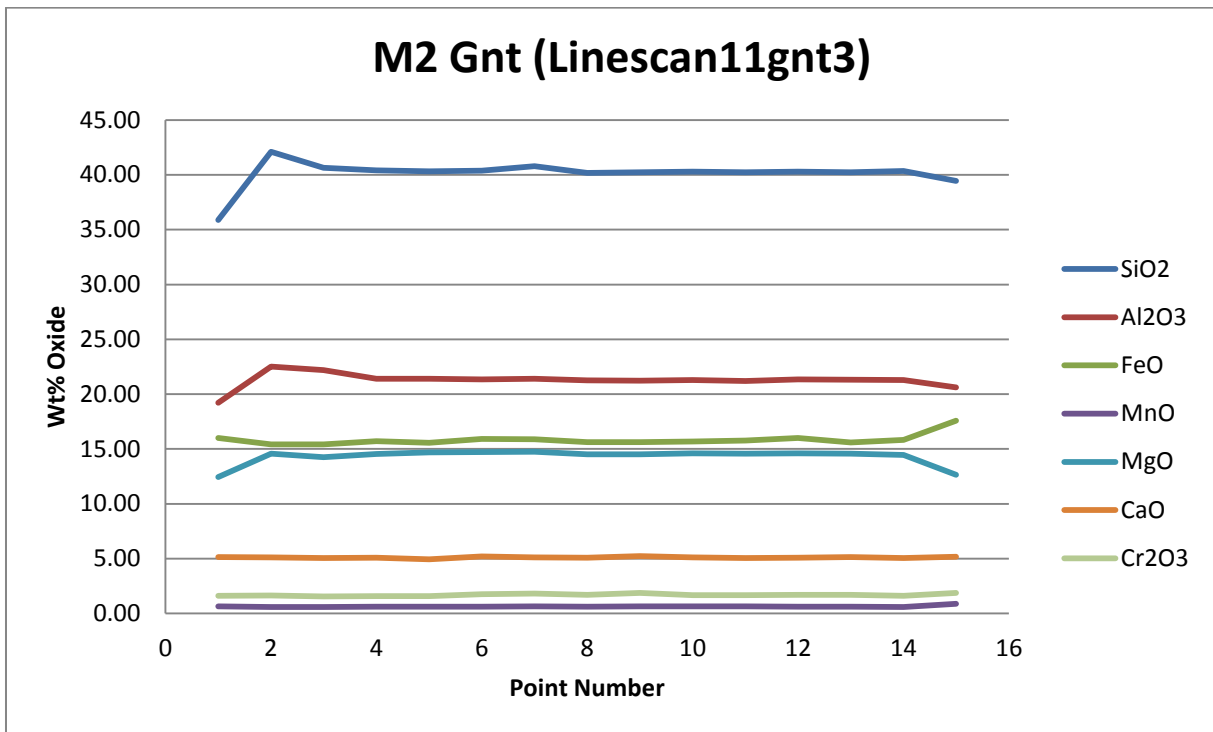


Figure A54. A linescan through a M2 garnet crystal in sample 11. The location is indicated in Fig. A48. For the EMP analyses of each individual point see the table above.



11opx1	Compound Wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	56.91	0.43	9.44	0.12	32.58	0.14	0.01	0.03	0.07	0.09	99.82	
2	57.16	0.38	9.42	0.10	32.93	0.12	0.00	0.04	0.09	0.07	100.31	
3	55.36	0.94	9.33	0.09	31.87	0.12	0.00	0.03	0.14	0.09	97.97	
4	58.56	2.22	9.29	0.10	34.58	0.20	0.00	0.02	0.12	0.12	105.21	Crack
5	56.96	0.63	9.39	0.11	32.74	0.12	0.00	0.02	0.15	0.13	100.25	
6	51.55	9.60	8.92	0.12	27.00	0.33	0.03	0.04	0.13	0.06	97.79	Crack
7	56.03	1.44	9.11	0.12	31.81	0.15	0.00	0.05	0.12	0.10	98.94	
8	52.18	2.26	9.40	0.09	29.49	0.21	0.00	0.05	0.22	0.13	94.03	Crack
9	57.60	0.54	9.24	0.13	33.18	0.11	0.01	0.02	0.10	0.09	101.04	
10	57.20	0.50	9.23	0.10	32.57	0.12	0.01	0.02	0.06	0.09	99.91	
11	57.63	0.52	9.35	0.11	33.45	0.13	0.00	0.00	0.07	0.09	101.36	
12	57.01	0.78	9.48	0.12	32.60	0.12	0.00	0.02	0.12	0.05	100.29	
13	56.86	0.48	9.32	0.14	32.54	0.12	0.01	0.01	0.12	0.12	99.71	
14	57.10	0.40	9.28	0.13	32.71	0.10	0.00	0.01	0.08	0.12	99.92	
15	56.89	0.44	9.34	0.12	32.68	0.12	0.00	0.02	0.12	0.08	99.82	
16	48.05	10.63	4.79	0.05	19.46	12.02	2.41	0.35	0.88	0.17	98.81	Crack
17	54.20	2.55	9.51	0.12	29.73	0.24	0.02	0.03	0.06	0.08	96.53	Crack
18	56.45	2.56	9.28	0.13	31.57	0.23	0.01	0.03	0.07	0.11	100.45	
19	44.93	12.57	4.76	0.04	17.42	11.86	1.89	0.32	1.25	0.16	95.20	Crack
20	46.50	10.64	4.49	0.04	18.78	12.01	2.21	0.32	1.08	0.17	96.23	Crack
21	57.11	0.67	9.33	0.09	32.74	0.12	0.00	0.04	0.10	0.07	100.29	
22	56.97	0.42	9.40	0.14	32.71	0.13	0.00	0.03	0.10	0.09	99.99	
23	57.05	0.45	9.20	0.11	32.77	0.10	0.00	0.03	0.12	0.09	99.93	
24	57.05	0.43	9.38	0.12	32.70	0.13	0.00	0.04	0.12	0.06	100.03	
25	57.22	0.47	9.53	0.10	32.56	0.13	0.00	0.02	0.06	0.07	100.16	
26	57.28	0.41	9.18	0.10	32.56	0.13	0.00	0.04	0.08	0.11	99.89	
27	56.64	0.51	9.50	0.11	32.47	0.11	0.00	0.03	0.46	0.06	99.90	
28	57.08	0.41	9.54	0.11	32.62	0.12	0.01	0.02	0.11	0.08	100.09	
29	56.90	0.55	9.31	0.11	32.61	0.09	0.01	0.04	0.12	0.12	99.86	
30	56.98	0.48	9.18	0.10	32.62	0.12	0.00	0.03	0.12	0.07	99.70	

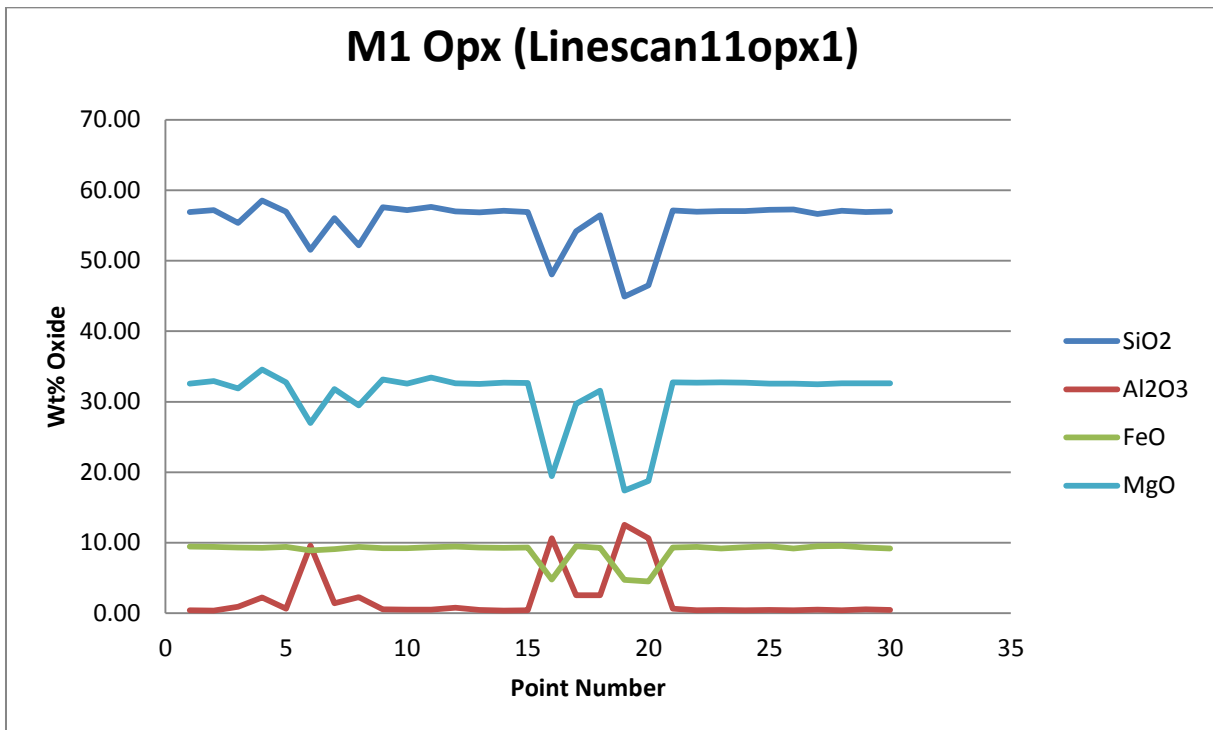


Figure A55. A linescan through a M1 orthopyroxene crystal in sample 11. The location is indicated in Fig. A47. For the EMP analyses of each individual point see the table above.

11opx2		Compound Wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	57.16	0.60	10.02	0.15	32.55	0.12	0.01	0.04	0.09	0.09	100.83	
2	57.16	4.85	9.28	0.11	30.44	0.26	0.02	0.04	0.07	0.09	102.30	Crack
3	57.10	0.33	9.77	0.11	32.34	0.10	0.01	0.03	0.07	0.07	99.92	
4	56.87	0.41	9.76	0.13	32.38	0.11	0.01	0.04	0.07	0.05	99.83	
5	57.23	0.35	9.67	0.10	32.51	0.10	0.00	0.00	0.07	0.11	100.14	
6	57.32	0.31	9.45	0.12	32.45	0.11	0.00	0.02	0.10	0.09	99.97	
7	57.22	0.32	9.58	0.11	32.40	0.08	0.00	0.01	0.11	0.07	99.89	
8	57.26	0.33	9.49	0.12	32.53	0.11	0.00	0.03	0.10	0.10	100.07	
9	40.39	12.83	8.07	0.08	21.85	0.50	0.04	0.04	0.08	0.08	83.94	Crack
10	57.10	0.35	9.53	0.10	32.39	0.10	0.00	0.02	0.08	0.11	99.78	
11	57.01	0.35	9.60	0.09	32.41	0.11	0.01	0.02	0.09	0.13	99.82	
12	57.03	0.35	9.72	0.12	32.33	0.09	0.00	0.00	0.10	0.09	99.83	
13	57.00	0.30	9.75	0.10	32.45	0.11	0.00	0.00	0.08	0.08	99.85	
14	57.09	0.43	9.69	0.11	32.37	0.12	0.01	0.03	0.06	0.09	99.99	
15	57.15	0.40	9.72	0.10	32.36	0.13	0.00	0.03	0.08	0.09	100.05	

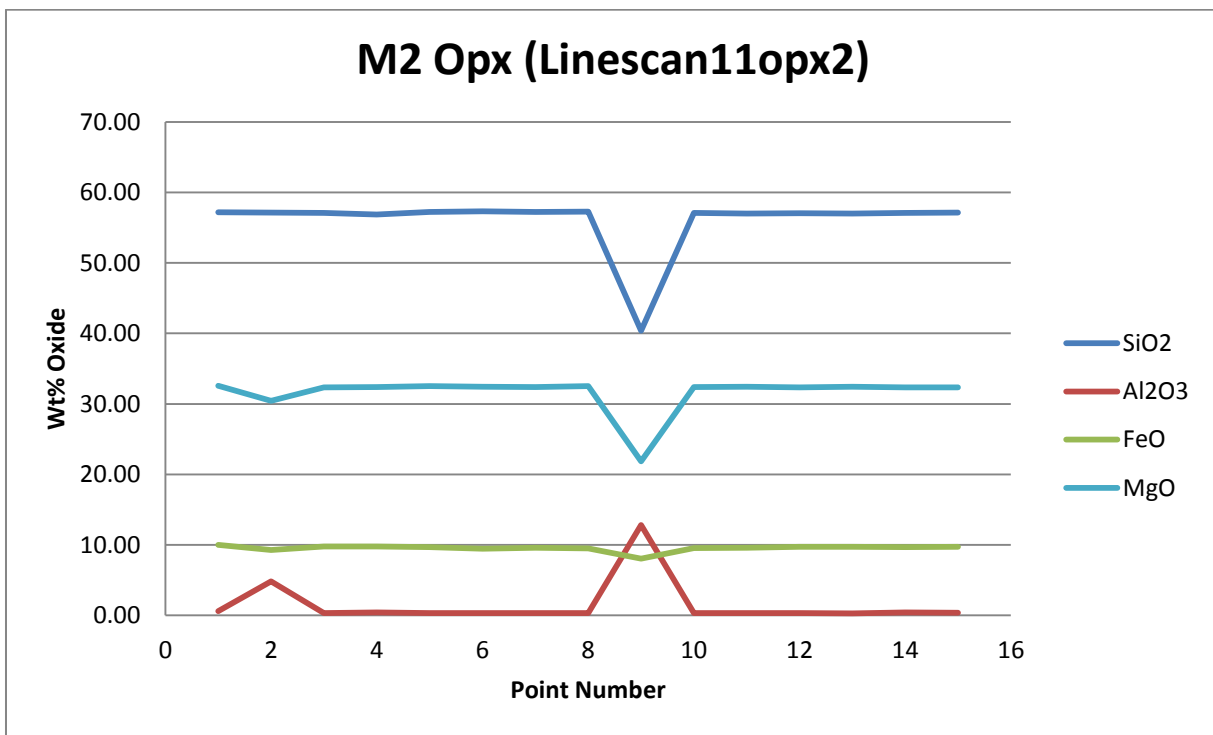


Figure A56. A linescan through a M2 orthopyroxene crystal in sample 11. The location is indicated in Fig. A49. For the EMP analyses of each individual point see the table above.

11sp1		Compound Wt%							
Point #	SiO2	TiO2	Al2O3	Cr2O3	FeO	MnO	MgO	Sum	
1	0.07	0.14	22.57	38.10	30.14	0.71	6.21	97.95	
2	1.33	0.16	24.02	39.44	28.03	0.73	5.65	99.37	
3	0.00	0.20	17.07	44.33	31.38	0.83	5.06	98.89	
4	0.01	0.22	16.32	45.13	31.44	0.84	4.96	98.92	
5	0.02	0.23	15.86	45.64	31.31	0.88	4.83	98.76	
6	0.09	0.22	15.44	45.54	31.39	0.86	4.92	98.47	
7	0.04	0.25	15.82	45.77	31.52	0.84	4.86	99.10	
8	0.19	0.23	16.45	45.69	31.29	0.84	4.98	99.65	
9	0.00	0.24	15.77	45.77	30.99	0.88	4.89	98.55	
10	0.00	0.24	16.39	45.64	31.12	0.82	5.01	99.22	
11	0.03	0.21	16.24	45.33	31.36	0.84	4.95	98.96	
12	0.28	0.18	17.81	44.95	30.46	0.81	5.20	99.69	
13	0.02	0.19	16.92	44.51	30.54	0.81	5.14	98.13	
14	0.01	0.17	18.19	44.05	30.28	0.78	5.40	98.88	
15	0.03	0.18	19.90	42.17	29.67	0.78	5.66	98.39	

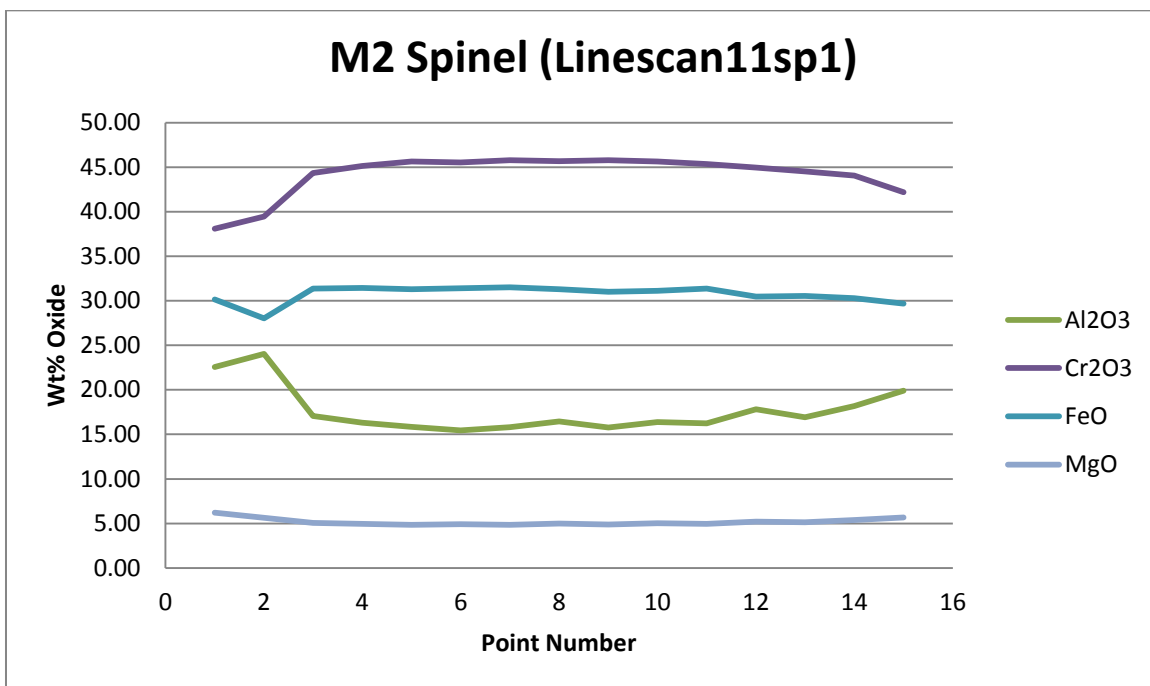


Figure A57. A linescan through a stage 2 spinel crystal in sample 11. The location is indicated in Fig. A48. For the EMP analyses of each individual point see the table above.

## Chapter 6. Linescan data and locations in sample 12



Figure A58. PPL Overview of a thin section made of sample 12 showing the locations of the individual BSE images (blue boxes) and linescans (black lines) including a number used to refer to it.

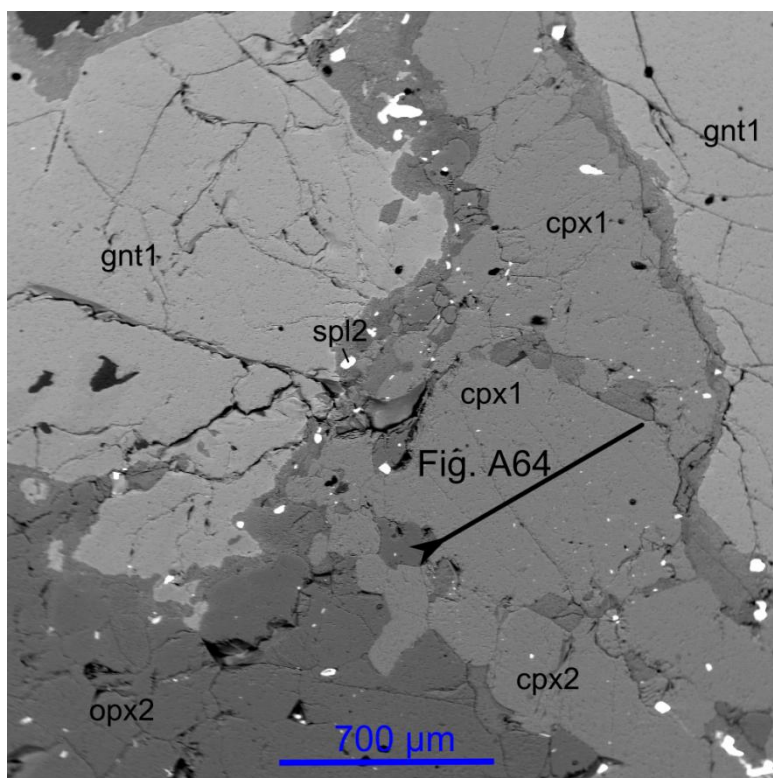


Figure A59. BSE image (sample 12) showing M1 garnet and M1 clinopyroxene porphyroclasts. M1 clinopyroxene is recrystallizing to M2 clinopyroxene in the matrix. Some M2 spinel is present near M1 garnet rims. The location of the linescan illustrated in figure A64 is indicated.

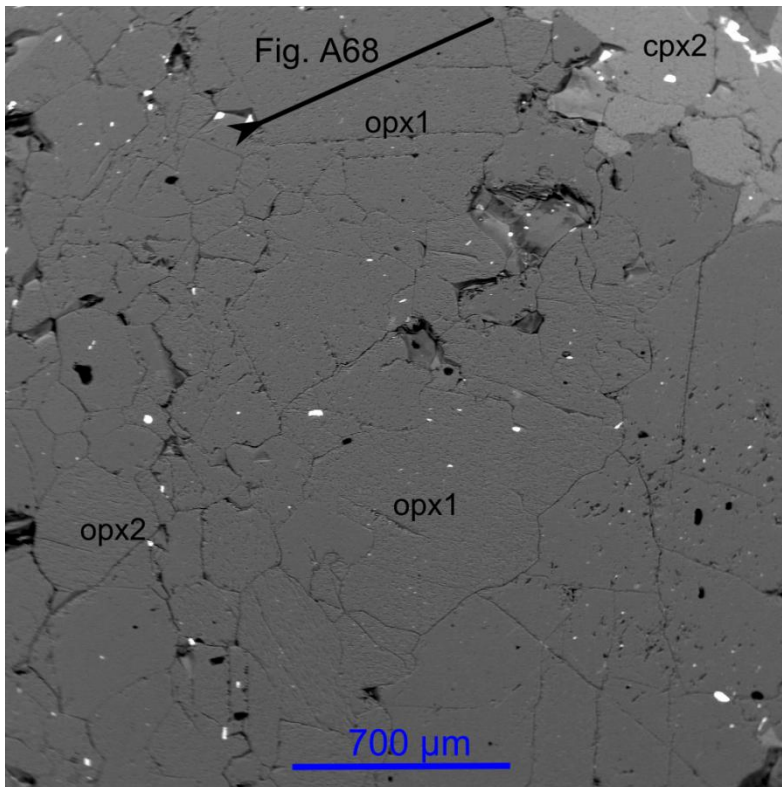


Figure A60. BSE image (sample 12) showing M1 orthopyroxene porphyroclasts surrounded by a recrystallized matrix of M2 orthopyroxene and M2 clinopyroxene. The location of the linescan illustrated in figure A68 is indicated.

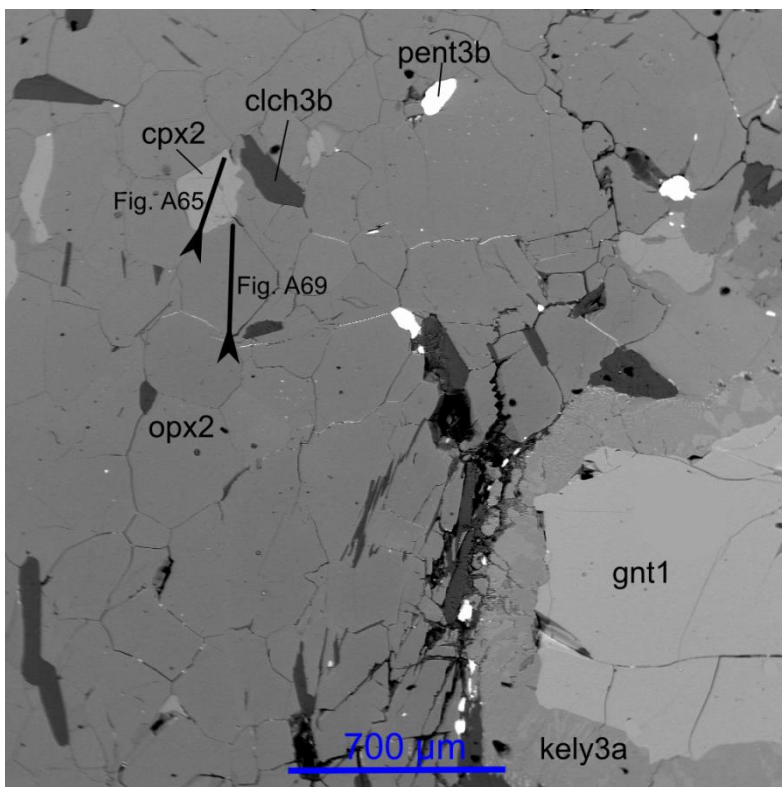


Figure A61. BSE image (sample 12) showing a M1 garnet porphyroclast with a retrograde M3a kelyphitic rim. The matrix consists of M2 orthopyroxene and M2 clinopyroxene, infiltrated by M3b clinocllore and M3b pentlandite. The location of the linescans illustrated in figure A65 and A69 are indicated.

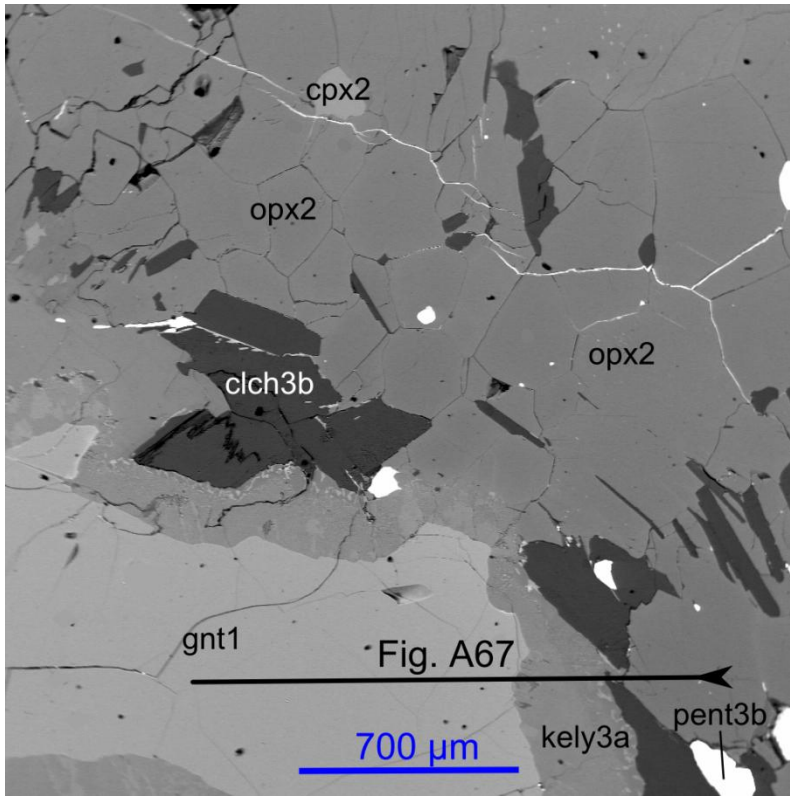


Figure A62. BSE image (sample 12) showing a M1 garnet porphyroblast with a retrograde M3a kelyphitic rim. The matrix consists of M2 orthopyroxene and M2 clinopyroxene, infiltrated by M3b clinocllore and M3b pentlandite. The location of the linescan illustrated in figure A67 is indicated.

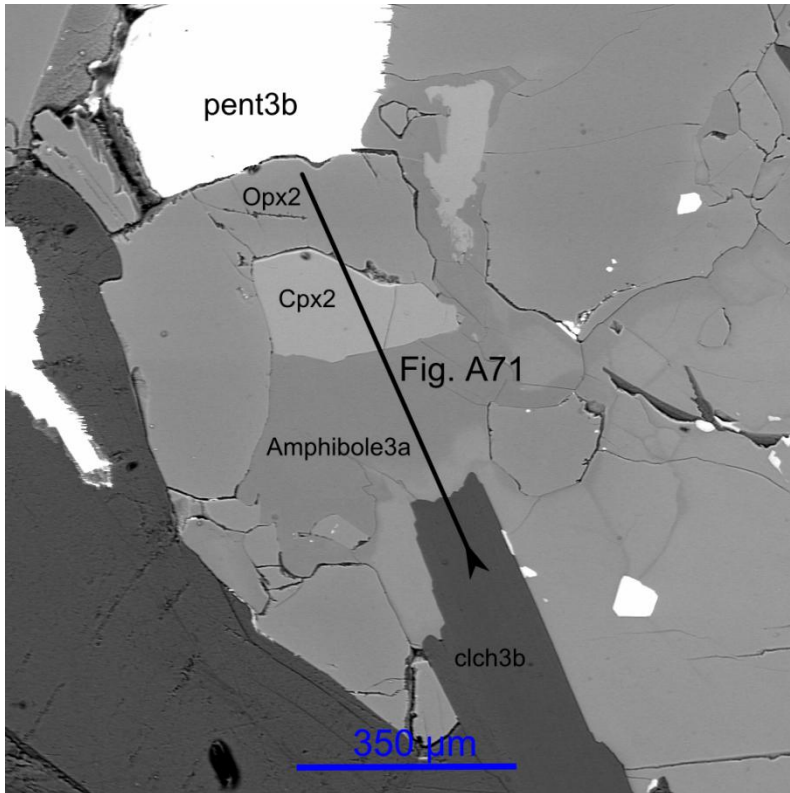


Figure A63. BSE image (sample 12) showing the recrystallized matrix of M2 orthopyroxene and M2 clinopyroxene, infiltrated by M3b clinocllore and M3b pentlandite. The location of the linescans illustrated in figure A71 is indicated.

12cpx1	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	54.61	1.16	2.59	0.05	16.06	23.12	0.88	0.04	0.69	0.06	99.27	
2	54.56	1.01	2.37	0.02	15.68	23.50	0.78	0.02	0.76	0.02	98.73	
3	54.10	1.10	2.39	0.05	15.36	23.57	0.70	0.05	0.82	0.02	98.17	
4	56.75	1.83	2.41	0.04	16.97	22.51	1.05	0.07	0.97	0.06	102.67	Crack
5	55.56	1.57	2.30	0.06	16.01	23.04	0.84	0.05	0.91	0.05	100.39	
6	55.41	1.76	2.40	0.05	15.98	23.05	0.93	0.07	0.98	0.02	100.65	
7	53.81	1.63	2.55	0.04	16.20	23.03	0.76	0.05	1.01	0.07	99.15	
8	55.21	1.35	2.30	0.07	15.88	23.02	0.83	0.06	0.92	0.03	99.66	
9	54.66	1.21	2.37	0.08	16.33	23.17	0.90	0.03	0.97	0.08	99.82	
10	54.59	1.22	2.38	0.05	16.31	23.44	0.77	0.04	0.89	0.04	99.74	
11	54.23	1.19	2.45	0.07	16.40	23.47	0.69	0.06	0.90	0.02	99.49	
12	56.50	2.81	2.53	0.04	17.13	22.34	0.66	0.07	0.80	0.05	102.95	Crack
13	54.46	1.31	2.24	0.03	15.65	23.24	0.91	0.08	0.96	0.04	98.93	
14	51.67	1.80	2.39	0.04	16.33	22.82	0.80	0.06	0.79	0.01	96.71	
15	55.09	1.82	1.77	0.06	14.21	22.55	0.42	0.02	0.31	0.04	96.28	

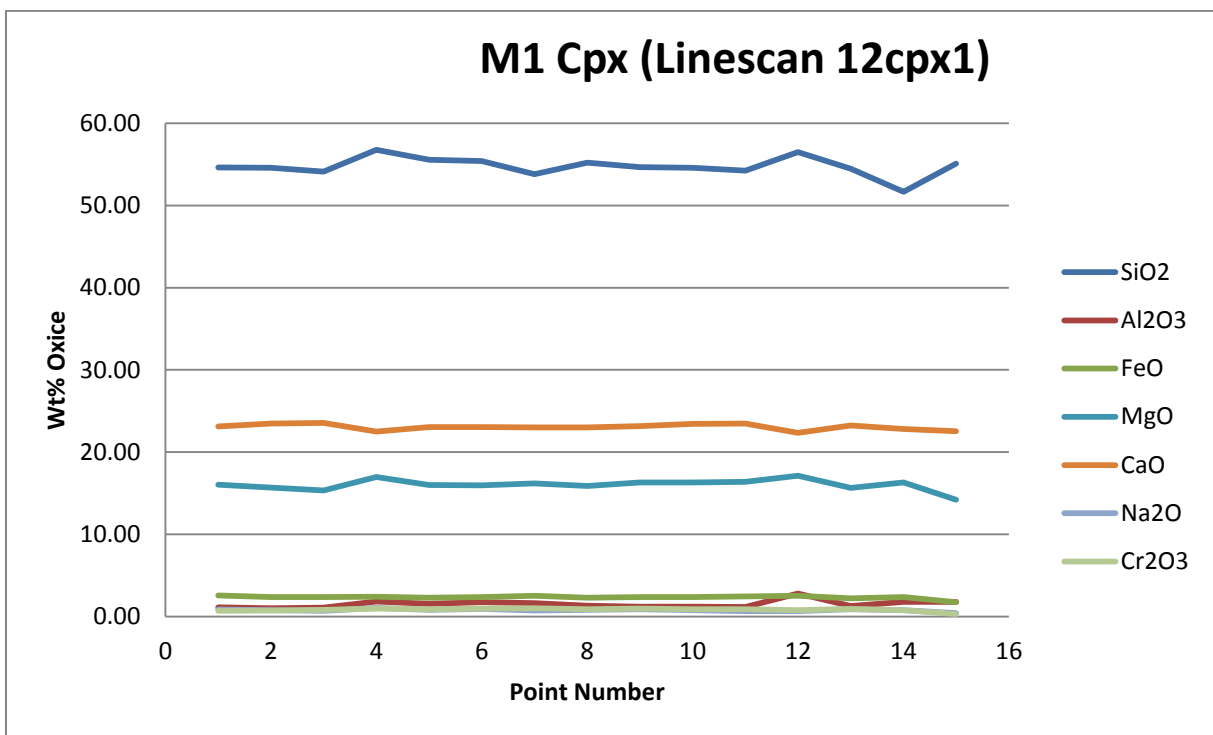


Figure A64. A linescan through a M1 clinopyroxene crystal in sample 12. The location is indicated in Fig. A58 and Fig. A59. For the EMP analyses of each individual point see the table above.

12cpx2		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	54.65	0.78	2.68	0.06	16.25	23.86	0.55	0.01	0.30	0.05	99.19
2	54.82	0.78	2.57	0.02	16.41	23.79	0.56	0.02	0.29	0.03	99.29
3	54.74	0.82	2.55	0.06	16.87	23.77	0.65	0.04	0.32	0.03	99.84
4	54.94	1.10	2.51	0.04	16.67	23.64	0.66	0.04	0.34	0.07	99.99
5	54.68	0.82	2.44	0.04	16.98	23.87	0.53	0.02	0.34	0.05	99.78
6	54.80	0.84	2.57	0.06	16.65	23.73	0.67	0.04	0.36	0.05	99.76
7	52.29	0.98	2.61	0.04	15.26	23.54	0.67	0.02	0.37	0.05	95.83
8	54.66	0.86	2.61	0.05	16.42	23.55	0.73	0.05	0.37	0.05	99.37
9	54.87	0.83	2.56	0.07	16.32	23.69	0.69	0.03	0.37	0.04	99.47
10	54.64	0.74	2.57	0.08	16.52	23.81	0.53	0.04	0.35	0.03	99.31

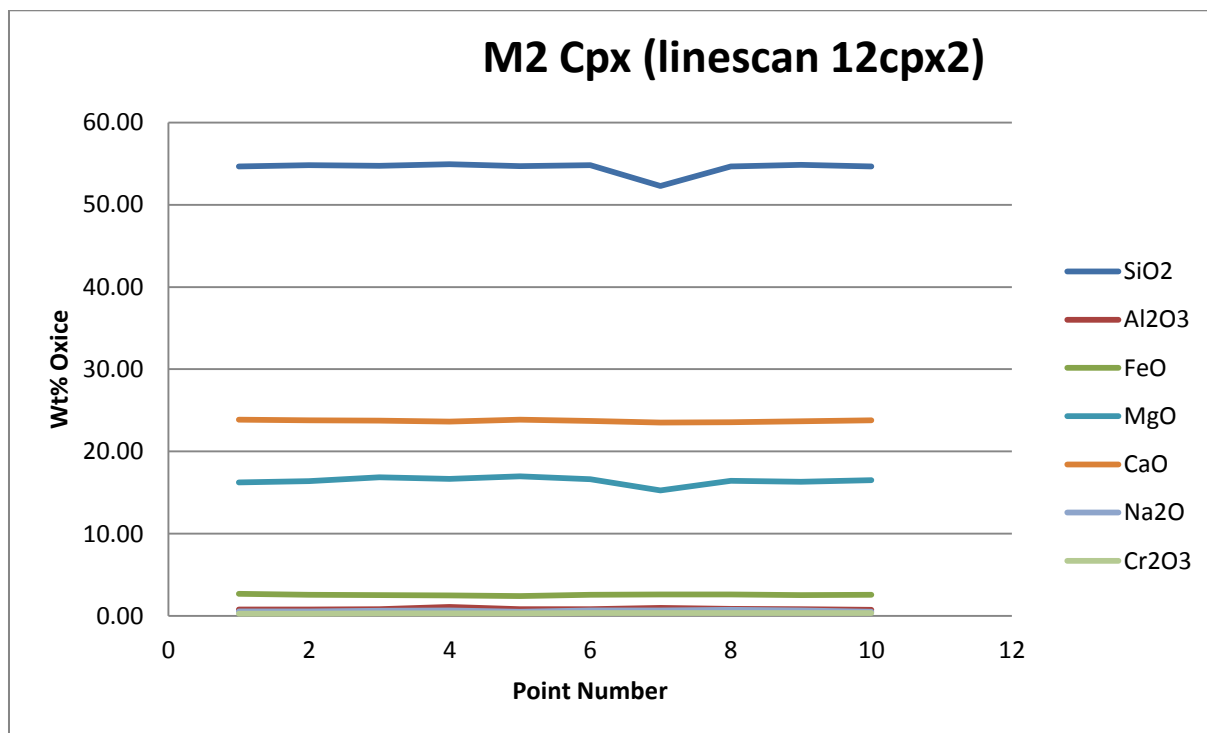


Figure A65. A linescan through a M2 clinopyroxene crystal in sample 12. The location is indicated in Fig. A61. For the EMP analyses of each individual point see the table above.



12gnt1												
	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	41.22	20.87	15.93	0.73	13.61	5.57	0.01	0.02	2.34	0.00	100.30	
2	42.74	21.91	15.70	0.62	13.33	5.36	0.02	0.09	2.57	0.01	102.33	
3	37.83	18.86	15.56	0.59	13.69	5.37	0.00	0.06	2.46	0.02	94.43	Crack
4	41.06	20.68	15.87	0.69	13.88	5.50	0.00	0.04	2.51	0.00	100.24	
5	40.79	20.58	15.91	0.69	14.06	5.46	0.01	0.08	2.53	0.00	100.10	
6	32.71	17.85	15.38	0.65	13.05	5.33	0.00	0.08	2.42	0.00	87.48	Crack
7	36.21	18.19	15.27	0.59	15.21	5.42	0.02	0.05	2.45	0.02	93.43	Crack
8	40.99	20.70	15.79	0.65	14.57	5.50	0.00	0.06	2.48	0.00	100.75	
9	41.92	21.14	15.64	0.60	15.06	5.45	0.00	0.08	2.52	0.01	102.42	
10	42.30	21.33	15.46	0.63	14.23	5.41	0.02	0.07	2.46	0.00	101.93	
11	41.50	21.20	15.32	0.60	14.18	5.42	0.03	0.05	2.42	0.00	100.73	
12	39.62	21.74	14.34	0.52	13.63	5.30	0.02	0.09	2.35	0.00	97.62	
13	40.61	20.54	14.36	0.55	15.04	5.44	0.00	0.08	2.44	0.00	99.07	
14	41.35	20.96	14.45	0.54	14.97	5.57	0.00	0.08	2.46	0.02	100.38	
15	42.63	22.02	14.58	0.51	16.56	5.45	0.02	0.04	2.39	0.02	104.22	Crack
16	41.57	21.56	14.87	0.57	15.49	5.45	0.02	0.05	2.39	0.00	101.97	
17	41.17	20.89	14.84	0.56	15.08	5.44	0.02	0.08	2.43	0.00	100.51	
18	41.05	20.75	15.29	0.61	14.49	5.46	0.00	0.06	2.39	0.00	100.10	
19	41.13	20.79	15.31	0.55	14.41	5.55	0.01	0.08	2.42	0.03	100.28	
20	40.82	20.75	16.02	0.65	13.54	5.49	0.03	0.08	2.42	0.01	99.80	

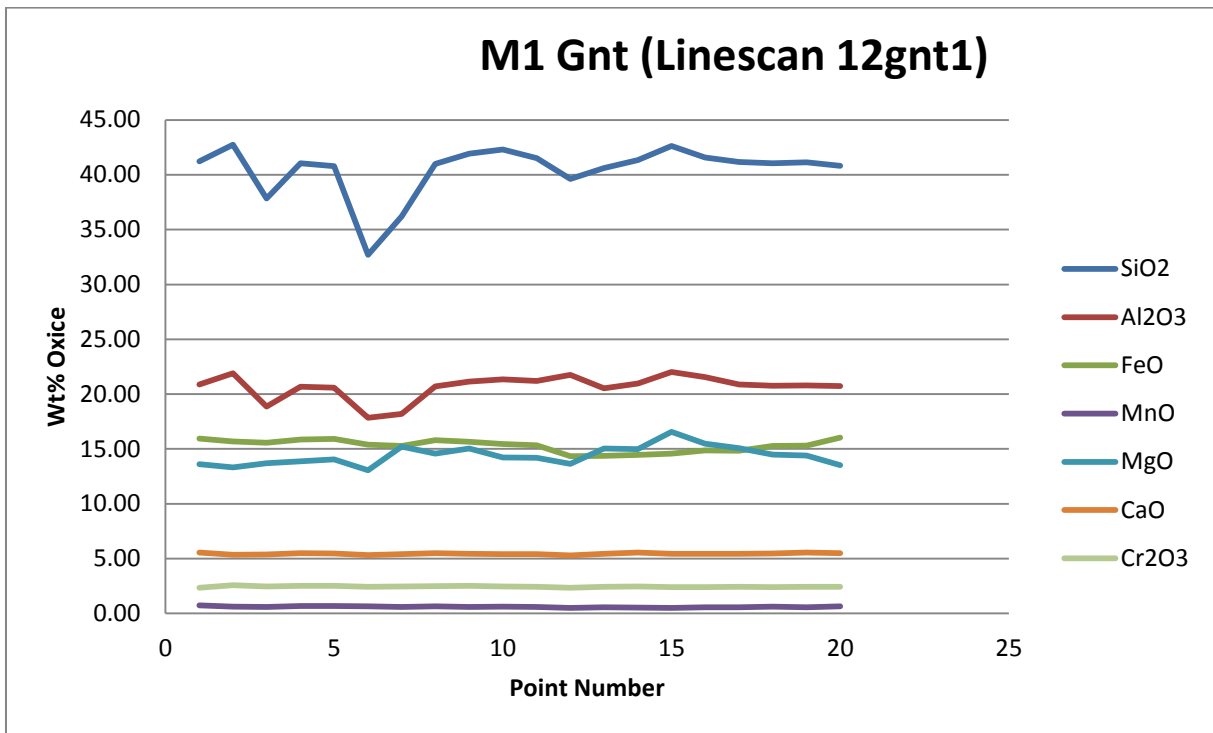


Figure A66. A linescan through a M1 garnet crystal in sample 12. The location is indicated in Fig. A58. For the EMP analyses of each individual point see the table above.

12gnt2												Compound wt%	
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	58.41	0.31	9.50	0.12	32.54	0.10	0.02	0.00	0.04	0.09	101.13	Opx	
2	58.39	0.30	9.72	0.12	32.28	0.11	0.02	0.04	0.06	0.08	101.12	Opx	
3	58.15	0.29	9.32	0.11	32.26	0.10	0.01	0.02	0.05	0.07	100.37	Opx	
4	58.33	0.28	9.47	0.11	32.30	0.11	0.00	0.02	0.08	0.09	100.81	Opx	
5	57.79	0.69	9.97	0.12	31.90	0.22	0.00	0.02	0.05	0.07	100.84	Opx	
6	57.80	0.59	10.59	0.17	31.96	0.11	0.00	0.06	0.09	0.08	101.44	Opx	
7	36.16	27.75	9.80	0.14	19.15	7.81	0.51	0.07	2.04	0.22	103.65	Kelyphite	
8	50.77	8.68	4.79	0.11	19.56	11.95	1.04	0.11	0.17	0.16	97.34	Kelyphite	
9	3.68	55.89	17.25	0.17	16.45	1.52	0.15	0.04	2.65	0.46	98.25	Kelyphite	
10	45.82	13.56	6.51	0.14	18.40	11.31	1.02	0.06	0.80	0.15	97.76	Kelyphite	
11	41.08	17.36	8.44	0.14	18.07	9.61	0.76	0.07	2.07	0.07	97.67	Kelyphite	
12	42.07	18.71	8.44	0.18	18.69	9.13	0.57	0.07	1.86	0.06	99.77	Kelyphite	
13	41.71	17.00	8.32	0.18	18.14	9.11	0.76	0.09	2.20	0.05	97.56	Kelyphite	
14	42.83	20.48	14.64	0.58	15.62	5.04	0.02	0.06	2.40	0.00	101.66	Garnet	
15	41.16	20.84	14.99	0.60	14.64	5.55	0.01	0.06	2.50	0.00	100.37	Garnet	
16	41.46	20.85	15.03	0.56	14.67	5.46	0.00	0.08	2.61	0.01	100.71	Garnet	
17	41.32	20.67	14.79	0.60	14.88	5.51	0.01	0.08	2.55	0.00	100.42	Garnet	
18	41.28	20.93	14.64	0.56	15.16	5.52	0.04	0.05	2.51	0.02	100.70	Garnet	
19	41.51	20.77	14.72	0.58	15.20	5.51	0.02	0.05	2.46	0.01	100.83	Garnet	
20	41.29	20.86	14.44	0.57	15.23	5.51	0.00	0.05	2.57	0.02	100.56	Garnet	
21	41.42	21.03	14.44	0.56	15.29	5.37	0.02	0.09	2.46	0.00	100.67	Garnet	
22	41.44	20.93	14.67	0.57	15.25	5.45	0.01	0.04	2.53	0.00	100.88	Garnet	
23	41.44	20.89	14.41	0.56	15.01	5.50	0.00	0.07	2.58	0.00	100.47	Garnet	
24	41.38	20.95	14.38	0.55	15.17	5.50	0.00	0.09	2.54	0.00	100.54	Garnet	
25	41.24	20.96	14.58	0.58	15.04	5.47	0.01	0.06	2.56	0.00	100.48	Garnet	
26	41.40	20.99	14.23	0.55	15.04	5.52	0.00	0.06	2.55	0.00	100.35	Garnet	
27	41.30	20.84	14.48	0.57	15.26	5.53	0.02	0.04	2.51	0.00	100.55	Garnet	
28	41.75	20.95	14.24	0.57	15.37	5.52	0.00	0.07	2.57	0.00	101.05	Garnet	
29	41.39	20.99	14.41	0.58	15.39	5.43	0.02	0.04	2.53	0.03	100.81	Garnet	
30	41.53	21.12	14.61	0.56	15.51	5.43	0.01	0.05	2.50	0.00	101.33	Garnet	

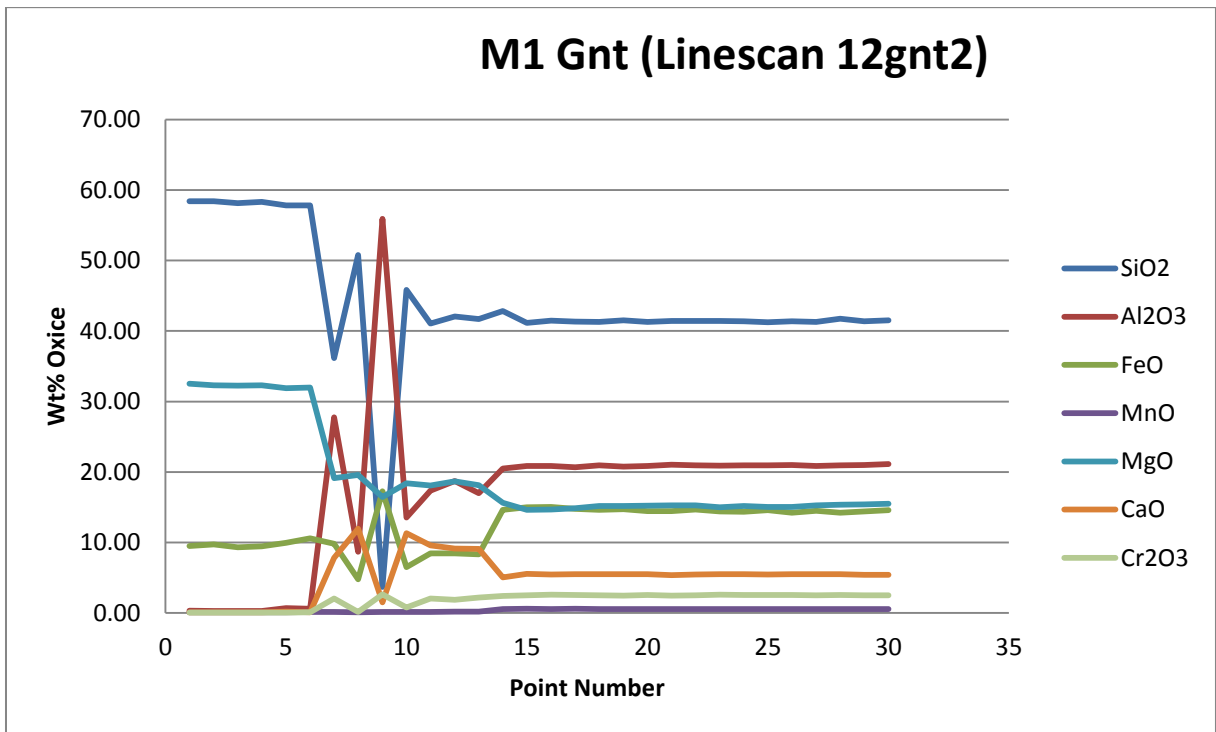


Figure A67. A linescan through a M2 orthopyroxene and a M1 garnet crystal in sample 12. The location is indicated in Fig. A58 and Fig. A62. For the EMP analyses of each individual point see the table above.

12opx1												Compound wt%	
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments	
1	57.04	0.71	9.68	0.13	32.06	0.14	0.00	0.04	0.08	0.10	99.99		
2	56.85	0.61	9.73	0.12	32.07	0.13	0.00	0.04	0.07	0.10	99.72		
3	56.55	1.33	9.55	0.11	34.76	0.17	0.00	0.02	0.13	0.09	102.70		
4	56.66	0.57	9.58	0.13	32.16	0.10	0.00	0.01	0.13	0.05	99.40		
5	57.71	0.59	9.21	0.13	32.67	0.12	0.00	0.03	0.12	0.12	100.69		
6	58.26	1.16	9.76	0.12	32.60	0.15	0.00	0.04	0.10	0.07	102.26		
7	58.84	2.03	9.30	0.10	34.62	0.19	0.01	0.04	0.19	0.06	105.38	Crack	
8	55.49	1.52	9.24	0.12	31.94	0.15	0.00	0.00	0.21	0.08	98.75		
9	55.47	1.52	9.51	0.14	31.95	0.17	0.02	0.03	0.16	0.10	99.07		
10	53.30	2.16	9.50	0.14	29.73	0.22	0.01	0.04	0.15	0.08	95.34	Crack	
11	54.72	1.92	9.63	0.14	30.71	0.21	0.00	0.04	0.12	0.13	97.62	Crack	
12	56.61	0.77	9.57	0.13	31.72	0.13	0.00	0.00	0.16	0.09	99.17		
13	55.52	0.91	9.67	0.13	31.07	0.15	0.00	0.35	0.20	0.08	98.08		
14	56.58	0.64	9.44	0.13	31.91	0.12	0.00	0.04	0.19	0.07	99.13		
15	56.68	0.66	9.54	0.13	31.73	0.15	0.00	0.04	0.08	0.11	99.11		

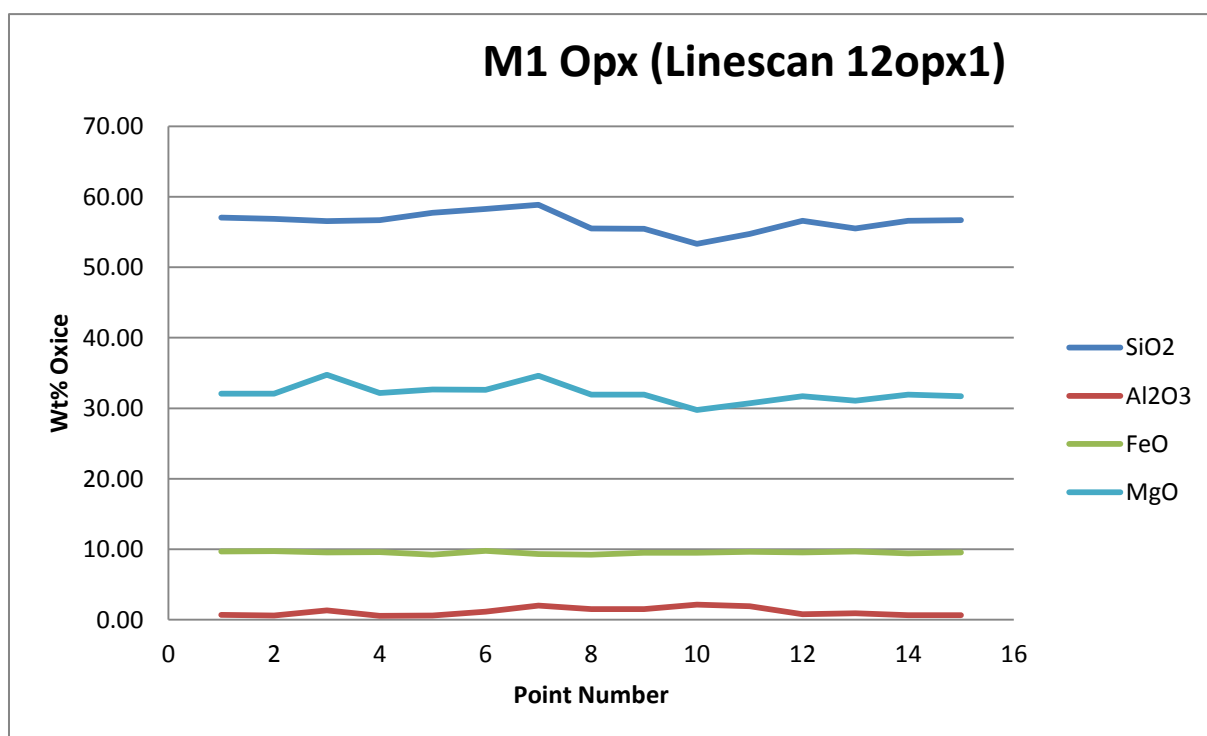


Figure A68. A linescan through a M1 orthopyroxene crystal in sample 12. The location is indicated in Fig. A58 and Fig. A60. For the EMP analyses of each individual point see the table above.

12opx2		Compound wt%									
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum
1	56.81	0.76	9.62	0.13	31.64	0.14	0.00	0.03	0.08	0.09	99.31
2	56.93	0.58	9.59	0.13	32.02	0.14	0.01	0.02	0.09	0.08	99.58
3	56.95	0.48	9.73	0.13	32.34	0.15	0.00	0.03	0.09	0.07	99.97
4	57.26	0.44	9.58	0.12	32.57	0.12	0.01	0.02	0.06	0.06	100.25
5	57.09	0.44	9.61	0.12	32.69	0.11	0.00	0.01	0.09	0.08	100.23
6	57.17	0.44	9.64	0.11	33.01	0.13	0.04	0.01	0.06	0.06	100.68
7	57.20	0.48	9.56	0.12	32.67	0.13	0.00	0.03	0.09	0.09	100.36
8	57.15	0.55	9.59	0.11	32.94	0.14	0.01	0.02	0.08	0.09	100.69
9	56.97	0.70	9.54	0.15	32.78	0.13	0.00	0.03	0.09	0.06	100.45
10	56.53	1.09	9.96	0.16	32.01	0.14	0.00	0.04	0.12	0.08	100.13

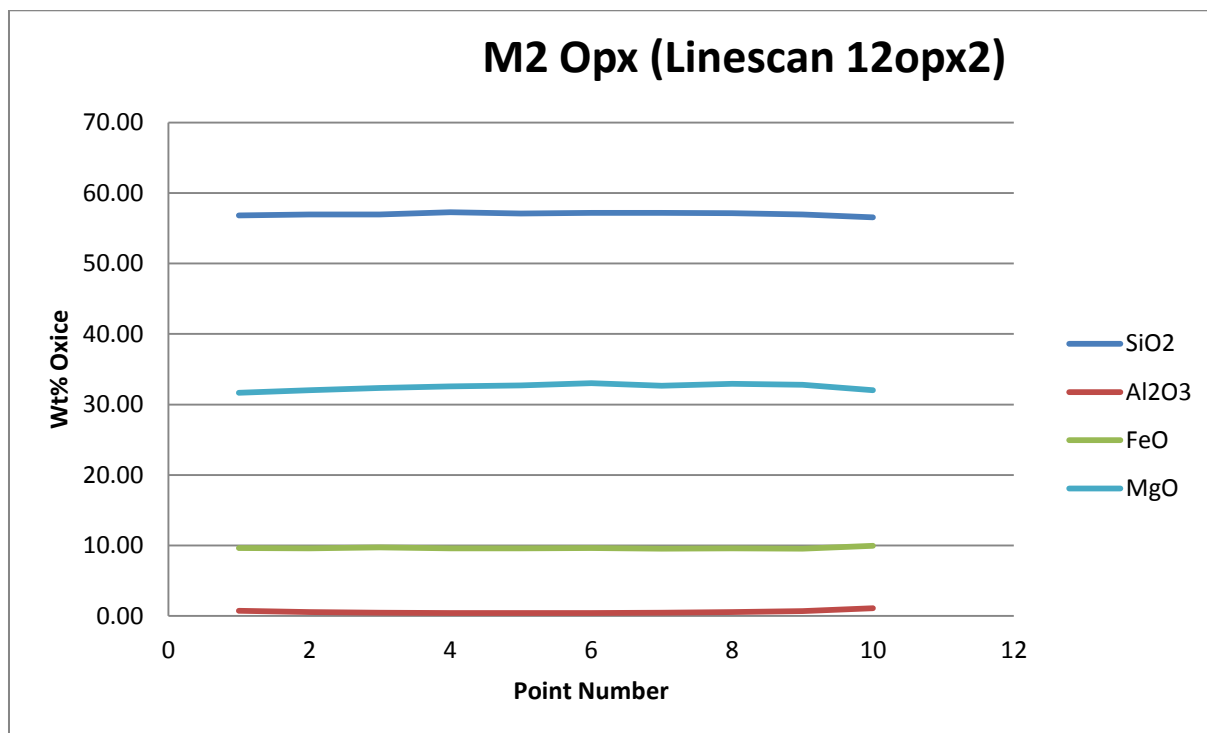


Figure A69. A linescan through a M2 orthopyroxene crystal in sample 12. The location is indicated in Fig. A61. For the EMP analyses of each individual point see the table above.

12opx3	Compound wt%											
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	57.02	0.63	9.51	0.11	32.96	0.11	0.01	0.04	0.08	0.06	100.54	
2	57.21	0.52	9.56	0.14	32.56	0.14	0.00	0.03	0.07	0.09	100.34	
3	50.97	4.84	9.39	0.12	27.54	0.34	0.03	0.03	0.08	0.10	93.45	Crack
4	57.15	0.42	9.27	0.12	32.74	0.13	0.00	0.01	0.10	0.10	100.06	
5	39.99	13.94	8.62	0.10	17.52	0.47	0.02	0.03	0.08	0.08	80.85	Crack
6	56.92	0.66	9.50	0.12	33.00	0.25	0.01	0.02	0.05	0.08	100.58	
7	57.17	0.55	9.35	0.13	33.19	0.11	0.00	0.06	0.07	0.06	100.70	
8	57.04	0.43	9.29	0.12	33.15	0.14	0.00	0.02	0.05	0.10	100.34	
9	57.33	0.54	9.22	0.09	32.95	0.14	0.00	0.00	0.09	0.11	100.49	
10	57.31	0.56	9.54	0.11	32.86	0.14	0.00	0.00	0.11	0.10	100.73	
11	53.61	8.17	9.08	0.13	28.77	0.47	0.02	0.03	0.09	0.08	100.46	Crack
12	57.01	0.55	9.41	0.13	32.35	0.12	0.00	0.03	0.09	0.11	99.80	
13	57.08	0.55	9.22	0.13	32.08	0.11	0.00	0.03	0.09	0.12	99.42	
14	57.05	0.57	9.40	0.13	32.22	0.12	0.00	0.04	0.11	0.12	99.77	
15	56.93	0.56	9.50	0.10	32.18	0.11	0.00	0.02	0.10	0.10	99.62	
16	56.75	0.98	9.03	0.10	31.70	0.13	0.00	0.01	0.13	0.11	98.96	
17	55.13	0.77	9.79	0.12	30.96	0.12	0.00	0.03	0.92	0.15	98.00	
18	56.99	0.58	9.35	0.13	32.21	0.13	0.01	0.05	0.10	0.07	99.62	
19	57.09	0.55	9.47	0.14	32.66	0.15	0.00	0.03	0.10	0.10	100.28	
20	57.19	0.63	9.27	0.11	32.90	0.13	0.00	0.00	0.13	0.15	100.51	
21	57.09	0.61	9.45	0.12	33.05	0.13	0.02	0.04	0.10	0.10	100.72	
22	57.02	0.57	9.47	0.10	33.07	0.10	0.00	0.03	0.12	0.13	100.62	
23	57.17	0.59	9.46	0.09	33.09	0.13	0.00	0.03	0.14	0.12	100.84	
24	56.96	0.55	9.23	0.12	33.33	0.12	0.01	0.03	0.09	0.08	100.52	
25	57.21	0.57	9.35	0.11	33.11	0.14	0.00	0.01	0.13	0.12	100.75	
26	57.03	0.62	9.45	0.11	33.07	0.11	0.00	0.01	0.15	0.07	100.62	
27	57.01	0.58	9.35	0.10	32.78	0.11	0.00	0.02	0.11	0.14	100.21	
28	57.12	0.54	9.49	0.12	32.57	0.13	0.00	0.04	0.10	0.09	100.19	
29	57.13	0.51	9.30	0.11	32.83	0.13	0.00	0.04	0.11	0.09	100.25	
30	56.27	0.64	9.85	0.14	32.53	0.13	0.01	0.06	0.50	0.12	100.23	

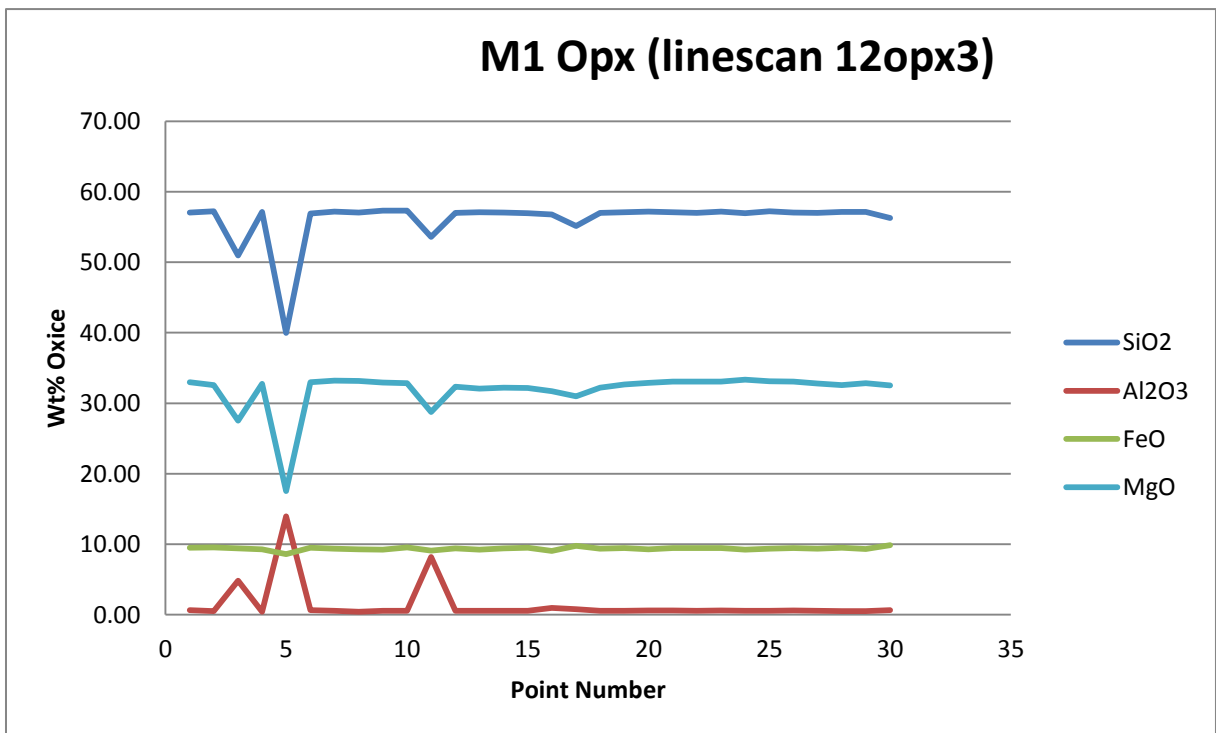


Figure A70. A linescan through a M1 orthopyroxene crystal in sample 12. The location is indicated in Fig. A58. For the EMP analyses of each individual point see the table above.

12lscn1		Compound wt%										
Point #	SiO2	Al2O3	FeO	MnO	MgO	CaO	Na2O	TiO2	Cr2O3	NiO	Sum	Comments
1	29.94	18.16	5.61	0.04	29.69	0.02	0.04	0.03	1.27	0.24	85.02634	Clinochlore
2	30.82	17.28	4.88	0.03	30.38	0.03	0.01	0.03	1.45	0.24	85.1283	Clinochlore
3	30.83	17.27	4.82	0.03	30.99	0.04	0.01	0.02	1.42	0.17	85.59249	Clinochlore
4	30.72	17.92	4.78	0.02	31.02	0.08	0.00	0.03	0.80	0.27	85.64781	Clinochlore
5	46.78	11.06	5.35	0.06	17.88	12.39	1.62	0.17	0.80	0.10	96.21684	Hornblende
6	48.49	9.64	4.94	0.06	18.57	12.62	1.38	0.15	0.59	0.11	96.53963	Hornblende
7	53.93	4.46	4.00	0.07	20.69	12.74	0.52	0.07	0.29	0.13	96.8894	Hornblende
8	55.97	2.49	3.21	0.06	21.24	12.87	0.25	0.03	0.30	0.12	96.5568	Hornblende
9	55.80	2.19	3.26	0.04	20.80	12.93	0.25	0.03	0.30	0.12	95.7002	Hornblende
10	55.99	2.05	2.99	0.09	20.93	12.91	0.22	0.03	0.36	0.16	95.73758	Hornblende
11	56.15	1.78	3.21	0.05	21.16	12.91	0.16	0.06	0.36	0.08	95.91251	Hornblende
12	56.60	1.40	3.03	0.05	21.50	12.96	0.13	0.02	0.32	0.08	96.08278	Hornblende
13	56.59	1.34	2.95	0.03	21.75	13.03	0.11	0.03	0.30	0.10	96.21609	Hornblende
14	56.90	1.33	3.11	0.05	21.92	13.16	0.11	0.04	0.28	0.07	96.96395	Hornblende
15	54.76	0.79	2.53	0.04	16.85	23.74	0.60	0.01	0.28	0.06	99.66695	Diopside
16	54.97	0.82	2.50	0.05	17.16	23.78	0.61	0.02	0.32	0.01	100.2399	Diopside
17	54.81	0.77	2.60	0.06	17.10	23.87	0.59	0.02	0.26	0.03	100.101	Diopside
18	54.89	0.76	2.43	0.05	17.14	23.97	0.51	0.04	0.28	0.06	100.1201	Diopside
19	54.80	0.72	2.49	0.04	16.99	24.11	0.43	0.04	0.25	0.07	99.94249	Diopside
20	54.51	0.66	2.37	0.05	17.23	24.39	0.28	0.06	0.19	0.06	99.81248	Diopside
21	54.57	0.64	2.41	0.06	17.13	24.47	0.18	0.04	0.13	0.05	99.68441	Diopside
22	51.40	0.54	2.53	0.06	17.23	24.45	0.17	0.06	0.10	0.04	96.57675	Diopside
23	56.38	0.58	10.85	0.26	31.12	0.27	0.01	0.04	0.04	0.06	99.60682	Enstatite
24	56.99	0.29	10.34	0.15	31.70	0.12	0.00	0.01	0.03	0.08	99.70616	Enstatite
25	53.99	0.61	8.18	0.14	29.77	0.28	0.03	0.04	0.04	0.18	93.25911	Enstatite
26	56.95	0.29	10.51	0.12	31.73	0.09	0.01	0.02	0.04	0.15	99.91164	Enstatite
27	56.93	0.32	10.45	0.15	31.42	0.11	0.00	0.00	0.03	0.22	99.63498	Enstatite
28	57.04	0.41	11.00	0.17	31.17	0.11	0.00	0.00	0.04	0.26	100.2106	Enstatite
29	57.17	2.83	6.80	0.16	22.04	0.42	0.04	0.03	0.05	1.19	90.73442	Enstatite
30	0.41	0.14	40.43	0.00	0.19	0.00	0.00	0.00	0.00	42.43	83.59947	Enstatite

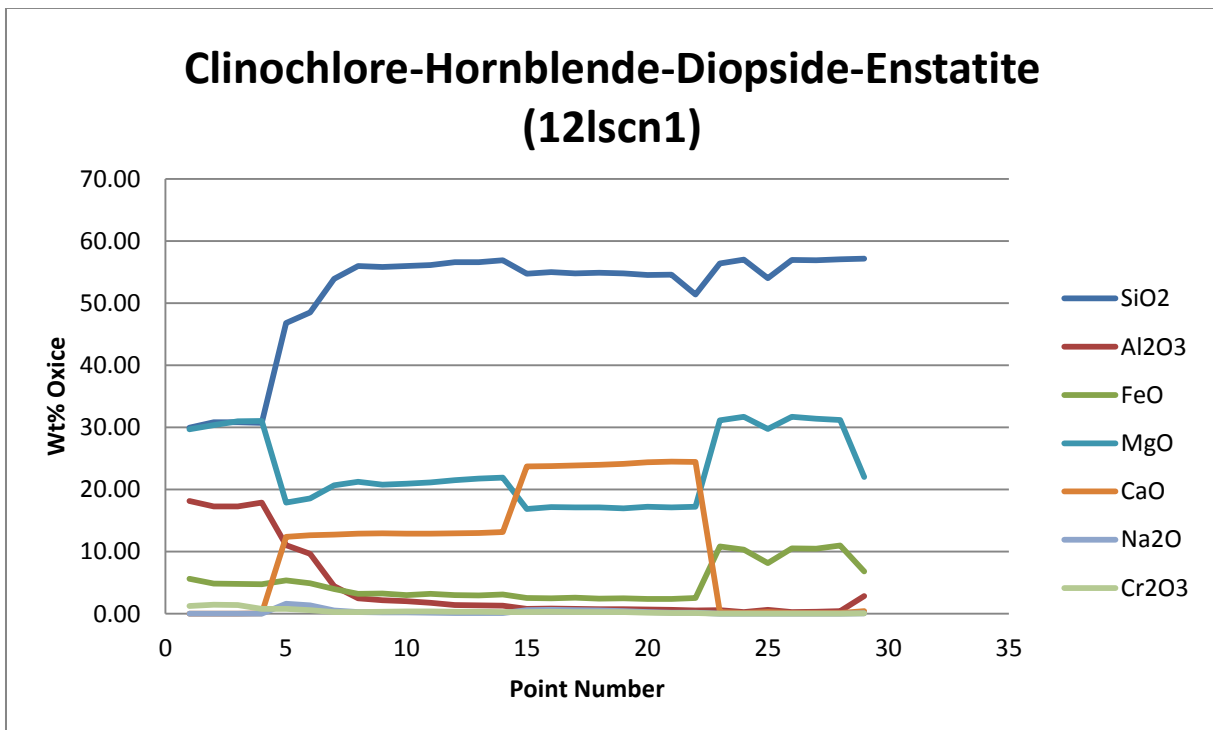


Figure A71. A linescan through multiple minerals in sample 12. From start to finish: clinochlore, amphibole, M2 clinopyroxene and M2 orthopyroxene. The location is indicated in Fig. A63. For the EMP analyses of each individual point see the table above.

## Chapter 7. Geothermobarometry equations

These are the equations used for the selected geo-thermometers and barometers in geothermobarometry:

T[OpxBK90]: This geothermometer is made by Brey et al., (1990) and is based on the Ca – Al content of orthopyroxene.

$$T_C = \frac{6425 + 26.4 * P_{kbar}}{-\ln Ca_{Opx}^{Tot} + 1.843} - 273.15 \quad Ca_{Opx}^{Tot} \neq 0$$

An equilibrium pressure is required for this calibration.

P[NimisTaylor00]: The geobarometer of Nimis & Taylor, (2000) uses the Cr exchange between clinopyroxene and coexisting garnet.

$$PNT_{00}[kbar] = -\frac{T}{126.9} \ln a_{CaCrTs}^{cpx} + 15.483 \ln \left( \frac{Cr\#^{cpx}}{T} \right) + \frac{T}{71.38} + 107.8$$

With:  $a_{CaCrTs}^{cpx} = Cr - 0.81 * Cr\# * (Na + K)$ ,  $Cr\# = \frac{Cr}{Cr+Al}$ , with elements in atoms per 6 oxygens.

T is an equilibrium temperature.

P[BKN90]: This geobarometer is made by Brey and Köhler, (1990) and uses the Al content of orthopyroxene to calculate pressure.

The barometer has the following form:

$$P_{BKN} (Kb) = \frac{-C_2 - \sqrt{(C_2^2 + 4C_3C_1/1000)}}{2C_3}$$

(C<sub>1</sub>–C<sub>3</sub>) and site occupancies are given in the text of Brey and Köhler, (1990).