

Appendix 1. Major element compositions (wt%) of primary minerals in peridotites from the northern Fizh mantle section in the northern Oman ophiolite

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^T ^b	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99111802	olivine		41.78	0.00	0.02	0.02	8.47	0.11	0.39	51.26	0.02	0.01	0.00	102.09	0.915		
Wadi Rajimi	opx		57.55	0.02	1.76	0.61	5.60	0.15	0.12	35.03	0.64	0.00	0.00	101.47	0.918		
0423.32 / 2722.16	cpx		54.25	0.05	1.95	0.91	1.99	0.09	0.08	17.84	24.14	0.13	0.00	101.41	0.941		
	spinel		0.07	0.07	22.32	45.81	20.25	0.25	0.08	12.38	0.01	0.01	0.00	101.25	0.567	0.579	0.020
99111805	olivine ^e		41.23	–	0.00	0.00	8.81	–	–	49.83	0.02	–	–	99.89	0.910		
Wadi Rajimi	opx		57.22	0.03	2.38	0.63	5.60	0.13	0.08	33.86	0.77	0.00	0.00	100.69	0.915		
0422.84 / 2723.32	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.16	0.06	29.83	39.10	17.71	0.21	0.08	14.62	0.00	0.00	0.00	101.75	0.636	0.468	0.016
99111809	olivine		42.22	0.00	0.01	0.01	8.44	0.08	0.38	51.48	0.01	0.00	0.00	102.62	0.916		
Wadi Rajimi	opx		56.79	0.01	2.11	0.65	5.61	0.13	0.08	34.08	2.00	0.00	0.00	101.44	0.915		
0423.05 / 2725.26	cpx		53.43	0.03	2.90	1.10	2.10	0.09	0.03	17.27	24.29	0.04	0.00	101.28	0.936		
	spinel		0.10	0.05	27.99	40.17	18.34	0.24	0.09	13.99	0.01	0.01	0.00	100.97	0.622	0.491	0.018
99111901	olivine	61.83	41.70	0.01	0.00	0.02	8.81	0.14	0.39	50.64	0.02	0.01	0.00	101.71	0.911		
Wadi Rajimi	opx	32.91	56.84	0.01	2.25	0.55	5.93	0.12	0.06	34.18	1.00	0.00	0.00	100.94	0.911		
0424.53 / 2725.47	cpx	2.64	54.12	0.03	2.15	0.77	1.85	0.05	0.04	18.86	22.22	0.04	0.00	100.15	0.947		
	spinel	0.87	0.10	0.04	29.68	37.43	19.62	0.21	0.11	13.88	0.00	0.01	0.00	101.08	0.613	0.458	0.023
99111902	olivine		41.53	0.00	0.00	0.03	9.90	0.13	0.30	49.89	0.00	0.00	0.00	101.79	0.900		
Wadi Rajimi	opx		57.09	0.09	1.79	0.49	6.53	0.16	0.07	33.29	2.01	0.00	0.00	101.54	0.901		
0424.53 / 2725.47	cpx		53.86	0.18	2.01	0.83	2.09	0.09	0.03	17.13	24.14	0.20	0.00	100.56	0.936		
	spinel		0.05	0.32	24.05	40.92	23.07	0.25	0.11	11.75	0.00	0.00	0.00	100.52	0.538	0.533	0.031
99112001	olivine		41.47	0.02	0.01	0.02	8.58	0.12	0.38	50.51	0.02	0.01	0.00	101.15	0.913		
Wadi Rajimi	opx		57.43	0.03	1.65	0.50	5.59	0.14	0.11	34.68	0.62	0.01	0.00	100.76	0.917		
0423.84 / 2719.63	cpx		54.49	0.02	1.55	0.70	1.96	0.02	0.06	17.81	24.27	0.11	0.00	101.00	0.942		
	spinel		0.12	0.07	22.33	44.89	20.10	0.26	0.06	12.01	0.02	0.04	0.00	99.90	0.557	0.574	0.018
99112002	olivine		41.50	0.01	0.00	0.01	8.58	0.11	0.37	50.20	0.01	0.00	0.00	100.79	0.913		
Wadi Rajimi	opx		56.68	0.03	1.76	0.55	5.62	0.13	0.05	34.55	1.06	0.01	0.00	100.43	0.916		
0423.79 / 2719.16	cpx		53.51	0.05	1.78	0.61	1.88	0.08	0.08	17.60	23.41	0.11	0.00	99.10	0.944		
	spinel		0.07	0.10	25.17	42.52	18.81	0.23	0.08	12.76	0.01	0.01	0.00	99.76	0.583	0.531	0.015
99112003	olivine	68.40	40.94	0.02	0.00	0.03	8.83	0.14	0.35	50.58	0.00	0.00	0.00	100.90	0.911		
Wadi Rajimi	opx	28.44	56.39	0.02	1.29	0.53	5.58	0.14	0.10	34.16	1.01	0.02	0.00	99.25	0.916		
0423.05 / 2718.37	cpx	1.83	54.01	0.02	1.33	0.73	1.94	0.05	0.05	17.81	24.06	0.11	0.00	100.12	0.943		
	spinel	0.75	0.09	0.07	18.52	49.16	20.81	0.29	0.12	11.04	0.01	0.01	0.00	100.11	0.525	0.640	0.018

^aUTM coordinate (WGS84) = vertical / horizontal 1 km reference, 40R as grid zone designation, DN as 100 km² identification;

^bTotal Fe as FeO^T: ^cMg# = Mg / (Mg+Fe^T) atomic ratio;

^dFor spinel. Mg# = Mg / (Mg+Fe²⁺). Cr# = Cr / (Cr+Al) and Fe³⁺# = Fe³⁺ / (Cr+Al+Fe³⁺) are calculated assuming spinel stoichiometry;

^eAnalytical results of olivine compositions by SEM-EDS.

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99112101	olivine		40.65	0.04	0.00	0.01	8.25	0.08	0.36	50.18	0.00	0.00	0.00	99.58	0.916		
Wadi Rajimi	opx		57.16	0.02	1.80	0.63	5.48	0.13	0.09	33.91	0.84	0.01	0.00	100.05	0.917		
0422.26 / 2722.42	cpx		54.19	0.04	1.75	0.80	1.73	0.06	0.07	17.43	23.97	0.11	0.00	100.14	0.947		
	spinel		0.15	0.04	22.61	45.09	18.86	0.25	0.07	12.73	0.01	0.02	0.00	99.82	0.587	0.572	0.017
99112102	olivine	69.56	40.77	0.01	0.00	0.01	8.57	0.12	0.40	50.37	0.00	0.01	0.00	100.26	0.913		
Wadi Rajimi	opx	26.21	57.50	0.02	2.25	0.74	5.68	0.14	0.06	34.33	0.56	0.01	0.00	101.29	0.915		
0422.37 / 2722.05	cpx	2.84	54.55	0.04	2.18	0.87	1.86	0.07	0.03	17.46	24.26	0.03	0.00	101.35	0.944		
	spinel	0.63	0.06	0.02	27.11	40.61	18.03	0.22	0.09	13.37	0.01	0.01	0.00	99.54	0.607	0.501	0.015
99112103	olivine		41.30	0.03	0.02	0.00	8.29	0.09	0.40	50.65	0.01	0.00	0.00	100.79	0.916		
Wadi Rajimi	opx		57.81	0.03	1.81	0.66	5.28	0.12	0.06	34.50	0.87	0.01	0.00	101.15	0.921		
0422.05 / 2721.58	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.10	0.06	22.86	45.71	18.50	0.23	0.11	12.82	0.01	0.02	0.00	100.42	0.600	0.573	0.015
99112104	olivine ^c		41.30	–	0.00	0.00	8.30	–	–	50.65	0.01	–	–	100.26	0.909		
Wadi Rajimi	opx		57.77	0.01	1.19	0.55	5.50	0.14	0.10	34.19	1.57	0.01	0.00	101.02	0.917		
0421.47 / 2721.32	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.31	0.07	16.08	51.97	21.72	0.32	0.06	10.67	0.01	0.05	0.00	101.26	0.504	0.684	0.019
99112105	olivine ^c		41.43	–	0.00	0.00	8.88	–	–	49.87	0.01	–	–	100.18	0.909		
Wadi Rajimi	opx		57.92	0.00	1.09	0.44	5.33	0.13	0.06	34.16	1.58	0.02	0.00	100.73	0.920		
0421.58 / 2721.21	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.10	0.04	16.34	52.69	20.82	0.28	0.06	11.30	0.01	0.00	0.00	101.63	0.533	0.684	0.019
99112106	olivine ^c		41.25	–	0.00	0.00	8.81	–	–	48.87	0.02	–	–	98.95	0.908		
Wadi Rajimi	opx		56.55	0.02	2.17	0.63	5.71	0.08	0.10	33.53	0.83	0.00	0.00	99.60	0.913		
0421.63 / 2720.68	cpx		53.16	0.04	2.47	0.88	1.88	0.07	0.06	16.81	24.13	0.02	0.00	99.50	0.941		
	spinel		0.07	0.01	27.97	39.74	17.39	0.24	0.12	13.88	0.00	0.03	0.00	99.44	0.627	0.488	0.015
99112108	olivine ^c	71.28	41.30	–	0.00	0.00	9.28	–	–	49.42	0.02	–	–	100.03	0.905		
Wadi Rajimi	opx	22.74	57.17	0.02	2.56	0.65	5.63	0.13	0.09	34.16	0.57	0.02	0.00	101.01	0.915		
0421.58 / 2719.84	cpx	3.97	54.91	0.05	1.90	0.46	1.94	0.06	0.05	18.10	24.14	0.04	0.00	101.63	0.943		
	spinel	0.74	0.24	0.05	31.21	36.94	18.10	0.22	0.10	14.14	0.00	0.02	0.00	101.02	0.617	0.443	0.014
99112109	olivine		41.06	0.01	0.00	0.02	8.79	0.13	0.38	49.55	0.02	0.01	0.00	99.98	0.909		
Wadi Rajimi	opx		56.96	0.02	1.40	0.41	5.82	0.13	0.10	34.67	0.52	0.00	0.00	100.04	0.914		
0421.47 / 2719.32	cpx		53.76	0.02	1.63	0.64	1.89	0.05	0.04	17.86	23.81	0.10	0.00	99.80	0.944		
	spinel		0.11	0.07	22.49	44.46	20.86	0.27	0.07	11.66	0.01	0.01	0.00	100.01	0.542	0.570	0.020
99112111	olivine ^c		41.98	–	0.00	0.00	8.96	–	–	49.92	0.03	–	–	100.89	0.909		
Wadi Rajimi	opx		56.98	0.01	1.64	0.51	5.53	0.12	0.06	33.76	1.24	0.01	0.00	99.87	0.916		
0421.53 / 2720.21	cpx		54.02	0.00	1.57	0.57	1.76	0.11	0.05	17.53	24.29	0.04	0.00	99.95	0.947		
	spinel		0.08	0.02	22.06	44.76	19.90	0.26	0.10	12.28	0.01	0.01	0.00	99.48	0.573	0.576	0.022

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99112112	olivine ^c		41.32	–	0.00	0.00	9.09	–	–	49.04	0.01	–	–	99.46	0.906		
Wadi Rajimi	opx		56.75	0.01	1.87	0.60	5.68	0.13	0.06	33.73	0.92	0.00	0.00	99.76	0.914		
0421.37 / 2721.68	cpx		53.60	0.01	2.11	0.90	1.80	0.06	0.05	17.08	24.34	0.03	0.00	99.98	0.944		
	spinel		0.04	0.04	22.50	44.90	19.76	0.30	0.08	12.32	0.01	0.00	0.00	99.94	0.573	0.572	0.020
99112301	olivine		40.55	0.01	0.00	0.02	8.83	0.11	0.43	50.22	0.00	0.00	0.00	100.18	0.910		
Wadi Rajimi	opx		56.76	0.04	2.82	0.72	5.67	0.11	0.06	33.35	1.29	0.00	0.00	100.82	0.913		
0423.37 / 2719.68	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.03	0.06	35.66	31.91	16.46	0.18	0.18	15.24	0.01	0.01	0.00	99.73	0.660	0.375	0.014
99112302	olivine ^c		41.32	–	0.00	0.00	9.32	–	–	49.04	0.01	–	–	99.68	0.910		
Wadi Rajimi	opx		56.83	0.03	2.38	0.60	5.36	0.12	0.09	33.94	1.13	0.01	0.00	100.47	0.919		
0423.16 / 2719.21	cpx		54.67	0.05	2.27	0.82	1.77	0.02	0.05	17.53	24.09	0.06	0.01	101.33	0.946		
	spinel		0.23	0.06	30.69	36.70	17.48	0.24	0.15	14.05	0.03	0.03	0.00	99.66	0.622	0.445	0.013
99112303	olivine		41.02	0.03	0.05	0.02	9.11	0.11	0.38	50.11	0.03	0.00	0.00	100.86	0.907		
Wadi Rajimi	opx		57.15	0.03	2.38	0.60	5.97	0.13	0.09	33.89	0.54	0.01	0.00	100.80	0.910		
0423.00 / 2718.68	cpx		54.18	0.08	1.97	0.54	1.83	0.11	0.03	17.31	24.22	0.03	0.00	100.32	0.944		
	spinel		0.02	0.06	30.44	37.74	17.37	0.21	0.10	14.27	0.01	0.02	0.00	100.23	0.631	0.454	0.014
99112304	olivine	77.31	41.24	0.01	0.00	0.02	8.54	0.12	0.35	50.36	0.04	0.00	0.00	100.68	0.913		
Wadi Rajimi	opx	20.17	57.96	0.02	1.05	0.43	5.48	0.12	0.07	34.45	1.21	0.00	0.00	100.79	0.918		
0423.16 / 2718.21	cpx	0.37	55.37	0.04	1.08	0.59	1.93	0.07	0.05	17.98	23.80	0.19	0.00	101.11	0.943		
	spinel	0.97	0.42	0.11	15.30	51.53	21.56	0.31	0.07	10.74	0.05	0.01	0.00	100.11	0.512	0.693	0.021
99112306	olivine		40.93	0.03	0.00	0.00	8.70	0.12	0.37	49.77	0.04	0.01	0.00	99.96	0.911		
Wadi Rajimi	opx		57.79	0.01	1.51	0.49	5.63	0.12	0.10	34.16	0.72	0.00	0.00	100.53	0.915		
0422.63 / 2718.11	cpx		54.72	0.02	1.39	0.55	1.92	0.08	0.04	17.65	23.69	0.04	0.00	100.10	0.943		
	spinel		0.15	0.06	20.71	45.89	20.69	0.31	0.06	11.61	0.01	0.00	0.00	99.48	0.545	0.598	0.021
99112307	olivine	76.00	40.67	0.01	0.01	0.01	8.77	0.11	0.36	49.69	0.02	0.00	0.00	99.66	0.910		
Wadi Rajimi	opx	20.42	57.82	0.01	1.25	0.42	5.67	0.11	0.09	34.17	0.66	0.01	0.00	100.21	0.915		
0422.00 / 2717.84	cpx	2.32	54.95	0.04	1.29	0.68	1.83	0.08	0.05	17.70	23.66	0.16	0.00	100.43	0.945		
	spinel	1.03	0.24	0.06	17.46	49.55	21.49	0.28	0.08	11.21	0.01	0.01	0.00	100.40	0.530	0.656	0.023
99112308	olivine		41.07	0.00	0.00	0.01	8.63	0.10	0.36	50.98	0.02	0.00	0.00	101.18	0.913		
Wadi Rajimi	opx		57.89	0.02	1.76	0.67	5.11	0.12	0.11	33.97	1.53	0.01	0.00	101.18	0.922		
0424.11 / 2721.84	cpx		54.86	0.05	1.65	0.84	1.75	0.05	0.04	17.59	23.92	0.16	0.00	100.92	0.947		
	spinel		0.07	0.05	23.59	45.48	18.16	0.23	0.06	12.90	0.01	0.01	0.00	100.56	0.589	0.564	0.012
99112309	olivine		40.82	0.00	0.01	0.02	8.16	0.13	0.40	50.52	0.02	0.00	0.00	100.08	0.917		
Wadi Rajimi	opx		58.53	0.01	1.18	0.46	5.30	0.13	0.09	34.46	1.22	0.02	0.00	101.39	0.921		
0424.26 / 2721.32	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.03	0.07	17.49	49.95	21.48	0.32	0.04	10.26	0.01	0.01	0.00	99.65	0.494	0.657	0.017

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99112310	olivine ^c	76.39	41.63	–	0.00	0.00	9.07	–	–	50.31	0.20	–	–	101.20	0.907		
Wadi Rajimi	opx	20.38	57.69	0.02	1.38	0.54	5.58	0.12	0.09	35.20	0.49	0.03	0.00	101.14	0.918		
0424.74 / 2721.00	cpx	1.09	55.16	0.02	1.03	0.47	1.82	0.09	0.06	18.39	24.05	0.11	0.00	101.19	0.948		
	spinel	0.61	0.32	0.07	19.64	47.96	20.60	0.28	0.04	12.11	0.02	0.04	0.00	101.08	0.559	0.621	0.021
99112311	olivine		40.83	0.02	0.01	0.01	8.65	0.10	0.35	50.17	0.02	0.00	0.00	100.17	0.912		
Wadi Rajimi	opx		57.66	0.01	1.80	0.59	5.57	0.11	0.09	34.36	0.79	0.01	0.00	100.98	0.917		
0425.58 / 2720.79	cpx		54.43	0.03	2.02	0.87	1.98	0.06	0.04	17.67	23.91	0.02	0.00	101.02	0.941		
	spinel		0.11	0.04	23.61	44.69	18.58	0.26	0.10	12.70	0.01	0.03	0.00	100.13	0.583	0.559	0.014
99112401	olivine		40.80	0.01	0.00	0.03	8.54	0.11	0.34	50.31	0.04	0.00	0.00	100.18	0.913		
Wadi Rajimi	opx		56.31	0.01	2.08	0.71	5.73	0.13	0.06	34.04	1.14	0.01	0.00	100.21	0.914		
0424.37 / 2724.63	cpx		52.69	0.04	2.57	0.88	1.85	0.08	0.09	17.06	24.50	0.04	0.00	99.81	0.943		
	spinel		0.07	0.04	27.25	39.84	19.04	0.24	0.10	13.42	0.01	0.00	0.00	100.01	0.606	0.495	0.020
99112402	olivine		40.90	0.00	0.00	0.02	8.35	0.12	0.38	50.98	0.02	0.01	0.00	100.79	0.916		
Wadi Rajimi	opx		–	–	–	–	–	–	–	–	–	–	–	–	–		
0424.37 / 2724.16	cpx		55.02	0.07	1.53	0.53	1.78	0.06	0.04	17.91	24.58	0.05	0.00	101.57	0.947		
	spinel		0.02	0.06	26.55	40.87	19.79	0.23	0.14	13.58	0.00	0.00	0.00	101.25	0.609	0.508	0.025
99112403	olivine		41.13	0.00	0.00	0.02	8.25	0.13	0.36	50.91	0.00	0.01	0.00	100.81	0.917		
Wadi Rajimi	opx		56.55	0.01	2.23	0.50	5.58	0.13	0.04	34.40	0.83	0.01	0.00	100.28	0.917		
0424.63 / 2723.58	cpx		52.92	0.07	3.18	1.36	1.87	0.08	0.04	16.86	24.17	0.15	0.00	100.70	0.941		
	spinel		0.04	0.04	31.45	37.56	17.05	0.20	0.10	14.90	0.00	0.03	0.00	101.36	0.648	0.445	0.015
99112404	olivine ^c		41.43	–	0.00	0.00	8.73	–	–	49.63	0.02	–	–	99.81	0.910		
Wadi Rajimi	opx		56.39	0.01	2.31	0.62	5.80	0.12	0.08	33.42	1.18	0.00	0.00	99.93	0.911		
0424.74 / 2723.00	cpx		53.24	0.05	2.48	0.88	2.03	0.07	0.05	17.04	23.71	0.04	0.01	99.61	0.937		
	spinel		0.23	0.07	28.42	38.32	18.53	0.21	0.12	13.44	0.00	0.02	0.00	99.37	0.603	0.475	0.016
99112405	olivine	69.98	41.66	0.01	0.00	0.02	9.03	0.13	0.36	50.26	0.02	0.00	0.00	101.50	0.908		
Wadi Rajimi	opx	22.50	57.33	0.02	1.59	0.54	5.92	0.14	0.11	34.31	0.70	0.01	0.00	100.66	0.912		
0424.74 / 2723.00	cpx	4.89	54.03	0.06	1.60	0.72	2.00	0.07	0.04	17.78	23.74	0.04	0.00	100.09	0.941		
	spinel	0.90	0.07	0.07	20.34	47.33	20.85	0.24	0.08	11.60	0.01	0.00	0.00	100.60	0.542	0.609	0.020
99112406	olivine		41.79	0.00	0.01	0.01	8.33	0.09	0.35	50.76	0.01	0.00	0.00	101.34	0.916		
Wadi Rajimi	opx		56.68	0.05	2.16	0.68	5.29	0.11	0.10	34.18	1.06	0.00	0.00	100.31	0.920		
0425.16 / 2722.58	cpx		53.44	0.11	2.23	0.99	1.79	0.05	0.04	17.37	23.98	0.11	0.01	100.11	0.945		
	spinel		0.07	0.13	26.79	41.72	18.11	0.25	0.06	13.60	0.01	0.01	0.00	100.75	0.609	0.511	0.015
99112407	olivine	73.44	42.49	0.02	0.00	0.02	9.00	0.12	0.39	51.58	0.04	0.01	0.00	103.66	0.911		
Wadi Rajimi	opx	17.70	57.14	0.01	2.21	0.72	5.76	0.14	0.07	34.47	0.58	0.00	0.00	101.11	0.914		
0425.53 / 2722.32	cpx	3.91	54.02	0.03	2.55	1.07	2.01	0.08	0.07	17.37	23.95	0.06	0.02	101.23	0.939		
	spinel	0.84	0.06	0.09	27.16	41.57	19.09	0.25	0.10	13.58	0.02	0.01	0.00	101.93	0.603	0.507	0.018

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99112408	olivine		40.72	0.01	0.02	0.02	8.81	0.11	0.35	49.76	0.01	0.01	0.00	99.81	0.910		
Wadi Rajimi	opx		57.17	0.02	2.04	0.59	5.80	0.10	0.07	34.30	0.61	0.02	0.01	100.74	0.913		
0425.89 / 2722.00	cpx		53.82	0.05	2.66	1.19	2.08	0.07	0.04	17.35	23.81	0.07	0.00	101.15	0.937		
	spinel		0.04	0.06	26.84	41.62	18.28	0.23	0.09	13.45	0.01	0.01	0.00	100.62	0.605	0.510	0.015
99112409	olivine		42.10	0.01	0.01	0.02	8.42	0.12	0.33	50.91	0.02	0.00	0.00	101.94	0.915		
Wadi Rajimi	opx		57.22	0.03	1.83	0.57	5.61	0.11	0.07	34.33	0.95	0.00	0.00	100.73	0.916		
0426.16 / 2721.16	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.02	0.07	23.93	43.95	19.00	0.24	0.10	12.93	0.00	0.02	0.00	100.26	0.593	0.552	0.019
99112501	olivine		41.78	0.01	0.00	0.01	8.77	0.08	0.39	50.23	0.02	0.00	0.00	101.28	0.911		
Wadi Rajimi	opx		56.46	0.03	2.11	0.58	5.67	0.11	0.08	33.16	2.11	0.01	0.00	100.32	0.912		
0424.89 / 2725.26	cpx		53.29	0.08	2.32	0.70	1.91	0.06	0.04	17.16	23.70	0.12	0.00	99.38	0.941		
	spinel		0.06	0.05	27.39	38.95	20.42	0.24	0.13	13.23	0.02	0.02	0.00	100.52	0.596	0.488	0.026
99112503	olivine	78.12	41.42	0.01	0.00	0.01	9.45	0.14	0.35	50.00	0.01	0.00	0.00	101.39	0.904		
Wadi Rajimi	opx	18.91	57.41	0.02	0.90	0.43	5.98	0.13	0.06	34.01	1.13	0.01	0.00	100.08	0.910		
0424.89 / 2724.79	cpx	1.27	54.79	0.02	0.70	0.35	1.93	0.05	0.08	17.62	23.94	0.21	0.00	99.68	0.942		
	spinel	0.46	0.06	0.16	13.60	53.11	23.26	0.32	0.06	9.31	0.01	0.00	0.00	99.88	0.457	0.724	0.022
99112504	olivine ^e		41.63	–	0.00	0.00	9.09	–	–	50.51	0.03	–	–	101.25	0.907		
Wadi Rajimi	opx		55.18	0.02	2.07	0.59	5.74	0.12	0.07	34.90	1.46	0.01	0.00	100.16	0.915		
0425.42 / 2724.42	cpx		53.05	0.02	2.22	0.76	1.91	0.07	0.05	17.90	24.45	0.06	0.00	100.49	0.944		
	spinel		–	–	–	–	–	–	–	–	–	–	–	–			
99112505	olivine		41.74	0.01	0.00	0.00	8.84	0.12	0.37	50.60	0.01	0.00	0.00	101.71	0.911		
Wadi Rajimi	opx		57.89	0.00	1.59	0.58	5.29	0.13	0.05	34.09	1.47	0.00	0.00	101.09	0.920		
0425.84 / 2724.21	cpx		54.79	0.01	1.99	0.92	2.33	0.05	0.04	19.50	21.35	0.12	0.00	101.12	0.939		
	spinel		0.03	0.06	21.34	46.61	20.16	0.24	0.06	12.05	0.01	0.01	0.00	100.57	0.559	0.594	0.019
99112506	olivine		41.49	0.02	0.01	0.01	7.85	0.11	0.39	51.11	0.03	0.01	0.00	101.01	0.921		
Wadi Rajimi	opx		56.35	0.10	2.59	0.69	5.22	0.09	0.06	34.67	0.75	0.00	0.00	100.54	0.922		
0426.05 / 2723.63	cpx		53.14	0.14	2.91	1.10	1.75	0.05	0.01	17.38	24.25	0.06	0.00	100.78	0.947		
	spinel		0.04	0.08	29.61	38.82	17.00	0.21	0.12	14.75	0.01	0.01	0.00	100.64	0.651	0.468	0.016
99112507	olivine ^e		41.35	–	0.00	0.00	9.02	–	–	49.96	0.04	–	–	100.35	0.907		
Wadi Rajimi	opx		56.92	0.01	2.41	0.73	5.62	0.10	0.11	34.65	0.92	0.00	0.00	101.47	0.917		
0426.16 / 2723.21	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.06	0.03	29.38	38.57	18.48	0.20	0.10	14.18	0.00	0.01	0.00	101.01	0.626	0.468	0.019
99112508	olivine		41.63	0.00	0.00	0.00	9.16	0.11	0.35	50.43	0.02	0.00	0.00	101.71	0.908		
Wadi Rajimi	opx		56.44	0.02	2.20	0.60	5.82	0.12	0.06	33.92	0.94	0.00	0.00	100.12	0.912		
0426.58 / 2722.84	cpx		53.72	0.08	2.44	0.99	1.94	0.04	0.03	17.24	24.36	0.08	0.00	100.93	0.941		
	spinel		0.07	0.08	27.78	40.28	19.05	0.23	0.11	13.39	0.01	0.01	0.00	101.01	0.598	0.493	0.017

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T+b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99112509	olivine		42.37	0.01	0.00	0.01	8.75	0.12	0.43	50.69	0.03	0.00	0.00	102.41	0.912		
Wadi Rajimi	opx		56.95	0.03	2.19	0.66	5.83	0.13	0.09	34.61	0.63	0.00	0.00	101.12	0.914		
0426.63 / 2722.26	cpx		52.74	0.05	2.73	1.04	2.09	0.07	0.03	17.38	23.34	0.02	0.00	99.50	0.937		
	spinel		0.06	0.07	27.15	40.98	19.01	0.23	0.07	13.69	0.02	0.01	0.00	101.29	0.610	0.503	0.020
99112510	olivine ^e	76.77	41.16	–	0.00	0.00	9.33	–	–	48.95	0.05	–	–	99.50	0.905		
Wadi Rajimi	opx	19.38	56.73	0.00	1.96	0.58	5.58	0.12	0.10	34.49	0.61	0.02	0.00	100.20	0.917		
0426.68 / 2721.68	cpx	3.50	53.76	0.05	0.81	0.35	1.88	0.07	0.04	17.42	23.96	0.06	0.00	100.74	0.943		
	spinel	0.53	0.21	0.05	25.75	42.54	18.03	0.23	0.08	13.28	0.00	0.02	0.00	100.18	0.599	0.526	0.013
99112701	olivine		41.47	0.02	0.01	0.03	8.39	0.10	0.34	50.79	0.02	0.00	0.00	101.17	0.915		
RAYY	opx		58.06	0.03	2.06	0.63	5.46	0.09	0.09	34.55	0.65	0.00	0.00	101.63	0.919		
0426.84 / 2711.79	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.07	0.07	25.45	43.14	18.43	0.22	0.09	13.38	0.03	0.01	0.00	100.88	0.603	0.532	0.016
99112702	olivine ^e	73.53	41.55	–	0.00	0.00	8.89	–	–	50.02	0.04	–	–	100.49	0.908		
RAYY	opx	21.75	57.49	0.01	1.30	0.47	5.54	0.13	0.11	34.55	1.04	0.01	0.00	100.66	0.917		
0426.79 / 2712.84	cpx	2.77	54.56	0.07	1.47	0.66	1.90	0.04	0.05	18.04	24.16	0.05	0.01	101.01	0.944		
	spinel	0.53	0.15	0.08	17.73	50.02	20.28	0.25	0.06	11.32	0.00	0.01	0.00	99.89	0.537	0.654	0.017
99112703	olivine	74.66	41.55	0.01	0.00	0.01	8.47	0.12	0.38	50.63	0.03	0.01	0.00	101.22	0.914		
RAYY	opx	20.68	58.21	0.02	1.69	0.49	5.47	0.14	0.07	34.60	0.72	0.00	0.00	101.40	0.919		
0426.11 / 2714.16	cpx	2.17	55.12	0.02	1.65	0.61	1.89	0.11	0.04	18.12	23.21	0.03	0.01	100.82	0.945		
	spinel	0.83	0.05	0.03	23.48	45.11	18.74	0.25	0.07	12.59	0.01	0.01	0.00	100.33	0.579	0.563	0.014
99112704	olivine	73.40	41.18	0.00	0.00	0.02	8.39	0.08	0.35	51.17	0.01	0.00	0.00	101.21	0.916		
RAYY	opx	22.64	57.72	0.03	2.34	0.67	5.46	0.12	0.05	34.34	0.83	0.01	0.00	101.57	0.918		
0425.47 / 2714.68	cpx	1.94	55.14	0.05	2.04	0.64	1.94	0.05	0.03	17.80	23.89	0.07	0.01	101.67	0.942		
	spinel	0.70	0.06	0.08	29.41	39.24	16.66	0.19	0.15	14.61	0.02	0.00	0.00	100.42	0.647	0.472	0.014
99112705	olivine		41.02	0.00	0.00	0.00	8.76	0.11	0.39	50.75	0.01	0.00	0.00	101.03	0.912		
RAYY	opx		57.60	0.01	1.83	0.60	5.67	0.13	0.09	34.40	0.78	0.01	0.00	101.11	0.915		
0425.84 / 2715.16	cpx		54.06	0.02	1.87	0.68	1.93	0.05	0.07	17.85	23.65	0.06	0.00	100.23	0.943		
	spinel		0.04	0.04	24.42	44.54	18.19	0.23	0.09	12.90	0.01	0.00	0.00	100.45	0.589	0.550	0.012
99112706	olivine ^e	76.09	41.12	–	0.00	0.00	8.90	–	–	49.59	0.01	–	–	99.62	0.907		
RAYY	opx	20.64	57.10	0.01	1.64	0.47	5.70	0.12	0.08	35.25	0.64	0.01	0.00	101.04	0.917		
0425.42 / 2715.53	cpx	1.65	53.63	0.07	2.80	1.13	1.92	0.10	0.03	17.31	23.94	0.07	0.00	100.98	0.941		
	spinel	0.74	0.01	0.07	23.45	44.93	19.35	0.25	0.08	12.53	0.00	0.00	0.00	100.67	0.575	0.562	0.017
99112707	olivine	71.49	41.51	0.00	0.00	0.02	8.68	0.09	0.35	50.85	0.01	0.00	0.00	101.52	0.913		
RAYY	opx	25.24	56.45	0.04	2.57	0.63	5.55	0.10	0.07	33.80	1.01	0.01	0.00	100.23	0.916		
0425.00 / 2716.00	cpx	1.82	53.46	0.13	2.69	0.83	1.92	0.09	0.04	17.12	23.94	0.06	0.00	100.29	0.941		
	spinel	0.73	0.15	0.16	32.05	35.56	16.69	0.20	0.13	14.86	0.01	0.02	0.00	99.84	0.650	0.427	0.014

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99112708	olivine ^c	76.40	40.94	–	0.00	0.00	9.15	–	–	49.03	0.01	–	–	99.13	0.905		
RAYY	opx	20.86	56.97	0.03	2.53	0.74	5.52	0.11	0.08	33.61	1.71	0.01	0.00	101.29	0.916		
0424.79 / 2716.84	cpx	1.48	54.14	0.06	2.17	0.64	1.96	0.05	0.04	18.00	24.02	0.01	0.00	101.09	0.943		
	spinel	0.70	0.08	0.05	31.19	37.21	17.18	0.24	0.11	14.55	0.01	0.00	0.00	100.63	0.639	0.444	0.014
99112709	olivine		41.29	0.02	0.00	0.00	8.74	0.11	0.36	49.95	0.01	0.01	0.00	100.50	0.911		
RAYY	opx		57.03	0.02	1.70	0.45	5.59	0.09	0.06	33.65	0.94	0.02	0.00	99.55			
0424.42 / 2717.00	cpx		53.63	0.06	1.84	0.79	1.88	0.08	0.02	17.26	23.70	0.06	0.00	99.34	0.942		
	spinel		0.10	0.07	23.99	43.75	18.49	0.30	0.07	12.44	0.00	0.01	0.00	99.22	0.575	0.550	0.013
99112710	olivine ^c	74.66	41.30	–	0.00	0.00	8.96	–	–	49.49	0.02	–	–	99.77	0.908		
RAYY	opx	22.14	57.66	0.02	1.22	0.45	5.51	0.14	0.10	34.39	1.13	0.01	0.00	100.64	0.917		
0424.11 / 2717.63	cpx	1.67	54.68	0.02	1.26	0.65	1.79	0.05	0.04	17.94	23.65	0.13	0.00	100.23	0.947		
	spinel	0.76	0.15	0.07	18.85	49.39	20.17	0.28	0.06	11.09	0.01	0.01	0.00	100.09	0.524	0.637	0.013
99112801	olivine		41.57	0.00	0.00	0.01	8.57	0.12	0.39	50.65	0.02	0.00	0.00	101.34	0.913		
RAYY	opx		58.20	0.03	1.27	0.47	5.62	0.08	0.06	34.90	0.75	0.00	0.00	101.40	0.917		
0425.74 / 2710.16	cpx		54.15	0.05	1.53	0.76	1.92	0.09	0.02	17.82	23.19	0.08	0.00	99.62	0.943		
	spinel		0.13	0.12	18.06	48.97	21.13	0.25	0.06	11.19	0.01	0.00	0.00	99.93	0.530	0.645	0.021
99112802	olivine ^c	77.30	41.34	–	0.00	0.00	9.16	–	–	49.56	0.02	–	–	100.08	0.906		
RAYY	opx	19.64	58.44	0.01	0.70	0.32	5.56	0.14	0.07	35.06	0.74	0.01	0.00	101.04	0.918		
0424.89 / 2710.32	cpx	1.20	55.64	0.01	0.73	0.43	1.89	0.06	0.01	18.45	24.03	0.04	0.00	101.30	0.946		
	spinel	0.63	0.10	0.08	11.69	56.15	21.95	0.34	0.03	9.70	0.00	0.01	0.00	100.04	0.478	0.763	0.019
99112803	olivine	72.08	41.09	0.00	0.00	0.01	8.55	0.11	0.37	49.85	0.02	0.00	0.00	99.99	0.912		
RAYY	opx	22.56	56.42	0.03	2.80	0.69	5.55	0.12	0.07	33.61	0.69	0.01	0.00	100.00	0.915		
0424.26 / 2710.79	cpx	4.63	52.67	0.08	3.04	0.92	2.01	0.12	0.00	16.96	23.36	0.07	0.00	99.24	0.938		
	spinel	0.75	0.08	0.05	33.61	34.06	15.96	0.19	0.10	15.27	0.01	0.02	0.00	99.35	0.666	0.405	0.013
99112804	olivine	69.21	41.85	0.01	0.00	0.01	8.57	0.07	0.40	50.94	0.02	0.00	0.00	101.87	0.914		
RAYY	opx	26.52	58.20	0.02	1.01	0.41	5.73	0.09	0.06	34.77	0.71	0.01	0.00	101.02	0.915		
0424.05 / 2711.63	cpx	1.51	55.05	0.01	1.04	0.59	1.85	0.08	0.04	18.29	24.15	0.04	0.00	101.14	0.946		
	spinel	0.94	0.25	0.08	15.08	53.37	20.83	0.30	0.03	10.44	0.01	0.03	0.00	100.42	0.500	0.704	0.014
99112805	olivine	68.14	41.22	0.00	0.00	0.00	9.15	0.09	0.36	50.56	0.02	0.00	0.00	101.42	0.908		
RAYY	opx	24.39	56.85	0.04	2.66	0.70	5.77	0.11	0.08	33.68	1.03	0.01	0.00	100.92	0.912		
0423.42 / 2711.84	cpx	5.48	55.12	0.05	2.70	0.79	3.06	0.06	0.02	21.73	18.01	0.01	0.00	101.56	0.931		
	spinel	0.69	0.05	0.06	32.46	36.07	17.35	0.22	0.11	14.58	0.00	0.00	0.00	100.90	0.635	0.427	0.013
99112807	olivine		41.28	0.02	0.00	0.02	8.62	0.14	0.37	50.93	0.05	0.00	0.00	101.43	0.913		
RAYY	opx		57.53	0.01	0.60	0.28	5.77	0.17	0.08	35.76	0.56	0.01	0.00	100.79	0.917		
0422.21 / 2712.89	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.07	0.11	11.18	57.72	22.70	0.33	0.05	9.30	0.03	0.00	0.00	101.49	0.456	0.776	0.018

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99112808	olivine		41.62	0.00	0.01	0.01	8.87	0.14	0.39	50.66	0.03	0.00	0.00	101.73	0.911		
RAYY	opx		56.60	0.01	2.67	0.67	5.76	0.13	0.05	34.34	0.68	0.00	0.00	100.93	0.914		
0422.00 / 2713.74	cpx		53.74	0.07	1.94	0.48	1.79	0.07	0.05	17.77	24.74	0.03	0.00	100.67	0.947		
	spinel		0.04	0.03	32.39	35.86	17.02	0.18	0.12	15.03	0.01	0.01	0.00	100.70	0.655	0.426	0.016
99112809	olivine ^e	74.96	41.14	–	0.00	0.00	8.75	–	–	49.85	0.03	–	–	99.77	0.910		
RAYY	opx	21.66	57.54	0.03	2.20	0.57	5.35	0.10	0.10	34.34	1.12	0.01	0.00	101.37	0.920		
0421.16 / 2714.00	cpx	2.15	54.16	0.06	2.51	0.85	2.04	0.09	0.07	17.56	24.04	0.05	0.00	101.43	0.939		
	spinel	0.76	0.13	0.07	29.57	38.97	17.05	0.21	0.10	14.41	0.01	0.01	0.00	100.54	0.636	0.469	0.013
99112810	olivine ^e		40.81	–	0.00	0.00	9.29	–	–	49.07	0.03	–	–	99.19	0.904		
RAYY	opx		57.71	0.02	1.58	0.51	5.71	0.13	0.11	34.45	0.65	0.00	0.00	100.86	0.915		
0421.16 / 2714.84	cpx		54.75	0.05	1.58	0.64	2.00	0.10	0.04	17.99	24.04	0.01	0.00	101.18	0.941		
	spinel		0.13	0.06	21.48	46.01	19.95	0.25	0.10	11.86	0.01	0.00	0.00	99.86	0.553	0.590	0.017
99112811	olivine	61.53	41.26	0.01	0.00	0.00	9.13	0.13	0.38	50.64	0.03	0.00	0.00	101.58	0.908		
RAYY	opx	31.79	56.25	0.02	2.45	0.58	5.92	0.13	0.04	34.41	0.62	0.01	0.00	100.43	0.912		
0421.11 / 2715.47	cpx	4.90	52.98	0.08	2.72	0.97	2.28	0.08	0.03	18.64	22.46	0.04	0.00	100.28	0.936		
	spinel	0.70	0.05	0.06	31.17	37.46	17.69	0.19	0.11	14.50	0.00	0.01	0.00	101.25	0.633	0.446	0.015
99112812	olivine ^e	72.80	41.00	–	0.00	0.00	9.12	–	–	49.36	0.04	–	–	99.51	0.906		
RAYY	opx	23.54	57.56	0.02	1.38	0.51	5.53	0.12	0.09	34.22	1.24	0.00	0.00	100.66	0.917		
0421.11 / 2716.05	cpx	2.31	54.05	0.03	1.42	0.61	1.98	0.07	0.04	17.94	23.66	0.05	0.01	99.86	0.942		
	spinel	0.68	0.14	0.07	20.43	47.12	19.80	0.27	0.08	11.57	0.01	0.02	0.00	99.51	0.544	0.607	0.015
99112813	olivine		41.45	0.00	0.01	0.01	8.98	0.11	0.36	50.41	0.02	0.00	0.00	101.35	0.909		
RAYY	opx		57.67	0.02	1.28	0.40	5.80	0.12	0.08	34.70	0.90	0.00	0.00	100.97	0.914		
0420.37 / 2714.21	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.13	0.06	16.93	50.70	21.32	0.27	0.04	11.08	0.00	0.00	0.00	100.55	0.526	0.668	0.021
99112901	olivine ^e	77.40	41.39	–	0.00	0.00	8.60	–	–	50.08	0.02	–	–	100.09	0.912		
RAYY	opx	19.36	57.99	0.01	1.31	0.45	5.33	0.12	0.10	35.10	0.81	0.00	0.00	101.22	0.921		
0429.42 / 2714.05	cpx	1.55	54.66	0.04	1.39	0.72	1.98	0.08	0.04	18.22	23.51	0.19	0.00	100.82	0.943		
	spinel	0.75	0.11	0.08	19.27	49.33	19.56	0.24	0.06	11.74	0.00	0.01	0.00	100.40	0.549	0.632	0.014
99112905	olivine	70.31	41.17	0.00	0.00	0.02	8.58	0.12	0.38	50.79	0.03	0.01	0.00	101.10	0.913		
RAYY	opx	27.07	57.87	0.01	1.03	0.40	5.73	0.15	0.06	35.08	0.91	0.00	0.00	101.24	0.916		
0427.89 / 2715.05	cpx	0.57	53.60	0.02	0.84	0.37	1.92	0.08	0.05	18.33	24.50	0.08	0.00	99.78	0.945		
	spinel	0.83	0.04	0.10	15.01	52.90	21.97	0.30	0.04	10.47	0.02	0.01	0.00	100.86	0.503	0.703	0.022
99112906	olivine ^e	84.67	40.99	–	0.00	0.00	9.05	–	–	49.19	0.02	–	–	99.24	0.906		
RAYY	opx	13.46	57.27	0.03	1.43	0.50	5.46	0.12	0.09	34.48	0.84	0.01	0.00	100.23	0.918		
0427.79 / 2715.68	cpx	1.41	54.28	0.04	1.60	0.73	1.83	0.05	0.05	17.64	24.15	0.15	0.00	100.53	0.945		
	spinel	0.64	0.20	0.11	19.86	47.72	20.62	0.27	0.04	11.37	0.00	0.01	0.00	100.20	0.531	0.617	0.017

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99112907	olivine		41.13	0.04	0.00	0.03	8.54	0.11	0.41	50.77	0.02	0.01	0.00	101.04	0.914		
RAYY	opx		56.79	0.04	1.98	0.60	5.85	0.09	0.04	34.98	0.58	0.02	0.00	100.97	0.914		
0427.32 / 2716.26	cpx		53.58	0.03	2.12	0.85	2.16	0.07	0.05	17.91	24.05	0.04	0.00	100.86	0.937		
	spinel		0.13	0.08	23.70	44.21	19.78	0.29	0.10	12.92	0.01	0.02	0.00	101.24	0.587	0.556	0.021
99112908	olivine ^e	73.35	41.12	–	0.00	0.00	9.07	–	–	49.52	0.02	–	–	99.73	0.907		
RAYY	opx	21.12	56.62	0.02	2.80	0.63	5.67	0.12	0.09	34.46	0.82	0.00	0.00	101.25	0.916		
0427.21 / 2716.84	cpx	4.06	53.36	0.08	2.72	0.80	1.99	0.07	0.04	17.48	23.93	0.12	0.00	100.58	0.940		
	spinel	0.87	0.09	0.07	35.30	32.92	15.67	0.21	0.17	15.59	0.00	0.00	0.00	100.03	0.672	0.385	0.012
99112909	olivine		41.14	0.00	0.00	0.00	8.85	0.10	0.37	50.93	0.00	0.00	0.00	101.40	0.911		
RAYY	opx		56.99	0.03	2.25	0.66	5.68	0.14	0.09	34.60	0.79	0.01	0.00	101.25	0.916		
0426.95 / 2717.53	cpx		54.18	0.05	1.95	0.70	1.91	0.07	0.01	17.82	24.30	0.12	0.00	101.11	0.943		
	spinel		0.08	0.05	27.60	41.91	17.45	0.26	0.09	14.00	0.00	0.00	0.00	101.44	0.621	0.505	0.013
99112910	olivine	79.78	41.08	0.03	0.00	0.03	8.52	0.12	0.36	51.03	0.02	0.00	0.00	101.19	0.914		
RAYY	opx	17.83	57.53	0.05	1.80	0.58	5.47	0.08	0.05	34.72	1.16	0.00	0.00	101.43	0.919		
0426.63 / 2718.21	cpx	1.09	54.61	0.07	1.60	0.66	1.85	0.07	0.07	18.15	23.87	0.11	0.01	101.07	0.946		
	spinel	0.79	0.10	0.12	23.27	45.50	19.12	0.27	0.10	12.68	0.00	0.02	0.00	101.18	0.577	0.567	0.015
99112911	olivine		41.99	0.00	0.00	0.03	8.41	0.12	0.39	50.97	0.01	0.01	0.00	101.93	0.915		
RAYY	opx		56.85	0.03	2.51	0.66	5.72	0.12	0.08	34.42	0.63	0.00	0.00	101.02	0.915		
0426.16 / 2718.84	cpx		54.05	0.04	2.24	0.68	1.96	0.07	0.05	17.68	24.51	0.02	0.00	101.30	0.941		
	spinel		0.06	0.05	31.56	36.65	17.36	0.18	0.12	14.83	0.01	0.01	0.00	100.84	0.647	0.438	0.017
99112912	olivine ^e	71.07	41.31	–	0.00	0.00	9.18	–	–	49.90	0.04	–	–	100.42	0.906		
RAYY	opx	22.51	56.95	0.01	2.28	0.62	5.65	0.13	0.09	34.31	0.71	0.00	0.00	100.76	0.915		
0426.00 / 2719.53	cpx	4.56	54.52	0.05	2.08	0.71	1.84	0.08	0.03	17.58	24.35	0.02	0.00	101.27	0.945		
	spinel	0.69	0.15	0.05	28.55	40.12	17.41	0.23	0.12	14.01	0.01	0.00	0.00	100.66	0.622	0.485	0.013
99112913	olivine		41.53	0.01	0.00	0.00	8.85	0.08	0.35	50.71	0.02	0.00	0.00	101.54	0.911		
RAYY	opx		57.64	0.03	2.19	0.46	5.79	0.10	0.06	34.46	0.71	0.01	0.00	101.45	0.914		
0427.63 / 2717.42	cpx		54.01	0.05	2.47	0.77	2.07	0.08	0.04	17.53	23.20	0.07	0.00	100.30	0.938		
	spinel		0.04	0.07	31.15	36.59	17.36	0.21	0.05	14.12	0.00	0.01	0.00	99.60	0.625	0.441	0.013
99112914	olivine ^e	77.61	41.05	–	0.00	0.00	8.88	–	–	49.62	0.02	–	–	99.57	0.909		
RAYY	opx	18.46	56.65	0.02	1.89	0.60	5.59	0.13	0.07	34.86	0.62	0.00	0.00	100.43	0.917		
0428.00 / 2718.26	cpx	2.61	53.23	0.04	1.82	0.67	2.04	0.09	0.03	18.31	23.58	0.08	0.00	99.90	0.942		
	spinel	0.72	0.19	0.04	26.64	42.57	17.93	0.23	0.09	13.63	0.00	0.01	0.00	101.34	0.607	0.517	0.012
99112915	olivine	70.40	41.17	0.01	0.00	0.00	8.57	0.14	0.39	50.73	0.01	0.01	0.00	101.05	0.913		
RAYY	opx	25.16	56.90	0.01	1.56	0.56	5.66	0.13	0.10	34.63	0.68	0.01	0.00	100.23	0.916		
0428.00 / 2718.68	cpx	2.28	53.53	0.02	1.66	0.78	1.93	0.08	0.06	17.71	24.21	0.09	0.00	100.06	0.942		
	spinel	0.89	0.02	0.05	20.70	47.26	19.56	0.26	0.05	12.02	0.01	0.01	0.00	99.95	0.563	0.605	0.018

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99120101	olivine	61.18	41.89	0.01	0.00	0.02	8.88	0.13	0.38	50.71	0.02	0.00	0.00	102.05	0.911		
RAYY	opx	29.92	57.41	0.03	2.32	0.57	5.77	0.10	0.07	33.97	1.06	0.00	0.00	101.30	0.913		
0428.42 / 2711.42	cpx	5.70	54.06	0.06	2.72	1.00	2.01	0.09	0.02	17.12	24.08	0.07	0.00	101.23	0.938		
	spinel	1.03	0.01	0.06	30.58	37.83	17.03	0.23	0.14	14.33	0.02	0.00	0.00	100.23	0.635	0.453	0.013
99120102	olivine ^e		41.17	–	0.00	0.00	8.86	–	–	49.75	0.02	–	–	99.80	0.909		
RAYY	opx		56.49	0.11	2.51	0.70	5.53	0.11	0.10	33.71	1.36	0.03	0.00	100.64	0.916		
0428.42 / 2711.42	cpx		53.77	0.21	3.20	1.24	2.02	0.09	0.06	17.32	22.63	0.49	0.00	101.04	0.938		
	spinel		0.10	0.31	30.11	38.94	16.47	0.21	0.10	14.82	0.02	0.01	0.00	101.08	0.645	0.465	0.011
99120110	olivine ^e	65.70	41.36	–	0.00	0.00	9.27	–	–	49.70	0.03	–	–	100.36	0.904		
RAYY	opx	30.32	56.13	0.01	2.87	0.72	5.49	0.12	0.12	33.52	2.46	0.01	0.00	101.44	0.916		
0426.95 / 2707.89	cpx	2.45	53.40	0.05	2.89	0.98	2.02	0.08	0.02	18.13	23.60	0.04	0.01	101.21	0.941		
	spinel	0.47	0.05	0.04	36.18	31.29	17.78	0.22	0.14	15.03	0.01	0.02	0.00	100.75	0.646	0.367	0.017
99120111	olivine ^e		41.36	–	0.00	0.00	8.40	–	–	49.96	0.04	–	–	99.75	0.915		
RAYY	opx		57.37	0.01	2.46	0.70	5.10	0.13	0.08	34.32	0.68	0.01	0.00	100.88	0.923		
0426.79 / 2708.11	cpx		54.34	0.04	2.37	0.80	1.87	0.08	0.06	17.68	23.58	0.20	0.00	101.01	0.944		
	spinel		–	–	–	–	–	–	–	–	–	–	–	–	–		
99120201	olivine		41.18	0.01	0.00	0.03	8.66	0.12	0.36	49.55	0.01	0.00	0.00	99.93	0.911		
Wadi Shuwayhah	opx		57.76	0.03	2.00	0.65	5.56	0.09	0.10	33.88	1.18	0.01	0.00	101.25	0.916		
0423.53 / 2706.68	cpx		54.35	0.01	2.22	0.88	1.88	0.06	0.06	17.64	24.20	0.06	0.00	101.37	0.944		
	spinel		0.03	0.07	25.13	43.29	17.53	0.25	0.07	13.33	0.01	0.01	0.00	99.72	0.608	0.536	0.013
99120202	olivine ^e		41.19	–	0.00	0.00	9.18	–	–	49.46	0.02	–	–	99.85	0.906		
Wadi Shuwayhah	opx		57.93	0.01	1.98	0.72	5.49	0.12	0.10	34.33	0.94	0.00	0.00	101.62	0.918		
0423.53 / 2706.68	cpx		54.39	0.01	2.02	0.96	1.77	0.06	0.07	17.45	23.58	0.03	0.01	100.35	0.946		
	spinel		0.12	0.05	23.24	46.58	17.84	0.27	0.07	12.84	0.01	0.02	0.00	101.04	0.585	0.574	0.009
99120204	olivine ^e	74.49	41.27	–	0.00	0.00	9.16	–	–	49.67	0.01	–	–	100.11	0.906		
Wadi Shuwayhah	opx	21.86	57.32	0.02	2.04	0.67	5.63	0.11	0.09	34.46	0.99	0.00	0.00	101.33	0.916		
0423.58 / 2706.95	cpx	2.10	53.88	0.03	2.49	1.04	1.95	0.07	0.05	17.29	24.37	0.06	0.00	101.22	0.941		
	spinel	0.48	0.07	0.02	26.11	43.72	16.98	0.21	0.09	13.65	0.01	0.01	0.00	100.87	0.613	0.529	0.009
99120206	olivine ^e		41.64	–	0.00	0.00	9.32	–	–	48.98	0.01	–	–	99.94	0.904		
Wadi Shuwayhah	opx		56.43	0.01	2.31	0.63	5.73	0.10	0.07	33.11	1.23	0.01	0.00	99.62	0.912		
0422.47 / 2707.11	cpx		53.16	0.03	2.37	0.79	2.08	0.08	0.04	17.10	23.48	0.01	0.00	99.15	0.936		
	spinel		0.19	0.05	26.33	41.70	17.50	0.18	0.15	13.61	0.04	0.01	0.00	99.75	0.615	0.515	0.013
99120207	olivine ^e	68.58	41.44	–	0.00	0.00	8.96	–	–	49.93	0.02	–	–	100.35	0.907		
Wadi Shuwayhah	opx	29.02	57.83	0.01	1.33	0.59	5.54	0.12	0.07	34.92	1.32	0.01	0.00	101.73	0.918		
0422.79 / 2707.79	cpx	0.82	54.47	0.01	1.49	0.82	2.25	0.05	0.06	18.98	22.92	0.06	0.00	101.11	0.938		
	spinel	0.56	0.04	0.07	17.84	51.22	19.53	0.29	0.04	11.58	0.00	0.02	0.00	100.64	0.547	0.658	0.015

Appendix 1. Continued

Reference No.	Locality	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d	
		UTM coordinate ^a																	
99120208	Wadi Shuwayhah	olivine		41.51	0.01	0.01	0.02	9.01	0.10	0.40	50.23	0.01	0.01	0.00	101.30	0.909			
0422.32 / 2708.58		opx		56.68	0.02	1.84	0.56	5.81	0.15	0.07	33.76	1.29	0.01	0.00	100.18	0.912			
		cpx		—	—	—	—	—	—	—	—	—	—	—	—				
		spinel		0.04	0.02	24.86	43.77	17.96	0.22	0.08	13.22	0.01	0.02	0.00	100.21	0.602	0.542	0.014	
99120210	Wadi Shuwayhah	olivine ^e	74.17	41.25	—	0.00	0.00	8.91	—	—	49.64	0.02	—	—	99.80	0.909			
0421.26 / 2709.26		opx	23.05	57.81	0.03	1.90	0.59	5.51	0.11	0.08	34.33	1.22	0.01	0.00	101.59	0.917			
		cpx	1.81	53.99	0.05	2.26	1.11	1.84	0.05	0.03	17.49	24.02	0.10	0.00	100.89	0.944			
		spinel	0.63	0.07	0.05	25.24	43.70	17.33	0.24	0.08	13.63	0.01	0.01	0.00	100.35	0.617	0.537	0.013	
99120211	Wadi Shuwayhah	olivine		41.93	0.01	0.00	0.01	8.50	0.12	0.34	51.12	0.01	0.01	0.00	102.05	0.915			
0420.79 / 2709.89		opx		57.32	0.04	2.03	0.60	5.58	0.14	0.08	34.23	1.29	0.00	0.00	101.32	0.916			
		cpx		54.23	0.05	2.22	1.01	2.01	0.06	0.07	17.75	23.29	0.11	0.00	100.81	0.941			
		spinel		0.05	0.11	25.34	42.96	17.75	0.23	0.12	13.60	0.01	0.01	0.00	100.18	0.616	0.532	0.015	
99120212	Wadi Shuwayhah	olivine ^e	69.82	41.21	—	0.00	0.00	9.03	—	—	49.75	0.27	—	—	100.26	0.908			
0420.47 / 2710.47		opx	27.61	58.21	0.02	1.36	0.51	5.65	0.13	0.07	34.88	0.68	0.00	0.00	101.51	0.917			
		cpx	1.22	55.33	0.03	1.54	0.77	1.75	0.05	0.06	18.01	23.79	0.15	0.00	101.49	0.948			
		spinel	0.69	0.07	0.06	19.43	49.68	18.66	0.28	0.05	12.25	0.01	0.01	0.00	100.50	0.572	0.632	0.014	
99120213	Wadi Shuwayhah	olivine	64.87	41.34	0.01	0.01	0.01	8.75	0.11	0.37	50.34	0.03	0.00	0.00	100.96	0.911			
0420.26 / 2711.37		opx	30.31	57.33	0.02	1.55	0.50	5.66	0.12	0.10	34.33	1.04	0.00	0.00	100.66	0.915			
		cpx	3.00	54.13	0.02	1.70	0.71	2.10	0.07	0.05	17.80	23.19	0.01	0.00	99.79	0.938			
		spinel	0.92	0.09	0.05	20.84	46.53	20.55	0.28	0.06	11.69	0.00	0.01	0.00	100.09	0.547	0.600	0.020	
99120216	Wadi Shuwayhah	olivine	68.94	40.72	0.00	0.00	0.01	8.29	0.08	0.37	49.82	0.01	0.00	0.00	99.32	0.915			
0421.58 / 2710.16		opx	28.49	56.76	0.02	2.60	0.82	5.23	0.10	0.10	33.67	1.59	0.01	0.00	100.88	0.920			
		cpx	1.88	54.11	0.03	2.87	0.94	1.77	0.07	0.02	17.20	24.51	0.03	0.00	101.56	0.945			
		spinel	0.48	0.04	0.02	30.67	38.03	16.49	0.23	0.12	14.65	0.00	0.00	0.00	100.24	0.647	0.454	0.013	
99120217	Wadi Shuwayhah	olivine		42.13	0.02	0.00	0.00	8.68	0.12	0.38	50.97	0.03	0.00	0.00	102.31	0.913			
0422.00 / 2710.89		opx		57.25	0.01	1.48	0.46	5.74	0.13	0.04	34.98	0.64	0.00	0.00	100.74	0.916			
		cpx		54.44	0.05	1.35	0.59	1.90	0.07	0.03	18.32	24.15	0.07	0.01	100.98	0.945			
		spinel		0.08	0.09	20.75	48.32	18.89	0.25	0.04	12.38	0.00	0.01	0.00	100.82	0.572	0.610	0.014	
99120302	Wadi Shuwayhah	olivine ^e		40.99	—	0.00	0.00	9.13	—	—	49.21	0.01	—	—	99.34	0.906			
0423.68 / 2707.47		opx		57.30	0.03	2.66	0.63	5.78	0.13	0.07	34.15	0.73	0.01	0.00	101.49	0.913			
		cpx		53.55	0.05	3.13	1.12	1.92	0.04	0.05	17.02	24.15	0.02	0.00	101.06	0.940			
		spinel		0.11	0.05	33.11	36.07	15.45	0.18	0.13	15.14	0.00	0.00	0.00	100.24	0.658	0.422	0.008	
99120303	Wadi Shuwayhah	olivine		41.20	0.01	0.00	0.01	8.13	0.12	0.42	50.83	0.03	0.01	0.00	100.75	0.918			
0423.58 / 2707.95		opx		56.54	0.02	2.60	0.66	5.35	0.08	0.08	34.29	1.03	0.02	0.00	100.67	0.920			
		cpx		—	—	—	—	—	—	—	—	—	—	—	—				
		spinel		0.02	0.01	33.14	36.61	13.95	0.18	0.10	16.03	0.02	0.01	0.00	100.08	0.696	0.426	0.008	

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99120304	olivine		41.85	0.01	0.00	0.01	9.19	0.11	0.40	50.86	0.02	0.02	0.00	102.46	0.908		
Wadi Shuwayhah	opx		–	–	–	–	–	–	–	–	–	–	–	–			
0423.53 / 2708.37	cpx		51.84	0.06	2.02	0.93	2.80	0.08	0.06	19.07	22.15	0.07	0.00	99.07	0.924		
	spinel		0.01	0.08	21.75	47.27	19.33	0.25	0.08	12.45	0.02	0.01	0.00	101.24	0.573	0.593	0.016
99120305	olivine ^e	69.90	41.38	–	0.00	0.00	9.06	–	–	49.79	0.02	–	–	100.25	0.907		
Wadi Shuwayhah	opx	24.69	57.08	0.02	2.86	0.79	5.66	0.13	0.11	34.21	0.74	0.01	0.00	101.60	0.915		
0423.16 / 2708.58	cpx	4.11	53.96	0.08	2.53	0.76	2.06	0.05	0.02	17.78	23.92	0.03	0.00	101.20	0.939		
	spinel	0.55	0.13	0.07	34.37	34.57	15.56	0.19	0.14	15.58	0.00	0.01	0.00	100.63	0.669	0.403	0.010
99120306	olivine		41.50	0.01	0.01	0.02	8.67	0.09	0.38	50.55	0.01	0.00	0.00	101.23	0.912		
Wadi Shuwayhah	opx		57.66	0.01	1.12	0.41	5.60	0.13	0.09	34.62	0.91	0.01	0.00	100.56	0.917		
0423.11 / 2709.37	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.02	0.07	17.37	51.05	19.73	0.28	0.05	11.09	0.01	0.00	0.00	99.67	0.531	0.664	0.014
99120307	olivine ^e	70.42	41.39	–	0.00	0.00	8.75	–	–	49.87	0.04	–	–	100.05	0.910		
Wadi Shuwayhah	opx	25.34	57.98	0.01	1.67	0.56	5.48	0.12	0.09	34.28	1.30	0.01	0.00	101.52	0.918		
0422.95 / 2710.05	cpx	2.51	54.38	0.03	1.96	0.95	1.89	0.08	0.05	17.59	24.59	0.03	0.00	101.55	0.943		
	spinel	0.65	0.16	0.06	22.56	46.30	18.57	0.26	0.08	12.47	0.01	0.00	0.00	100.48	0.573	0.579	0.012
99120308	olivine		41.58	0.01	0.00	0.01	8.61	0.10	0.40	50.94	0.01	0.00	0.00	101.67	0.913		
Wadi Shuwayhah	opx		56.94	0.04	2.85	0.58	5.77	0.10	0.09	34.52	0.51	0.00	0.00	101.40	0.914		
0422.89 / 2710.68	cpx		53.96	0.11	2.91	0.79	2.00	0.06	0.06	17.46	23.30	0.06	0.00	100.69	0.940		
	spinel		0.04	0.07	39.03	28.93	15.23	0.19	0.17	16.33	0.00	0.02	0.00	100.01	0.692	0.332	0.012
99120310	olivine ^e		41.32	–	0.00	0.00	8.92	–	–	49.98	0.03	–	–	100.25	0.908		
Wadi Shuwayhah	opx		56.15	0.02	1.58	0.51	5.63	0.09	0.06	34.43	1.66	0.02	0.00	100.15	0.916		
0424.63 / 2708.00	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.06	0.04	20.57	48.46	18.85	0.26	0.02	12.53	0.02	0.08	0.00	100.88	0.580	0.612	0.016
99120311	olivine ^e		40.98	–	0.00	0.00	8.78	–	–	49.90	0.03	–	–	99.68	0.910		
Wadi Shuwayhah	opx		57.83	0.02	1.97	0.61	5.37	0.13	0.11	34.34	1.41	0.00	0.00	101.78	0.919		
0424.37 / 2708.58	cpx		55.51	0.04	2.04	0.51	2.55	0.07	0.09	21.71	18.36	0.06	0.01	101.04	0.941		
	spinel		–	–	–	–	–	–	–	–	–	–	–	–			
99120313	olivine		41.98	0.01	0.00	0.01	8.79	0.10	0.40	51.31	0.01	0.01	0.00	102.61	0.912		
Wadi Shuwayhah	opx		57.61	0.01	1.62	0.58	5.50	0.11	0.07	34.48	1.35	0.01	0.00	101.34	0.918		
0424.42 / 2708.95	cpx		54.55	0.01	1.81	0.73	2.10	0.07	0.07	18.85	22.19	0.00	0.00	100.39	0.941		
	spinel		0.02	0.09	19.58	48.75	19.44	0.25	0.06	12.24	0.01	0.01	0.00	100.44	0.572	0.626	0.019
99120504	olivine ^e		41.45	–	0.00	0.00	9.23	–	–	49.35	0.04	–	–	100.07	0.905		
Wadi Shuwayhah	opx		56.75	0.01	3.15	0.88	5.72	0.12	0.09	33.46	1.26	0.01	0.00	101.46	0.913		
0422.74 / 2705.21	cpx		54.21	0.05	3.14	1.06	2.17	0.07	0.02	18.85	21.44	0.05	0.00	101.05	0.940		
	spinel		0.14	0.04	34.49	34.37	15.68	0.21	0.14	15.53	0.02	0.00	0.00	100.63	0.668	0.401	0.011

Appendix 1. Continued

Reference No.	Locality	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
	UTM coordinate ^a																	
99120509	Wadi Shuwayhah	olivine		41.82	0.01	0.00	0.01	8.99	0.13	0.36	50.29	0.01	0.00	0.00	101.62	0.910		
	0418.74 / 2704.79	opx		57.05	0.02	3.36	0.45	6.08	0.11	0.10	33.90	0.59	0.01	0.00	101.68	0.909		
		cpx		53.34	0.08	3.90	0.83	2.36	0.06	0.07	16.98	23.67	0.15	0.01	101.44	0.928		
		spinel		0.03	0.02	45.53	21.67	15.28	0.17	0.25	17.39	0.01	0.01	0.00	100.35	0.715	0.242	0.015
99120512	Wadi Shuwayhah	olivine ^e		40.89	–	0.00	0.00	9.28	–	–	49.10	0.00	–	–	99.26	0.904		
	0418.53 / 2705.32	opx		56.56	0.06	3.00	0.61	5.76	0.16	0.10	34.22	0.70	0.01	0.00	101.17	0.914		
		cpx		52.74	0.08	2.89	0.94	1.98	0.07	0.04	17.16	23.94	0.17	0.00	100.01	0.939		
		spinel		0.12	0.06	38.47	29.23	15.39	0.19	0.15	16.34	0.01	0.01	0.00	99.96	0.693	0.338	0.013
99120602	Wadi Sumayni	olivine ^e	65.63	41.19	–	0.00	0.00	9.19	–	–	48.98	0.04	–	–	99.40	0.905		
	0420.68 / 2705.84	opx	28.60	56.44	0.04	2.84	0.64	5.97	0.14	0.10	33.86	0.62	0.04	0.02	100.71	0.910		
		cpx	4.89	53.07	0.06	3.17	1.04	1.83	0.07	0.03	16.76	24.11	0.12	0.00	100.27	0.942		
		spinel	0.69	0.23	0.06	35.86	33.00	15.46	0.20	0.12	15.49	0.01	0.02	0.00	100.44	0.661	0.382	0.007
99120603	Wadi Sumayni	olivine ^e		41.34	–	0.00	0.00	9.53	–	–	49.64	0.04	–	–	100.55	0.902		
	0420.37 / 2706.74	opx		56.70	0.02	2.83	0.68	5.85	0.15	0.09	33.68	1.48	0.02	0.00	101.50	0.911		
		cpx		53.48	0.06	2.90	0.90	2.07	0.08	0.01	17.55	24.00	0.04	0.00	101.09	0.938		
		spinel		0.03	0.01	34.23	35.03	17.35	0.23	0.19	15.04	0.01	0.01	0.00	102.14	0.646	0.407	0.014
99120604	Wadi Sumayni	olivine ^e		41.17	–	0.00	0.00	9.06	–	–	49.18	0.01	–	–	99.41	0.906		
	0420.05 / 2707.21	opx		57.34	0.02	1.77	0.57	5.61	0.12	0.10	33.81	1.31	0.01	0.00	100.65	0.915		
		cpx		54.83	0.06	1.96	0.83	2.12	0.08	0.02	18.24	23.42	0.07	0.01	101.66	0.939		
		spinel		0.08	0.07	23.99	44.84	17.83	0.26	0.09	13.17	0.02	0.01	0.00	100.37	0.601	0.556	0.013
99120606	Wadi Sumayni	olivine ^e	64.17	41.01	–	0.00	0.00	9.56	–	–	48.91	0.01	–	–	99.48	0.901		
	0419.68 / 2707.63	opx	29.34	57.07	0.02	2.76	0.69	5.81	0.13	0.08	33.59	1.09	0.01	0.00	101.26	0.912		
		cpx	5.16	53.06	0.06	3.42	1.14	2.49	0.10	0.06	16.92	23.84	0.04	0.00	101.14	0.924		
		spinel	0.54	0.17	0.04	34.68	34.58	16.16	0.21	0.13	15.19	0.02	0.01	0.00	101.18	0.651	0.401	0.009
99120608	Wadi Sumayni	olivine		40.58	0.00	0.00	0.01	7.60	0.09	0.36	49.75	0.02	0.01	0.00	98.42	0.921		
	0419.63 / 2705.79	opx		58.09	0.03	1.82	0.65	4.98	0.11	0.08	34.54	1.26	0.03	0.00	101.59	0.925		
		cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
		spinel		0.04	0.10	22.74	45.92	16.94	0.20	0.06	13.61	0.00	0.01	0.00	99.63	0.625	0.575	0.014
99120614	Wadi Sumayni	olivine ^e	65.77	40.88	–	0.00	0.00	8.99	–	–	48.99	0.02	–	–	98.89	0.907		
	0417.37 / 2705.95	opx	30.50	57.32	0.01	2.03	0.56	5.51	0.10	0.07	34.29	0.56	0.00	0.00	100.44	0.917		
		cpx	3.26	54.27	0.02	2.16	0.89	2.07	0.07	0.05	17.82	23.55	0.08	0.00	100.99	0.939		
		spinel	0.61	0.17	0.06	25.21	42.65	18.36	0.25	0.14	13.37	0.01	0.01	0.00	100.23	0.606	0.532	0.017
99120702	Wadi Subakn	olivine ^e		41.10	–	0.00	0.00	9.34	–	–	49.77	0.01	–	–	100.22	0.905		
	0424.68 / 2712.79	opx		58.52	0.01	1.03	0.33	5.74	0.13	0.07	34.80	0.98	0.00	0.00	101.60	0.915		
		cpx		55.24	0.03	0.90	0.39	1.86	0.07	0.02	18.19	24.48	0.02	0.00	101.19	0.946		
		spinel		0.25	0.08	15.35	52.15	22.28	0.29	0.07	10.34	0.01	0.01	0.00	100.82	0.494	0.695	0.021

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99120704	olivine ^e		41.28	–	0.00	0.00	9.14	–	–	49.92	0.00	–	–	100.35	0.907		
Wadi Subakn	opx		57.68	0.01	1.92	0.64	5.74	0.10	0.07	34.72	0.61	0.00	0.00	101.49	0.915		
0423.63 / 2713.05	cpx		54.82	0.05	1.68	0.68	2.00	0.06	0.04	17.90	24.04	0.04	0.00	101.33	0.941		
	spinel		0.17	0.08	23.12	44.65	20.27	0.27	0.07	12.24	0.01	0.00	0.00	100.88	0.560	0.564	0.018
99120706	olivine		41.33	0.02	0.00	0.02	8.78	0.11	0.42	49.80	0.02	0.00	0.00	100.50	0.910		
Wadi Subakn	opx		58.04	0.02	1.62	0.43	5.53	0.12	0.06	34.77	0.65	0.00	0.00	101.24	0.918		
0422.89 / 2713.79	cpx		53.95	0.02	1.75	0.61	1.87	0.07	0.04	17.86	23.21	0.02	0.00	99.41	0.945		
	spinel		0.10	0.08	21.59	45.13	21.00	0.23	0.12	11.79	0.01	0.00	0.00	100.06	0.549	0.584	0.023
99120901	olivine ^e	69.01	41.12	–	0.00	0.00	9.43	–	–	49.70	0.01	–	–	100.25	0.904		
Wadi Hayl	opx	24.90	57.08	0.03	2.91	0.72	5.80	0.15	0.07	33.95	0.76	0.01	0.00	101.49	0.913		
0416.42 / 2708.05	cpx	4.56	53.62	0.06	3.23	1.07	2.03	0.07	0.06	17.03	24.48	0.04	0.00	101.70	0.937		
	spinel	0.47	0.12	0.05	33.67	34.45	17.35	0.19	0.14	14.91	0.01	0.01	0.00	100.90	0.644	0.407	0.015
99120903	olivine ^e	67.96	41.30	–	0.00	0.00	8.94	–	–	49.72	0.03	–	–	99.99	0.908		
Wadi Hayl	opx	26.66	56.70	0.04	3.08	0.82	5.48	0.13	0.07	33.48	1.17	0.01	0.00	100.99	0.916		
0417.79 / 2707.32	cpx	3.61	52.78	0.07	3.92	1.32	2.06	0.07	0.07	16.44	24.05	0.09	0.00	100.86	0.934		
	spinel	0.66	0.11	0.08	36.78	32.36	14.62	0.20	0.17	16.31	0.00	0.01	0.00	100.66	0.692	0.371	0.009
99120904	olivine ^e	75.81	41.31	–	0.00	0.00	8.48	–	–	49.94	0.03	–	–	99.75	0.913		
Wadi Hayl	opx	21.53	58.14	0.00	1.72	0.53	5.34	0.14	0.04	34.23	1.64	0.00	0.00	101.79	0.920		
0416.84 / 2709.53	cpx	0.92	54.91	0.01	2.05	0.92	2.09	0.03	0.10	18.31	23.35	0.05	0.00	101.83	0.940		
	spinel	0.69	0.09	0.06	22.13	47.68	17.70	0.26	0.07	13.43	0.01	0.01	0.00	101.44	0.611	0.591	0.014
99120907	olivine ^e		41.25	–	0.00	0.00	9.18	–	–	49.36	0.03	–	–	99.82	0.906		
Wadi Hayl	opx		57.49	0.03	2.49	0.63	5.58	0.15	0.03	33.90	1.14	0.00	0.00	101.45	0.915		
0418.16 / 2709.21	cpx		53.73	0.05	2.80	0.98	2.03	0.05	0.04	17.25	23.98	0.05	0.00	100.96	0.938		
	spinel		0.09	0.05	32.63	37.06	15.93	0.19	0.14	15.20	0.00	0.01	0.00	101.30	0.657	0.433	0.010
99120910	olivine	71.55	42.11	0.00	0.00	0.04	9.02	0.09	0.41	50.84	0.02	0.01	0.00	102.54	0.910		
Wadi Hayl	opx	23.81	57.33	0.01	1.60	0.59	5.82	0.11	0.12	34.12	1.59	0.01	0.00	101.29	0.913		
0418.68 / 2709.53	cpx	1.14	54.73	0.02	1.94	1.01	1.93	0.07	0.05	17.44	24.25	0.17	0.00	101.63	0.941		
	spinel	0.78	0.05	0.04	19.99	49.15	18.68	0.26	0.05	12.32	0.01	0.01	0.00	100.54	0.574	0.623	0.014
99120911	olivine		40.66	0.01	0.00	0.01	8.83	0.10	0.38	49.39	0.01	0.01	0.00	99.41	0.909		
Wadi Hayl	opx		56.07	0.03	2.65	0.63	5.58	0.09	0.07	33.26	1.01	0.00	0.00	99.38	0.914		
0418.53 / 2709.89	cpx		53.54	0.03	2.19	0.84	2.07	0.09	0.07	17.67	22.57	0.05	0.00	99.12	0.938		
	spinel		0.10	0.08	32.87	34.80	16.51	0.18	0.12	14.87	0.01	0.02	0.00	99.55	0.651	0.415	0.013
99121001	olivine		41.72	0.01	0.00	0.02	8.94	0.12	0.37	50.53	0.02	0.00	0.00	101.72	0.910		
Wadi Hallalah	opx		57.57	0.02	1.83	0.56	5.91	0.14	0.09	34.48	0.81	0.03	0.00	101.42	0.912		
0416.26 / 2712.32	cpx		54.34	0.03	2.04	0.73	2.04	0.08	0.06	17.64	24.32	0.05	0.00	101.34	0.939		
	spinel		0.00	0.04	24.83	42.84	19.46	0.30	0.06	12.92	0.05	0.01	0.00	100.51	0.591	0.537	0.021

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99121005	olivine		41.72	0.01	0.00	0.01	9.05	0.13	0.38	49.88	0.01	0.00	0.00	101.19	0.908		
Wadi Hallalah	opx		57.36	0.02	1.70	0.52	5.92	0.12	0.10	34.37	0.59	0.00	0.00	100.69	0.912		
0417.26 / 2713.74	cpx		54.71	0.03	1.63	0.63	1.96	0.08	0.05	17.74	23.91	0.02	0.00	100.75	0.942		
	spinel		0.07	0.07	22.85	45.03	19.16	0.22	0.08	12.25	0.00	0.00	0.00	99.74	0.567	0.569	0.015
99121006	olivine		40.90	0.01	0.00	0.01	8.56	0.10	0.35	49.82	0.02	0.01	0.00	99.78	0.912		
Wadi Hallalah	opx		57.46	0.01	1.21	0.39	5.58	0.15	0.06	34.39	0.70	0.00	0.00	99.95	0.917		
0417.63 / 2714.32	cpx		54.51	0.03	1.24	0.63	1.80	0.08	0.04	17.75	24.05	0.08	0.00	100.20	0.946		
	spinel		0.11	0.09	18.66	48.86	20.27	0.29	0.03	11.27	0.01	0.01	0.00	99.62	0.535	0.637	0.017
99121007	olivine		41.72	0.01	0.00	0.03	8.61	0.11	0.37	50.36	0.02	0.00	0.00	101.23	0.912		
Wadi Hallalah	opx		57.55	0.02	1.59	0.51	5.72	0.14	0.07	34.29	0.91	0.01	0.00	100.80	0.914		
0418.05 / 2714.68	cpx		54.01	0.05	1.90	0.88	1.91	0.03	0.04	17.51	23.78	0.12	0.00	100.23	0.942		
	spinel		0.06	0.04	22.59	46.09	19.21	0.26	0.04	12.37	0.01	0.01	0.00	100.67	0.569	0.578	0.015
99121008	olivine ^c		41.33	–	0.00	0.00	9.11	–	–	49.52	0.03	–	–	99.99	0.906		
Wadi Hallalah	opx		58.24	0.02	1.47	0.51	5.66	0.12	0.09	34.62	0.79	0.01	0.00	101.50	0.916		
0418.26 / 2715.05	cpx		54.63	0.04	1.79	0.93	1.97	0.04	0.05	17.88	23.41	0.25	0.00	100.99	0.942		
	spinel		0.05	0.08	20.13	48.31	19.25	0.28	0.06	12.24	0.00	0.01	0.00	100.40	0.571	0.617	0.017
99121009	olivine		41.12	0.02	0.00	0.00	8.63	0.12	0.37	49.65	0.02	0.00	0.00	99.93	0.911		
Wadi Hallalah	opx		57.11	0.01	2.18	0.63	5.49	0.10	0.08	33.86	1.58	0.00	0.00	101.04	0.917		
0418.16 / 2715.53	cpx		53.40	0.05	2.83	1.16	1.87	0.05	0.06	17.01	24.84	0.05	0.00	101.32	0.942		
	spinel		0.05	0.05	27.00	41.46	17.45	0.23	0.07	14.03	0.00	0.00	0.00	100.33	0.629	0.507	0.015
99121010	olivine ^c	72.82	41.23	–	0.00	0.00	9.14	–	–	49.50	0.04	–	–	99.91	0.906		
Wadi Hallalah	opx	23.66	57.10	0.03	1.37	0.45	5.44	0.14	0.06	34.14	0.85	0.01	0.00	99.58	0.918		
0418.05 / 2716.11	cpx	2.53	55.45	0.01	1.59	0.78	2.85	0.09	0.01	21.18	19.28	0.14	0.00	101.39	0.934		
	spinel	0.72	0.10	0.07	20.17	48.38	20.39	0.27	0.07	11.59	0.01	0.01	0.00	101.07	0.539	0.617	0.016
99121011	olivine		41.54	0.01	0.00	0.00	8.81	0.11	0.39	50.34	0.01	0.00	0.00	101.21	0.911		
Wadi Hallalah	opx		58.07	0.02	1.47	0.46	5.79	0.13	0.09	34.88	0.64	0.00	0.00	101.56	0.915		
0417.58 / 2715.05	cpx		54.95	0.02	1.57	0.67	1.85	0.04	0.05	17.85	24.37	0.15	0.00	101.51	0.945		
	spinel		0.05	0.05	23.16	44.47	20.33	0.29	0.08	11.79	0.01	0.00	0.00	100.23	0.546	0.563	0.017
99121012	olivine ^c	77.13	41.27	–	0.00	0.00	8.85	–	–	49.74	0.03	–	–	99.88	0.908		
Wadi Hallalah	opx	19.52	57.76	0.02	1.87	0.55	4.89	0.11	0.11	34.45	0.99	0.00	0.00	101.58	0.927		
0417.26 / 2715.32	cpx	1.62	54.70	0.05	1.97	0.79	1.90	0.07	0.03	17.66	24.32	0.09	0.00	101.58	0.943		
	spinel	0.87	0.12	0.10	24.47	43.24	19.60	0.26	0.10	12.70	0.01	0.01	0.00	100.62	0.578	0.542	0.018
99121013	olivine ^c	69.65	41.07	–	0.00	0.00	9.26	–	–	49.40	0.02	–	–	99.75	0.905		
Wadi Hallalah	opx	26.45	57.85	0.01	1.82	0.53	5.76	0.14	0.09	34.54	0.90	0.00	0.00	101.64	0.914		
0417.58 / 2713.11	cpx	2.25	54.16	0.08	1.99	0.89	1.89	0.08	0.04	17.65	24.47	0.11	0.00	101.35	0.943		
	spinel	0.55	0.10	0.08	24.35	44.25	19.36	0.23	0.08	12.77	0.01	0.01	0.00	101.23	0.578	0.549	0.016

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99121101	olivine ^e	73.15	41.17	–	0.00	0.00	9.02	–	–	49.42	0.03	–	–	99.63	0.907		
Wadi Hayl–Wadi	opx	21.74	56.78	0.01	2.66	0.74	5.78	0.15	0.08	34.02	0.89	0.01	0.00	101.13	0.913		
Hallalah	cpx	3.51	52.73	0.03	2.88	1.02	2.07	0.06	0.03	17.04	24.26	0.02	0.01	100.15	0.936		
0416.89 / 2711.37	spinel	0.64	0.19	0.05	30.19	38.58	16.35	0.24	0.13	14.51	0.00	0.01	0.00	100.25	0.639	0.462	0.010
99121103	olivine ^e		41.05	–	0.00	0.00	8.89	–	–	49.73	0.02	–	–	99.69	0.908		
Wadi Hayl–Wadi	opx		57.78	0.02	2.11	0.62	5.60	0.14	0.07	34.54	0.74	0.01	0.00	101.63	0.917		
Hallalah	cpx		53.71	0.05	2.54	0.96	1.96	0.07	0.05	17.24	24.19	0.04	0.01	100.82	0.940		
0418.05 / 2711.26	spinel		0.11	0.06	28.65	40.98	16.65	0.23	0.12	14.19	0.01	0.02	0.00	101.02	0.628	0.490	0.009
99121104	olivine	70.71	41.53	0.00	0.00	0.01	8.39	0.10	0.37	51.02	0.02	0.00	0.00	101.44	0.916		
Wadi Hayl–Wadi	opx	25.12	57.09	0.00	2.12	0.72	5.41	0.12	0.07	34.75	0.93	0.01	0.00	101.22	0.920		
Hallalah	cpx	1.68	54.30	0.03	2.10	0.73	1.90	0.04	0.03	17.84	24.02	0.03	0.00	101.01	0.944		
0418.37 / 2711.00	spinel	0.59	0.06	0.03	26.79	43.07	17.33	0.23	0.08	14.22	0.01	0.01	0.00	101.83	0.630	0.519	0.014
99121105	olivine		41.74	0.01	0.00	0.01	8.43	0.12	0.39	50.76	0.01	0.00	0.00	101.47	0.915		
Wadi Hayl–Wadi	opx		58.22	0.03	1.23	0.40	5.60	0.14	0.08	34.92	0.64	0.00	0.00	101.26	0.917		
Hallalah	cpx		55.10	0.06	1.30	0.48	1.96	0.08	0.06	18.23	23.43	0.02	0.00	100.72	0.943		
0418.68 / 2711.42	spinel		0.08	0.05	19.69	48.77	19.76	0.25	0.05	11.74	0.00	0.01	0.00	100.40	0.549	0.624	0.016
99121106	olivine ^e	75.94	41.00	–	0.00	0.00	8.51	–	–	49.25	0.02	–	–	98.79	0.912		
Wadi Hayl–Wadi	opx	21.15	57.10	0.01	1.89	0.60	5.63	0.12	0.11	34.18	1.06	0.00	0.00	100.72	0.915		
Hallalah	cpx	2.42	54.21	0.02	1.81	0.73	1.92	0.07	0.05	17.70	24.34	0.01	0.00	100.85	0.943		
0418.89 / 2711.53	spinel	0.78	0.14	0.05	24.82	43.81	18.17	0.25	0.06	13.13	0.02	0.01	0.00	100.47	0.595	0.542	0.013
99121110	olivine	73.25	41.79	0.01	0.00	0.01	8.33	0.11	0.38	50.74	0.01	0.01	0.00	101.39	0.916		
Wadi Shuayhah	opx	23.27	58.19	0.01	0.88	0.43	5.45	0.12	0.09	35.14	0.89	0.00	0.00	101.20	0.920		
0425.53 / 2709.68	cpx	0.79	55.34	0.02	0.85	0.47	1.95	0.05	0.05	18.45	24.21	0.03	0.00	101.42	0.944		
	spinel	0.84	0.01	0.05	12.76	54.65	22.04	0.33	0.09	10.17	0.00	0.02	0.00	100.10	0.500	0.742	0.025
99121111	olivine	78.32	41.48	0.01	0.01	0.01	8.32	0.13	0.37	50.52	0.02	0.01	0.00	100.87	0.915		
Wadi Shuayhah	opx	18.75	57.61	0.01	1.26	0.47	5.66	0.14	0.11	34.84	0.67	0.01	0.00	100.78	0.917		
0426.53 / 2713.68	cpx	1.24	54.72	0.03	1.41	0.47	1.84	0.03	0.01	18.14	24.37	0.02	0.00	101.05	0.946		
	spinel	0.96	0.02	0.04	18.23	49.26	21.35	0.29	0.09	11.23	0.01	0.01	0.00	100.52	0.533	0.644	0.023
99121112	olivine ^e		41.14	–	0.00	0.00	8.84	–	–	49.75	0.00	–	–	99.73	0.909		
Wadi Shuayhah	opx		58.20	0.02	1.38	0.49	5.62	0.14	0.08	34.97	0.79	0.00	0.00	101.69	0.917		
0426.84 / 2711.05	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.21	0.08	18.16	48.83	21.76	0.29	0.09	11.30	0.00	0.01	0.00	100.72	0.531	0.643	0.024
99121303	olivine ^e		40.59	–	0.00	0.00	12.52	–	–	46.62	0.03	–	–	99.76	0.869		
Wadi Zabin	opx		57.29	0.05	1.77	0.52	7.89	0.13	0.10	33.07	0.61	0.01	0.00	101.44	0.882		
0417.79 / 2722.79	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.14	0.14	19.39	45.82	25.07	0.27	0.08	10.25	0.01	0.01	0.00	101.17	0.480	0.613	0.033

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{Tb}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99121304	olivine ^c		40.90	–	0.00	0.00	9.15	–	–	49.29	0.03	–	–	99.37	0.906		
Wadi Zabin	opx		57.71	0.02	1.92	0.62	5.60	0.08	0.01	33.92	1.64	0.01	0.00	101.52	0.915		
0418.89 / 2722.79	cpx		54.24	0.01	2.27	0.96	1.97	0.06	0.06	17.25	24.42	0.13	0.00	101.37	0.940		
	spinel		0.11	0.05	23.62	43.99	20.12	0.27	0.10	12.51	0.00	0.01	0.00	100.78	0.572	0.555	0.020
99121305	olivine ^c	64.95	41.28	–	0.00	0.00	8.51	–	–	49.25	0.02	–	–	99.06	0.904		
Wadi Zabin	opx	31.70	57.98	0.02	1.59	0.46	5.83	0.11	0.12	34.41	1.05	0.02	0.00	101.59	0.913		
0420.05 / 2722.32	cpx	1.98	54.63	0.02	1.94	0.91	1.77	0.08	0.03	17.67	24.42	0.07	0.00	101.54	0.947		
	spinel	0.49	0.26	0.05	20.42	46.50	21.19	0.23	0.11	11.79	0.01	0.02	0.00	100.56	0.547	0.604	0.023
99121306	olivine		41.12	0.00	0.01	0.02	11.62	0.12	0.39	48.43	0.01	0.00	0.00	101.71	0.881		
Wadi Zabin	opx		57.11	0.01	2.00	0.45	6.06	0.12	0.08	35.15	0.61	0.01	0.00	101.58	0.912		
0418.26 / 2722.47	cpx		53.30	0.15	2.63	0.62	2.46	0.07	0.05	18.18	23.08	0.16	0.00	100.69	0.930		
	spinel		0.05	0.05	26.20	39.20	22.52	0.25	0.08	12.49	0.01	0.00	0.00	100.84	0.566	0.501	0.032
99121401	olivine	51.79	41.92	0.01	0.00	0.00	8.44	0.13	0.40	51.28	0.01	0.00	0.00	102.19	0.915		
Wadi Zabin	opx	42.08	57.51	0.01	1.59	0.49	5.66	0.13	0.07	34.97	0.78	0.00	0.00	101.20	0.917		
0417.89 / 2722.11	cpx	2.62	54.71	0.03	1.73	0.67	1.94	0.06	0.03	17.89	23.68	0.12	0.00	100.85	0.943		
	spinel	1.30	0.10	0.06	21.37	45.88	20.82	0.26	0.09	12.38	0.01	0.01	0.00	100.97	0.571	0.590	0.025
99121403	olivine	71.51	40.89	0.00	0.00	0.02	8.58	0.10	0.42	50.56	0.02	0.00	0.00	100.60	0.913		
Wadi Zabin	opx	24.25	58.00	0.01	1.45	0.53	5.63	0.13	0.06	34.83	0.67	0.00	0.00	101.32	0.917		
0418.16 / 2721.63	cpx	2.14	55.11	0.02	1.30	0.49	1.88	0.08	0.03	17.91	24.44	0.04	0.00	101.30	0.944		
	spinel	0.92	0.08	0.04	18.69	48.07	21.63	0.26	0.06	11.43	0.01	0.01	0.00	100.29	0.540	0.633	0.026
99121405	olivine ^c	68.56	40.89	–	0.00	0.00	9.28	–	–	49.36	0.04	–	–	99.57	0.905		
Wadi Zabin	opx	28.04	58.14	0.02	1.05	0.43	5.80	0.15	0.10	34.88	1.15	0.01	0.00	101.73	0.915		
0417.68 / 2720.74	cpx	2.33	54.89	0.02	1.40	0.87	1.99	0.06	0.05	18.35	23.57	0.14	0.01	101.35	0.943		
	spinel	0.63	0.06	0.03	15.80	51.92	22.16	0.28	0.05	10.47	0.01	0.01	0.00	100.79	0.502	0.688	0.023
99121407	olivine ^c	73.17	41.02	–	0.00	0.00	8.79	–	–	49.54	0.04	–	–	99.39	0.903		
Wadi Zabin	opx	21.83	57.99	0.03	1.71	0.55	5.72	0.13	0.04	34.82	0.60	0.01	0.00	101.59	0.916		
0419.11 / 2720.53	cpx	3.62	54.35	0.02	2.13	0.95	1.81	0.08	0.06	17.37	24.73	0.01	0.00	101.50	0.945		
	spinel	0.66	0.07	0.03	21.92	45.75	20.81	0.27	0.08	12.28	0.00	0.00	0.00	101.22	0.565	0.583	0.023
99121408	olivine		39.74	0.00	0.00	0.00	9.29	0.11	0.43	51.56	0.01	0.00	0.00	101.16	0.908		
Wadi Zabin	opx		57.26	0.02	1.36	0.49	5.82	0.12	0.09	34.56	1.09	0.00	0.00	100.80	0.914		
0419.63 / 2720.16	cpx		53.62	0.01	1.59	0.88	2.01	0.06	0.02	18.12	24.58	0.12	0.00	100.99	0.941		
	spinel		0.05	0.07	17.86	46.78	23.40	0.26	0.06	11.64	0.01	0.00	0.00	100.14	0.552	0.637	0.041
99121410	olivine	71.26	40.01	0.00	0.01	0.01	8.89	0.08	0.33	51.76	0.03	0.00	0.00	101.12	0.912		
Wadi Zabin	opx	25.46	56.93	0.01	1.20	0.46	5.72	0.15	0.10	35.59	0.77	0.01	0.00	100.94	0.917		
0419.47 / 2718.84	cpx	1.11	55.09	0.02	1.30	0.77	1.74	0.05	0.09	17.82	24.41	0.14	0.00	101.44	0.948		
	spinel	0.70	0.04	0.05	17.44	48.49	22.89	0.28	0.06	11.29	0.01	0.00	0.00	100.54	0.537	0.651	0.034

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{Tb}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
99121411	olivine		40.08	0.00	0.00	0.02	9.21	0.14	0.47	51.09	0.02	0.00	0.00	101.03	0.908		
Wadi Zabin	opx		56.22	0.01	1.40	0.40	6.00	0.14	0.12	35.00	1.00	0.01	0.00	100.29	0.912		
0419.63 / 2718.37	cpx		54.23	0.02	1.93	0.84	2.05	0.07	0.04	17.51	24.32	0.08	0.00	101.09	0.938		
	spinel		0.30	0.03	18.99	48.63	21.24	0.26	0.08	11.50	0.00	0.00	0.00	101.04	0.535	0.632	0.021
99121412	olivine	71.27	41.28	0.01	0.00	0.02	8.17	0.11	0.38	51.15	0.01	0.00	0.00	101.13	0.918		
Wadi Zabin	opx	25.57	57.08	0.02	1.92	0.64	5.40	0.10	0.07	34.64	0.70	0.01	0.00	100.57	0.920		
0417.05 / 2722.84	cpx	1.40	54.86	0.03	1.84	0.81	1.89	0.06	0.02	17.89	24.16	0.14	0.00	101.68	0.944		
	spinel	0.72	0.09	0.03	22.55	45.27	20.65	0.25	0.07	12.47	0.02	0.00	0.00	101.40	0.570	0.574	0.023
99121701	olivine ^e	68.82	41.07	–	0.00	0.00	9.02	–	–	49.42	0.01	–	–	99.52	0.907		
Wadi Mabir	opx	27.15	57.87	0.01	1.90	0.51	5.73	0.10	0.11	34.45	0.94	0.01	0.00	101.63	0.915		
0419.32 / 2724.89	cpx	2.65	54.01	0.03	2.44	1.01	2.50	0.05	0.04	17.46	23.19	0.34	0.00	101.08	0.926		
	spinel	0.76	0.06	0.04	24.62	41.06	22.44	0.25	0.13	11.97	0.00	0.00	0.00	100.57	0.550	0.528	0.029
99121702	olivine ^e		41.13	–	0.00	0.00	8.84	–	–	49.17	0.00	–	–	99.14	0.908		
Wadi Mabir	opx		57.17	0.02	1.89	0.53	5.83	0.13	0.09	34.08	1.02	0.01	0.00	100.76	0.912		
0419.79 / 2724.37	cpx		53.77	0.02	2.19	0.82	2.17	0.09	0.03	17.62	23.58	0.08	0.00	100.37	0.936		
	spinel		0.09	0.02	25.58	41.24	20.36	0.26	0.07	12.43	0.02	0.01	0.00	100.07	0.568	0.520	0.021
99121703	olivine ^e		41.30	–	0.00	0.00	9.11	–	–	49.40	0.02	–	–	99.82	0.906		
Wadi Mabir	opx		56.47	0.02	2.03	0.53	5.85	0.11	0.10	34.14	0.93	0.00	0.00	100.19	0.912		
0421.05 / 2724.00	cpx		53.11	0.00	2.47	0.90	2.45	0.10	0.04	18.02	22.98	0.01	0.00	100.07	0.929		
	spinel		0.12	0.04	27.36	39.62	19.07	0.21	0.12	13.14	0.01	0.01	0.00	99.70	0.594	0.493	0.018
99121804	olivine		42.00	0.01	0.01	0.03	8.62	0.11	0.40	51.11	0.02	0.01	0.00	102.31	0.914		
Wadi Rajmi	opx		57.19	0.01	1.94	0.54	5.80	0.13	0.08	34.52	1.13	0.02	0.00	101.35	0.914		
0422.05 / 2726.47	cpx		54.01	0.07	2.40	0.91	2.45	0.10	0.03	19.18	21.86	0.24	0.00	101.25	0.933		
	spinel		0.05	0.03	25.38	41.07	20.77	0.27	0.12	13.24	0.00	0.01	0.00	100.94	0.600	0.520	0.030
99121805	olivine		41.86	0.01	0.00	0.04	8.46	0.12	0.37	50.85	0.02	0.01	0.00	101.73	0.915		
Wadi Rajmi	opx		56.54	0.00	2.04	0.62	5.54	0.14	0.08	34.18	1.18	0.00	0.00	100.31	0.917		
0422.16 / 2725.58	cpx		54.31	0.00	2.32	0.89	2.07	0.04	0.04	18.01	23.44	0.17	0.00	101.31	0.940		
	spinel		0.02	0.02	27.25	40.70	18.25	0.21	0.12	13.79	0.01	0.01	0.00	100.36	0.620	0.501	0.018
99121806	olivine	58.44	41.79	0.00	0.00	0.00	8.52	0.12	0.39	50.55	0.01	0.00	0.00	101.39	0.914		
Wadi Rajmi	opx	32.06	56.77	0.02	2.21	0.69	5.27	0.12	0.06	33.87	1.67	0.00	0.00	100.69	0.920		
0421.84 / 2725.16	cpx	6.64	54.54	0.05	1.90	0.67	1.91	0.07	0.05	17.79	24.07	0.06	0.00	101.10	0.943		
	spinel	0.85	0.05	0.05	27.63	40.88	18.06	0.21	0.10	14.04	0.00	0.02	0.00	101.04	0.625	0.498	0.017
99121807	olivine		41.73	0.01	0.00	0.03	8.84	0.12	0.39	50.24	0.01	0.00	0.00	101.36	0.910		
Wadi Rajmi	opx		56.84	0.01	2.00	0.58	5.76	0.16	0.10	34.22	1.25	0.02	0.00	100.94	0.914		
0421.84 / 2725.16	cpx		53.08	0.01	2.43	0.87	2.27	0.10	0.04	17.37	24.56	0.03	0.01	100.76	0.932		
	spinel		0.06	0.07	26.59	40.17	20.82	0.26	0.10	12.65	0.01	0.01	0.00	100.75	0.572	0.503	0.023

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
99121808	olivine	62.62	41.35	0.01	0.00	0.02	8.37	0.12	0.31	51.16	0.01	0.00	0.00	101.36	0.916		
Wadi Rajmi	opx	32.36	56.77	0.05	2.34	0.56	5.47	0.09	0.12	34.53	1.32	0.00	0.00	101.24	0.918		
0422.37 / 2726.11	cpx	2.32	53.65	0.03	2.18	0.80	1.79	0.04	0.03	17.03	24.55	0.11	0.00	100.20	0.944		
	spinel	0.94	0.12	0.06	29.22	39.33	17.86	0.21	0.07	14.61	0.02	0.00	0.00	101.51	0.640	0.474	0.018
00121901	olivine		41.52	0.01	0.00	0.01	8.66	0.10	0.38	50.75	0.02	0.01	0.00	101.45	0.913		
Wadi Rajmi	opx		57.29	0.04	2.86	0.75	5.80	0.09	0.11	34.09	0.60	0.00	0.00	101.63	0.913		
0423.16 / 2719.68	cpx		53.60	0.10	3.05	1.03	1.99	0.07	0.04	17.03	24.29	0.03	0.00	101.24	0.938		
	spinel		0.02	0.08	33.26	34.93	16.69	0.20	0.14	15.45	0.01	0.00	0.00	100.78	0.669	0.413	0.017
00121902	olivine	71.49	41.03	0.00	0.00	0.02	8.58	0.15	0.39	50.34	0.01	0.00	0.00	100.53	0.913		
Wadi Rajmi	opx	24.33	57.75	0.03	2.20	0.56	5.66	0.12	0.10	34.48	0.63	0.00	0.00	101.52	0.916		
0422.63 / 2719.42	cpx	2.32	54.78	0.03	1.92	0.60	1.96	0.06	0.02	17.83	24.06	0.05	0.00	101.30	0.942		
	spinel	0.69	0.02	0.05	29.56	38.38	17.97	0.21	0.13	14.39	0.00	0.01	0.00	100.73	0.637	0.466	0.019
00121908	olivine	69.49	41.80	0.00	0.00	0.03	8.72	0.09	0.38	51.00	0.01	0.00	0.00	102.05	0.912		
Wadi Rajmi	opx	22.43	57.89	0.01	2.19	0.59	5.46	0.15	0.06	34.52	0.79	0.00	0.00	101.66	0.919		
0422.21 / 2719.68	cpx	5.02	56.27	0.05	4.30	0.55	2.74	0.05	0.07	23.04	12.86	0.30	0.04	100.26	0.937		
	spinel	0.66	0.03	0.06	27.11	41.23	18.59	0.23	0.09	14.14	0.01	0.01	0.00	101.48	0.629	0.505	0.021
00121909	olivine		41.43	0.00	0.01	0.03	8.42	0.11	0.41	50.43	0.01	0.00	0.00	100.84	0.914		
Wadi Rajmi	opx		58.13	0.02	1.60	0.56	5.54	0.13	0.08	34.70	0.81	0.01	0.00	101.57	0.918		
0422.58 / 2720.11	cpx		54.62	0.04	1.91	1.00	1.95	0.08	0.01	17.63	23.48	0.17	0.00	100.89	0.942		
	spinel		0.02	0.06	23.11	45.47	19.42	0.26	0.11	12.62	0.00	0.02	0.00	101.09	0.578	0.569	0.018
00122202	olivine		41.42	0.01	0.00	0.01	8.57	0.10	0.41	49.97	0.01	0.00	0.00	100.50	0.912		
Wadi Subakh	opx		58.31	0.01	1.06	0.48	5.63	0.16	0.10	34.78	0.96	0.00	0.00	101.49	0.917		
0419.89 / 2714.89	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.02	0.08	15.22	52.49	20.86	0.29	0.06	10.98	0.01	0.00	0.00	100.01	0.530	0.698	0.022
00122203	olivine	64.54	41.14	0.01	0.00	0.03	8.93	0.13	0.37	49.75	0.01	0.00	0.00	100.38	0.909		
Wadi Subakh	opx	29.68	56.41	0.03	2.09	0.55	5.87	0.13	0.10	34.07	0.55	0.00	0.00	99.79	0.912		
0419.37 / 2715.68	cpx	4.71	52.97	0.04	2.44	0.88	2.28	0.04	0.04	17.78	23.30	0.03	0.00	99.81	0.933		
	spinel	0.75	0.03	0.06	27.45	39.93	18.53	0.22	0.11	13.60	0.00	0.01	0.00	99.93	0.613	0.494	0.019
00122204	olivine		41.37	0.01	0.00	0.02	8.97	0.14	0.34	49.62	0.01	0.00	0.00	100.47	0.908		
Wadi Subakh	opx		56.90	0.02	2.45	0.61	5.78	0.10	0.08	33.27	1.46	0.00	0.00	100.67	0.911		
0419.42 / 2715.11	cpx		53.76	0.04	2.54	0.79	2.26	0.07	0.05	17.47	23.69	0.02	0.00	100.68	0.932		
	spinel		0.02	0.04	31.18	37.20	16.89	0.22	0.13	14.60	0.01	0.01	0.00	100.30	0.644	0.445	0.014
00122205	olivine		41.73	0.00	0.00	0.01	8.66	0.14	0.36	50.32	0.00	0.02	0.00	101.24	0.912		
Wadi Subakh	opx		58.66	0.02	1.00	0.29	5.80	0.14	0.06	34.86	0.61	0.01	0.00	101.46	0.915		
0419.89 / 2714.05	cpx		–	–	–	–	–	–	–	–	–	–	–	–	–		
	spinel		0.04	0.08	16.04	51.53	21.65	0.29	0.07	10.62	0.00	0.01	0.00	100.34	0.510	0.683	0.022

Appendix 1. Continued

Reference No.	Locality	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
00122206	Wadi Subakh	olivine	67.52	41.39	0.01	0.00	0.03	8.48	0.11	0.39	50.66	0.02	0.00	0.00	101.08	0.914		
0419.63 / 2713.89		opx	26.02	57.01	0.01	2.53	0.68	5.60	0.09	0.08	33.88	1.12	0.01	0.00	101.01	0.915		
		cpx	3.81	54.15	0.07	2.37	0.73	2.04	0.08	0.04	17.52	24.15	0.05	0.01	101.20	0.939		
		spinel	0.85	0.01	0.06	32.06	36.49	16.91	0.21	0.13	15.04	0.01	0.01	0.00	100.94	0.656	0.433	0.016
00122207	Wadi Subakh	olivine		41.53	0.00	0.00	0.00	8.38	0.12	0.38	50.72	0.01	0.00	0.00	101.14	0.915		
0425.05 / 2711.16		opx		57.11	0.01	1.00	0.40	5.49	0.13	0.09	34.63	0.61	0.00	0.00	99.46	0.918		
		cpx		53.60	0.04	1.18	0.62	2.06	0.07	0.06	18.16	23.66	0.03	0.01	99.49	0.940		
		spinel		0.04	0.12	15.55	52.19	20.00	0.28	0.07	11.42	0.01	0.02	0.00	99.69	0.549	0.692	0.020
00122208	Wadi Subakh	olivine	64.38	40.64	0.01	0.00	0.02	8.89	0.13	0.40	50.07	0.02	0.00	0.00	100.19	0.909		
0424.63 / 2711.79		opx	27.35	55.88	0.03	3.04	0.80	5.72	0.11	0.09	33.56	0.91	0.00	0.00	100.14	0.913		
		cpx	7.16	52.34	0.10	2.95	0.86	2.07	0.04	0.04	16.92	24.33	0.03	0.00	99.67	0.936		
		spinel	0.70	0.02	0.07	33.83	33.79	16.69	0.19	0.15	15.56	0.01	0.01	0.00	100.31	0.674	0.401	0.018
00122602	Wadi Rajmi	olivine		41.37	0.01	0.01	0.01	8.53	0.09	0.36	49.97	0.02	0.00	0.00	100.37	0.913		
0421.47 / 2723.26		opx		57.66	0.01	1.70	0.57	5.33	0.13	0.09	33.34	2.09	0.01	0.00	100.93	0.918		
		cpx		54.63	0.04	2.08	0.92	1.90	0.06	0.04	18.09	22.84	0.09	0.00	100.68	0.944		
		spinel		0.00	0.09	21.42	45.75	20.41	0.25	0.08	12.25	0.02	0.00	0.00	100.28	0.570	0.589	0.024
00122603	Wadi Rajmi	olivine	74.35	41.31	0.02	0.00	0.02	8.82	0.12	0.38	50.57	0.02	0.00	0.00	101.26	0.911		
0420.79 / 2722.89		opx	21.99	58.26	0.01	1.40	0.49	5.58	0.10	0.06	34.11	1.46	0.00	0.00	101.47	0.916		
		cpx	1.25	55.23	0.03	1.33	0.66	1.73	0.07	0.03	17.86	24.28	0.12	0.00	101.34	0.948		
		spinel	0.69	0.02	0.03	19.31	49.60	19.50	0.28	0.08	11.83	0.01	0.00	0.00	100.67	0.556	0.633	0.016
00122604	Wadi Rajmi	olivine		41.80	0.01	0.00	0.01	8.77	0.12	0.39	50.89	0.02	0.00	0.00	102.00	0.912		
0421.47 / 2722.89		opx		56.90	0.02	2.29	0.68	5.80	0.11	0.11	34.33	0.87	0.00	0.00	101.11	0.913		
		cpx		53.43	0.04	2.64	1.07	1.87	0.04	0.05	17.20	24.55	0.04	0.00	100.93	0.943		
		spinel		0.02	0.03	28.11	40.03	19.58	0.24	0.08	13.67	0.00	0.00	0.00	101.76	0.606	0.489	0.021
00122605	Wadi Rajmi	olivine		40.96	0.02	0.00	0.02	8.74	0.12	0.39	50.44	0.01	0.00	0.00	100.72	0.911		
0421.95 / 2722.95		opx		57.17	0.00	2.20	0.59	5.60	0.12	0.09	34.23	1.00	0.00	0.00	101.00	0.916		
		cpx		54.20	0.03	2.73	0.98	2.05	0.06	0.05	17.85	23.87	0.04	0.00	101.87	0.939		
		spinel		0.02	0.03	28.19	40.46	17.78	0.25	0.09	14.18	0.00	0.00	0.00	101.02	0.631	0.491	0.017
00122606	Wadi Rajmi	olivine		41.75	0.00	0.01	0.01	8.47	0.10	0.37	51.52	0.01	0.01	0.00	102.25	0.916		
0421.16 / 2721.00		opx		57.25	0.03	2.17	0.65	5.02	0.11	0.04	33.21	3.04	0.01	0.00	101.52	0.922		
		cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
		spinel		0.03	0.03	24.82	42.92	19.20	0.25	0.13	13.52	0.01	0.01	0.00	100.92	0.613	0.537	0.023
00122607	Wadi Rajmi	olivine	66.14	41.79	0.01	0.00	0.02	8.40	0.10	0.41	51.11	0.01	0.00	0.00	101.85	0.916		
0420.89 / 2720.37		opx	28.02	56.35	0.02	2.49	0.75	5.71	0.11	0.09	34.39	0.58	0.00	0.00	100.49	0.915		
		cpx	3.19	54.05	0.05	2.65	0.90	1.95	0.06	0.08	17.36	24.43	0.06	0.00	101.59	0.941		
		spinel	0.61	0.02	0.06	31.07	37.60	17.85	0.20	0.16	14.81	0.00	0.00	0.00	101.77	0.645	0.448	0.018

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
00122609	olivine		41.27	0.01	0.13	0.00	8.51	0.12	0.39	51.15	0.01	0.00	0.00	101.59	0.915		
Wadi Rajmi	opx		57.47	0.02	1.96	0.61	5.54	0.13	0.12	34.43	1.06	0.01	0.00	101.35	0.917		
0420.95 / 2721.47	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.03	24.95	43.09	19.84	0.28	0.14	13.30	0.01	0.01	0.00	101.68	0.601	0.537	0.024
00122610	olivine		41.88	0.00	0.00	0.01	8.61	0.11	0.39	51.46	0.01	0.00	0.00	102.48	0.914		
Wadi Rajmi	opx		57.51	0.01	1.82	0.56	5.68	0.10	0.12	34.45	1.50	0.00	0.00	101.74	0.915		
0421.21 / 2721.84	cpx		54.80	0.02	1.72	0.72	1.79	0.05	0.02	17.86	24.83	0.08	0.01	101.91	0.947		
	spinel		0.03	0.02	25.02	42.88	19.91	0.28	0.17	13.21	0.01	0.01	0.00	101.54	0.598	0.535	0.024
00122801	olivine		42.05	0.02	0.01	0.01	9.52	0.13	0.37	50.11	0.05	0.00	0.00	102.27	0.904		
Wadi Zabin	opx		56.50	0.08	1.72	0.61	6.33	0.13	0.07	33.69	1.22	0.01	0.00	100.36	0.905		
0415.26 / 2726.11	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.07	0.21	22.53	43.78	22.02	0.24	0.10	11.90	0.01	0.01	0.00	100.86	0.547	0.566	0.027
00122802	olivine	74.96	41.14	0.01	0.00	0.01	8.73	0.09	0.38	50.14	0.03	0.00	0.00	100.53	0.911		
Wadi Zabin	opx	22.18	56.10	0.02	1.73	0.57	5.71	0.12	0.07	34.29	0.75	0.00	0.00	99.36	0.915		
0415.37 / 2725.42	cpx	1.91	52.54	0.04	2.08	0.88	2.22	0.06	0.10	17.58	23.79	0.09	0.00	99.38	0.934		
	spinel	0.67	0.03	0.03	22.69	44.23	20.51	0.22	0.08	12.72	0.00	0.00	0.00	100.53	0.585	0.567	0.026
00122803	olivine		41.25	0.01	0.01	0.02	8.34	0.11	0.38	51.25	0.02	0.00	0.00	101.39	0.916		
Wadi Zabin	opx		56.79	0.01	1.96	0.70	5.67	0.16	0.04	34.27	0.93	0.00	0.00	100.52	0.915		
0415.74 / 2724.89	cpx		54.73	0.07	1.91	0.73	2.04	0.10	0.06	17.87	24.02	0.15	0.00	101.68	0.940		
	spinel		0.03	0.05	26.35	40.82	19.01	0.23	0.08	13.74	0.01	0.00	0.00	100.32	0.620	0.510	0.023
00122804	olivine		41.47	0.01	0.00	0.03	9.01	0.11	0.41	50.30	0.02	0.00	0.00	101.35	0.909		
Wadi Zabin	opx		56.93	0.01	1.74	0.62	5.81	0.13	0.09	34.44	1.11	0.00	0.00	100.89	0.913		
0416.11 / 2724.68	cpx		53.78	0.01	2.36	1.03	2.40	0.09	0.05	18.14	23.11	0.04	0.00	101.03	0.931		
	spinel		0.04	0.03	22.71	44.50	20.41	0.27	0.06	12.38	0.01	0.00	0.00	100.40	0.572	0.568	0.023
00122805	olivine		40.59	0.00	0.00	0.01	8.57	0.13	0.39	50.04	0.01	0.00	0.00	99.75	0.912		
Wadi Zabin	opx		56.87	0.01	1.91	0.60	5.70	0.14	0.09	34.53	1.10	0.00	0.00	100.95	0.915		
0417.05 / 2724.53	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.07	24.63	43.84	20.23	0.23	0.07	12.30	0.01	0.00	0.00	101.40	0.558	0.544	0.017
00122806	olivine		41.86	0.01	0.02	0.46	8.75	0.12	0.37	50.78	0.00	0.00	0.00	102.37	0.912		
Wadi Zabin	opx		57.18	0.02	1.49	0.46	6.27	0.11	0.06	34.43	0.62	0.01	0.00	100.64	0.907		
0417.42 / 2724.42	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.04	24.63	42.16	22.24	0.26	0.06	11.35	0.01	0.01	0.00	100.77	0.522	0.535	0.022
00123001	olivine		41.70	0.02	0.00	0.01	8.69	0.10	0.34	50.11	0.02	0.00	0.00	100.98	0.911		
Wadi Zabin	opx		57.20	0.01	1.78	0.62	5.66	0.11	0.08	34.35	1.49	0.00	0.00	101.30	0.915		
0416.05 / 2724.26	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.03	23.30	44.74	19.97	0.25	0.09	12.41	0.01	0.02	0.00	100.85	0.570	0.563	0.019

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{Tb}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
00123002	olivine	68.58	41.82	0.01	0.00	0.02	8.98	0.09	0.33	50.43	0.02	0.00	0.00	101.71	0.909		
Wadi Zabin	opx	25.50	57.03	0.03	1.57	0.55	5.99	0.11	0.08	34.49	1.06	0.01	0.00	100.93	0.911		
0415.63 / 2723.63	cpx	3.17	53.41	0.01	2.11	1.04	2.03	0.07	0.03	17.34	23.94	0.15	0.00	100.14	0.938		
	spinel	0.76	0.02	0.08	20.84	46.59	20.82	0.26	0.13	11.91	0.00	0.01	0.00	100.67	0.555	0.600	0.023
00123003	olivine		41.62	0.00	0.00	0.00	8.82	0.11	0.41	51.23	0.01	0.01	0.00	102.20	0.912		
Wadi Zabin	opx		57.82	0.01	1.26	0.47	5.86	0.14	0.11	35.25	0.83	0.00	0.00	101.75	0.915		
0416.53 / 2723.11	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.01	0.08	17.24	49.28	23.91	0.33	0.09	10.37	0.01	0.01	0.00	101.33	0.494	0.657	0.031
00123004	olivine	73.28	41.19	0.01	0.00	0.01	8.66	0.13	0.37	49.97	0.03	0.00	0.00	100.37	0.911		
Wadi Zabin	opx	23.93	57.96	0.01	1.03	0.37	5.87	0.11	0.09	35.06	1.01	0.01	0.00	101.52	0.914		
0416.05 / 2722.53	cpx	1.13	54.97	0.02	1.07	0.69	1.89	0.03	0.02	18.43	24.22	0.10	0.00	101.45	0.946		
	spinel	0.74	0.03	0.05	14.58	53.06	22.80	0.31	0.04	10.15	0.00	0.01	0.00	101.01	0.490	0.709	0.025
00123005	olivine		41.15	0.01	0.00	0.02	9.03	0.11	0.36	49.98	0.03	0.00	0.00	100.68	0.908		
Wadi Zabin	opx		57.68	0.01	1.14	0.48	5.80	0.10	0.12	35.08	0.77	0.00	0.00	101.17	0.915		
0416.16 / 2721.74	cpx		53.83	0.01	1.44	0.87	2.03	0.06	0.08	18.18	23.45	0.15	0.00	100.13	0.941		
	spinel		0.02	0.06	16.02	51.30	22.62	0.28	0.05	10.65	0.01	0.01	0.00	101.00	0.509	0.682	0.026
00123006	olivine	73.15	41.80	0.01	0.00	0.00	8.61	0.10	0.41	50.59	0.01	0.00	0.00	101.54	0.913		
Wadi Zabin	opx	22.73	57.88	0.02	1.10	0.42	5.90	0.12	0.08	35.13	1.09	0.00	0.00	101.75	0.914		
0416.58 / 2721.05	cpx	1.50	54.83	0.02	1.24	0.63	1.91	0.06	0.04	18.58	23.98	0.03	0.01	101.33	0.945		
	spinel	0.84	0.04	0.04	15.38	52.71	22.29	0.28	0.08	10.69	0.00	0.00	0.00	101.51	0.510	0.697	0.024
00123007	olivine		42.14	0.01	0.00	0.03	8.77	0.14	0.39	51.36	0.01	0.00	0.00	102.87	0.913		
Wadi Zabin	opx		58.11	0.02	0.88	0.43	5.73	0.12	0.06	35.13	1.00	0.00	0.00	101.46	0.916		
0416.95 / 2720.37	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.07	0.02	11.96	53.77	25.60	0.34	0.05	9.50	0.00	0.00	0.00	101.31	0.465	0.751	0.039
00123008	olivine		41.84	0.00	0.00	0.02	8.90	0.11	0.36	50.55	0.02	0.00	0.00	101.81	0.910		
Wadi Zabin	opx		57.05	0.01	1.42	0.57	5.26	0.11	0.07	31.98	4.86	0.01	0.00	101.35	0.917		
0419.79 / 2717.00	cpx		54.68	0.03	1.77	0.83	2.11	0.11	0.03	17.89	24.44	0.05	0.00	101.93	0.938		
	spinel		0.04	0.04	17.70	49.01	22.41	0.26	0.08	11.14	0.01	0.00	0.00	100.68	0.528	0.650	0.029
00123009	olivine	66.42	41.35	0.00	0.00	0.00	8.68	0.11	0.40	50.84	0.02	0.00	0.00	101.41	0.913		
Wadi Zabin	opx	29.54	57.43	0.03	1.11	0.57	5.73	0.13	0.08	34.83	1.28	0.01	0.00	101.21	0.915		
0417.79 / 2719.11	cpx	1.47	54.28	0.02	1.24	0.64	2.19	0.08	0.04	18.30	23.56	0.08	0.00	100.42	0.937		
	spinel	0.67	0.03	0.04	14.97	52.49	22.86	0.33	0.05	10.43	0.00	0.00	0.00	101.22	0.501	0.702	0.027
00123010	olivine		42.05	0.01	0.00	0.01	8.74	0.13	0.34	50.68	0.02	0.00	0.00	102.00	0.912		
Wadi Zabin	opx		57.51	0.01	1.31	0.43	5.90	0.12	0.08	34.98	0.93	0.00	0.00	101.27	0.914		
0416.68 / 2718.63	cpx		55.08	0.00	1.31	0.57	1.85	0.05	0.04	17.97	24.53	0.05	0.00	101.46	0.945		
	spinel		0.03	0.03	18.73	49.22	21.31	0.28	0.07	11.18	0.00	0.01	0.00	100.86	0.527	0.638	0.021

Appendix 1. Continued

Reference No.	Locality	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
		UTM coordinate ^a																
00123101	Wadi Zabin	olivine		41.71	0.01	0.00	0.01	8.24	0.13	0.38	51.01	0.02	0.01	0.00	101.51	0.917		
		opx		58.04	0.03	1.27	0.50	5.51	0.10	0.06	34.88	1.08	0.01	0.00	101.47	0.919		
0417.37 / 2720.37		cpx		54.99	0.04	1.65	0.79	2.00	0.10	0.03	21.11	19.78	0.12	0.00	100.61	0.949		
		spinel		0.07	0.05	18.33	50.47	21.03	0.28	0.05	11.59	0.01	0.00	0.00	101.87	0.540	0.649	0.021
00123102	Wadi Zabin	olivine		39.15	0.01	1.79	1.56	9.35	0.13	0.35	48.66	0.01	0.00	0.00	101.01	0.901		
		opx		57.16	0.03	1.69	0.55	5.53	0.14	0.08	34.78	0.84	0.00	0.00	100.81	0.918		
0417.58 / 2719.68		cpx		54.22	0.01	1.69	0.84	1.69	0.07	0.04	17.77	25.01	0.07	0.00	101.42	0.949		
		spinel		0.03	0.02	21.18	46.99	21.15	0.24	0.07	12.23	0.01	0.00	0.00	101.93	0.562	0.598	0.025
00123103	Wadi Zabin	olivine		41.53	0.00	0.00	0.00	8.76	0.11	0.33	50.72	0.02	0.00	0.00	101.47	0.912		
		opx		57.65	0.03	1.27	0.44	5.78	0.11	0.08	35.15	0.69	0.00	0.00	101.20	0.916		
0417.89 / 2719.16		cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
		spinel		0.02	0.04	18.53	50.10	21.15	0.24	0.07	11.50	0.00	0.00	0.00	101.64	0.537	0.645	0.021
00123104	Wadi Zabin	olivine	78.50	41.62	0.00	0.00	0.01	8.48	0.12	0.40	50.84	0.01	0.00	0.00	101.48	0.914		
		opx	18.72	57.65	0.02	1.38	0.47	5.34	0.12	0.10	34.40	1.79	0.00	0.00	101.28	0.920		
0417.95 / 2718.42		cpx	0.62	54.33	0.03	1.49	0.83	1.62	0.04	0.02	17.89	24.83	0.11	0.00	101.15	0.952		
		spinel	0.99	0.04	0.05	18.65	49.99	20.36	0.28	0.07	11.96	0.01	0.01	0.00	101.41	0.559	0.643	0.021
00123105	Wadi Zabin	olivine		41.23	0.00	0.00	0.02	8.74	0.11	0.38	50.16	0.01	0.00	0.00	100.66	0.911		
		opx		55.75	0.02	1.67	0.65	5.74	0.13	0.09	34.50	1.37	0.01	0.00	99.93	0.915		
0417.95 / 2718.42		cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
		spinel		0.04	0.08	21.58	47.46	19.99	0.26	0.08	12.63	0.00	0.01	0.00	102.11	0.576	0.596	0.020
01010201	Wadi Zabin	olivine		41.65	0.01	0.02	0.00	8.51	0.08	0.34	50.42	0.02	0.00	0.00	101.05	0.913		
		opx		58.27	0.01	1.45	0.49	5.51	0.11	0.07	34.93	0.76	0.01	0.00	101.61	0.919		
0418.74 / 2719.84		cpx		55.02	0.03	1.61	0.66	1.88	0.06	0.09	17.79	24.46	0.06	0.00	101.67	0.944		
		spinel		0.03	0.04	19.44	48.28	21.18	0.25	0.08	11.78	0.00	0.02	0.00	101.11	0.551	0.625	0.024
01010202	Wadi Zabin	olivine		41.81	0.00	0.00	0.03	8.32	0.10	0.34	50.70	0.02	0.00	0.00	101.31	0.916		
		opx		57.11	0.01	1.99	0.59	5.73	0.13	0.09	34.51	0.82	0.00	0.00	100.97	0.915		
0418.63 / 2719.00		cpx		53.85	0.05	2.24	0.90	1.91	0.09	0.06	17.48	24.40	0.02	0.00	101.00	0.942		
		spinel		0.09	0.05	24.21	42.23	20.14	0.24	0.11	13.00	0.00	0.01	0.00	100.07	0.595	0.539	0.026
01010301	Wadi Zabin	olivine	72.57	42.18	0.00	0.00	0.01	8.94	0.13	0.38	50.99	0.02	0.00	0.00	102.67	0.910		
		opx	22.02	57.45	0.00	1.08	0.43	5.58	0.10	0.07	34.69	1.45	0.00	0.00	100.85	0.917		
0419.58 / 2717.63		cpx	2.16	54.58	0.00	1.29	0.73	1.84	0.03	0.05	17.86	24.59	0.09	0.01	101.08	0.945		
		spinel	0.77	0.03	0.05	15.27	51.96	23.50	0.30	0.03	10.57	0.00	0.00	0.00	101.71	0.504	0.695	0.031
01010302	Wadi Zabin	olivine		41.72	0.01	0.00	0.01	8.59	0.11	0.38	50.75	0.01	0.00	0.00	101.58	0.913		
		opx		57.44	0.03	1.69	0.49	5.70	0.13	0.07	35.02	0.71	0.00	0.00	101.28	0.916		
0419.63 / 2716.89		cpx		53.83	0.02	1.94	0.88	2.00	0.07	0.04	17.67	24.30	0.05	0.00	100.81	0.940		
		spinel		0.02	0.06	21.79	46.72	19.96	0.26	0.10	12.63	0.01	0.00	0.00	101.54	0.579	0.590	0.021

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
01010303	olivine	75.43	41.47	0.02	0.01	0.01	8.60	0.10	0.39	50.48	0.01	0.00	0.00	101.10	0.913		
Wadi Zabin	opx	21.20	57.43	0.01	1.41	0.52	5.62	0.12	0.09	34.67	1.16	0.01	0.00	101.02	0.917		
0419.16 / 2717.79	cpx	1.56	54.27	0.03	1.70	0.89	1.83	0.07	0.06	17.73	23.99	0.13	0.00	100.70	0.945		
	spinel	0.70	0.01	0.05	19.80	48.70	19.72	0.23	0.10	12.11	0.00	0.01	0.00	100.72	0.566	0.623	0.019
01010304	olivine		41.91	0.01	0.00	0.03	8.16	0.11	0.36	51.36	0.01	0.00	0.00	101.95	0.918		
Wadi Zabin	opx		58.53	0.01	0.64	0.27	5.34	0.13	0.07	35.54	0.64	0.01	0.00	101.16	0.922		
0418.68 / 2717.16	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.05	12.60	57.15	20.19	0.30	0.07	10.68	0.02	0.01	0.00	101.09	0.518	0.753	0.015
01010305	olivine		41.62	0.01	0.00	0.02	8.70	0.09	0.36	50.20	0.01	0.00	0.00	101.01	0.911		
Wadi Zabin	opx		57.60	0.02	1.21	0.40	5.67	0.11	0.07	34.32	0.86	0.01	0.00	100.26	0.915		
0418.68 / 2717.16	cpx		54.43	0.03	1.33	0.62	1.87	0.04	0.02	17.60	23.96	0.13	0.00	100.03	0.944		
	spinel		0.03	0.07	18.81	48.82	20.22	0.27	0.05	11.52	0.00	0.01	0.00	99.80	0.546	0.635	0.019
01010306	olivine		41.15	0.00	0.01	0.03	8.38	0.11	0.38	49.98	0.03	0.00	0.00	100.06	0.914		
Wadi Zabin	opx		56.96	0.03	2.02	0.63	5.45	0.12	0.06	33.22	1.92	0.00	0.00	100.41	0.916		
0420.21 / 2718.26	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.07	0.04	14.85	52.72	22.45	0.27	0.08	10.42	0.00	0.00	0.00	100.89	0.501	0.704	0.025
01010307	olivine		41.63	0.01	0.00	0.02	8.42	0.10	0.34	50.59	0.02	0.00	0.00	101.12	0.915		
Wadi Zabin	opx		57.64	0.01	1.59	0.55	5.29	0.09	0.07	33.92	1.77	0.00	0.00	100.93	0.920		
0420.63 / 2717.84	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.03	20.37	47.41	19.26	0.24	0.11	12.65	0.01	0.01	0.00	100.12	0.591	0.610	0.022
01010308	olivine		41.52	0.01	0.00	0.01	8.87	0.11	0.40	49.97	0.02	0.00	0.00	100.92	0.909		
Wadi Zabin	opx		57.26	0.01	1.43	0.55	5.90	0.12	0.09	33.75	1.39	0.00	0.00	100.49	0.911		
0420.53 / 2718.63	cpx		53.66	0.02	1.57	0.77	1.87	0.06	0.03	17.51	24.13	0.04	0.00	99.68	0.943		
	spinel		0.02	0.03	18.28	48.98	21.20	0.27	0.08	11.42	0.01	0.01	0.00	100.30	0.542	0.642	0.024
01010309	olivine		40.45	0.02	0.01	0.02	8.56	0.10	0.38	49.67	0.02	0.00	0.00	99.22	0.912		
Wadi Zabin	opx		57.51	0.02	1.15	0.47	5.65	0.11	0.09	33.98	1.12	0.00	0.00	100.09	0.915		
0420.05 / 2719.63	cpx		54.20	0.01	1.35	0.75	1.91	0.05	0.08	17.62	23.56	0.16	0.00	99.69	0.943		
	spinel		0.04	0.03	16.25	50.21	22.24	0.25	0.07	10.85	0.01	0.00	0.00	99.95	0.522	0.675	0.028
01010701	olivine		—	—	—	—	—	—	—	—	—	—	—	—			
Wadi Subakh	opx		56.55	0.04	2.07	0.73	5.57	0.12	0.11	32.98	2.88	0.00	0.00	101.04	0.914		
0423.42 / 2717.32	cpx		53.19	0.03	2.15	0.80	2.10	0.08	0.04	17.43	24.25	0.02	0.00	100.11	0.937		
	spinel		0.02	0.06	25.26	42.77	19.49	0.23	0.07	13.19	0.00	0.00	0.00	101.09	0.596	0.532	0.021
01010702	olivine		—	—	—	—	—	—	—	—	—	—	—	—			
Wadi Subakh	opx		57.49	0.03	1.92	0.43	7.19	0.15	0.13	33.53	0.76	0.00	0.00	101.61	0.893		
0422.89 / 2717.21	cpx		54.47	0.09	2.05	0.56	2.39	0.08	0.03	17.39	24.58	0.02	0.00	101.65	0.928		
	spinel		0.02	0.13	28.81	36.94	22.48	0.23	0.13	12.37	0.01	0.01	0.00	101.12	0.554	0.464	0.027

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
01010703	olivine		41.89	0.01	0.00	0.01	8.71	0.13	0.42	50.72	0.01	0.00	0.00	101.90	0.912		
Wadi Subakh	opx		57.19	0.01	1.76	0.53	5.72	0.13	0.06	34.59	0.75	0.01	0.00	100.75	0.915		
0422.89 / 2717.21	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.04	0.06	22.33	44.87	20.26	0.25	0.11	12.69	0.00	0.00	0.00	100.61	0.585	0.574	0.025
01010704	olivine		42.02	0.01	0.00	0.04	8.06	0.11	0.38	51.34	0.01	0.00	0.00	101.98	0.919		
Wadi Subakh	opx		57.83	0.02	1.70	0.53	5.65	0.15	0.08	34.96	0.65	0.00	0.00	101.58	0.917		
0423.89 / 2715.63	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.10	23.10	45.53	18.69	0.27	0.12	13.15	0.01	0.02	0.00	101.01	0.601	0.569	0.018
01010801	olivine		41.47	0.02	0.00	0.01	8.61	0.11	0.36	50.36	0.02	0.00	0.00	100.96	0.912		
Wadi Subakh	opx		57.62	0.01	1.97	0.54	5.68	0.10	0.05	34.33	1.08	0.00	0.00	101.39	0.915		
0425.53 / 2718.05	cpx		54.27	0.05	2.19	0.80	2.03	0.06	0.03	17.64	23.96	0.06	0.00	101.08	0.939		
	spinel		0.02	0.06	27.66	40.32	18.44	0.21	0.06	13.71	0.01	0.01	0.00	100.50	0.614	0.494	0.018
01010802	olivine		42.02	0.01	0.00	0.01	8.41	0.12	0.36	51.18	0.01	0.00	0.00	102.11	0.916		
Wadi Subakh	opx		57.38	0.03	1.90	0.64	5.57	0.14	0.09	34.91	0.63	0.00	0.00	101.28	0.918		
0425.42 / 2719.16	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.08	26.19	42.31	18.76	0.24	0.09	13.51	0.01	0.01	0.00	101.20	0.606	0.520	0.018
01010803	olivine		41.54	0.01	0.00	0.01	8.87	0.09	0.39	50.11	0.01	0.00	0.00	101.04	0.910		
Wadi Subakh	opx		57.69	0.03	1.76	0.56	6.07	0.10	0.09	34.34	0.69	0.00	0.00	101.33	0.910		
0425.42 / 2719.16	cpx		54.95	0.05	1.73	0.64	2.31	0.05	0.04	18.09	23.34	0.08	0.00	101.29	0.933		
	spinel		0.02	0.09	24.09	43.77	20.27	0.23	0.06	12.46	0.00	0.00	0.00	101.00	0.568	0.549	0.020
01010804	olivine		41.27	0.00	0.00	0.03	8.69	0.13	0.34	50.47	0.02	0.00	0.00	100.97	0.912		
Wadi Subakh	opx		56.73	0.03	1.95	0.63	5.67	0.10	0.08	34.38	0.69	0.00	0.00	100.26	0.915		
0426.16 / 2719.95	cpx		53.41	0.06	2.14	0.88	1.96	0.08	0.06	17.51	23.93	0.09	0.00	100.14	0.941		
	spinel		0.13	0.06	25.11	43.15	18.18	0.26	0.08	13.21	0.01	0.00	0.00	100.20	0.600	0.535	0.014
01010805	olivine		40.75	0.02	0.00	0.00	8.62	0.12	0.39	50.53	0.03	0.00	0.00	100.44	0.913		
Wadi Subakh	opx		57.27	0.02	1.64	0.53	5.54	0.13	0.10	35.09	0.75	0.01	0.00	101.08	0.919		
0426.16 / 2716.37	cpx		53.48	0.03	1.85	0.83	1.93	0.06	0.10	17.85	23.92	0.13	0.00	100.17	0.943		
	spinel		0.12	0.06	21.95	47.07	18.85	0.24	0.07	12.67	0.01	0.00	0.00	101.05	0.580	0.590	0.015
04122401	olivine		41.55	0.00	0.02	0.02	9.25	0.12	0.37	49.95	0.02	0.00	0.00	101.31	0.906		
Wadi Zabin	opx		57.34	0.03	1.81	0.57	6.11	0.14	0.07	34.04	1.23	0.01	0.00	101.36	0.908		
0425.6 / 2712.5	cpx		53.36	0.18	2.43	0.94	2.37	0.07	0.04	17.15	23.66	0.24	0.00	100.44	0.928		
	spinel		0.04	0.11	22.04	44.32	22.23	0.25	0.10	12.35	0.00	0.01	0.00	101.45	0.567	0.574	0.032
04122402	olivine		41.64	0.01	0.00	0.01	8.58	0.10	0.42	50.31	0.01	0.00	0.00	101.11	0.913		
Wadi Zabin	opx		56.89	0.03	1.92	0.62	5.70	0.13	0.08	33.75	1.64	0.01	0.00	100.77	0.914		
0424.9 / 2712.6	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.03	24.53	41.49	22.07	0.25	0.11	12.32	0.01	0.01	0.00	100.84	0.564	0.532	0.030

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
04122403	olivine		41.99	0.00	0.01	0.02	8.78	0.12	0.38	50.87	0.02	0.00	0.00	102.19	0.912		
Wadi Zabin	opx		57.05	0.02	2.17	0.70	5.58	0.11	0.13	34.08	1.25	0.00	0.00	101.11	0.916		
0424.3 / 2712.4	cpx		53.41	0.04	2.68	1.18	2.04	0.06	0.04	17.15	24.52	0.10	0.00	101.23	0.938		
	spinel		0.04	0.04	24.06	43.50	20.20	0.22	0.09	13.27	0.00	0.00	0.00	101.42	0.601	0.548	0.026
04122404	olivine		41.80	0.01	0.01	0.02	8.82	0.11	0.38	50.66	0.02	0.00	0.00	101.83	0.911		
Wadi Zabin	opx		57.06	0.02	1.84	0.61	5.70	0.13	0.11	34.07	1.55	0.00	0.00	101.09	0.914		
0423.6 / 2712.7	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.03	0.03	22.62	43.83	21.51	0.25	0.10	12.75	0.00	0.00	0.00	101.14	0.585	0.565	0.032
04122405	olivine		41.20	0.00	0.00	0.04	8.72	0.11	0.42	49.94	0.02	0.00	0.00	100.45	0.911		
Wadi Zabin	opx		57.57	0.02	1.79	0.57	6.00	0.13	0.08	34.33	0.76	0.00	0.00	101.24	0.911		
0423.2 / 2713.3	cpx		54.08	0.04	2.27	1.04	2.16	0.06	0.03	17.45	23.93	0.17	0.00	101.23	0.935		
	spinel		0.02	0.04	20.42	47.00	21.12	0.27	0.12	12.43	0.00	0.00	0.00	101.42	0.576	0.607	0.029
04122406	olivine		41.91	0.00	0.00	0.04	8.97	0.12	0.44	50.97	0.01	0.00	0.00	102.46	0.910		
Wadi Zabin	opx		57.49	0.01	2.04	0.69	5.93	0.14	0.09	34.38	0.79	0.01	0.00	101.56	0.912		
0424.2 / 2712.8	cpx		54.39	0.03	2.35	0.99	2.23	0.05	0.05	18.26	23.15	0.09	0.00	101.59	0.936		
	spinel		0.02	0.03	23.42	44.59	21.09	0.24	0.13	12.96	0.01	0.00	0.00	102.48	0.586	0.561	0.028
04122407	olivine		41.69	0.01	0.01	0.01	8.92	0.13	0.39	50.69	0.02	0.00	0.00	101.87	0.910		
Wadi Zabin	opx		57.78	0.02	1.82	0.68	5.37	0.13	0.10	33.84	1.85	0.00	0.00	101.59	0.918		
0423.9 / 2713.2	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.03	0.04	22.18	45.03	21.79	0.24	0.09	12.71	0.00	0.01	0.00	102.12	0.579	0.577	0.031
04122408	olivine		41.59	0.01	0.02	0.01	9.11	0.11	0.39	50.48	0.03	0.00	0.00	101.76	0.908		
Wadi Zabin	opx		57.30	0.03	1.93	0.55	5.99	0.12	0.11	34.35	1.44	0.01	0.00	101.82	0.911		
0424.5 / 2713.2	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.04	0.05	22.26	45.19	21.76	0.27	0.10	12.31	0.01	0.01	0.00	101.98	0.563	0.577	0.028
04122501	olivine		42.00	0.01	0.00	0.01	8.82	0.09	0.36	50.81	0.01	0.00	0.00	102.12	0.911		
Wadi Zabin	opx		57.40	0.02	1.70	0.61	5.63	0.13	0.09	34.39	0.93	0.00	0.00	100.91	0.916		
0422.6 / 2714.4	cpx		54.55	0.03	1.84	0.87	2.02	0.08	0.03	17.61	23.96	0.27	0.01	101.25	0.940		
	spinel		0.04	0.07	23.04	45.64	19.56	0.22	0.08	12.85	0.01	0.00	0.00	101.51	0.585	0.571	0.019
04122502	olivine		41.90	0.01	0.01	0.01	8.48	0.09	0.39	50.98	0.03	0.00	0.00	101.90	0.915		
Wadi Zabin	opx		56.92	0.02	1.88	0.75	5.37	0.14	0.09	34.07	1.44	0.02	0.00	100.69	0.919		
0422.0 / 2714.2	cpx		–	–	–	–	–	–	–	–	–	–	–	–			
	spinel		0.04	0.06	23.52	44.60	19.82	0.22	0.08	12.83	0.01	0.01	0.00	101.18	0.584	0.560	0.021
04122503	olivine		41.61	0.01	0.00	0.01	9.02	0.10	0.35	50.36	0.02	0.00	0.00	101.48	0.909		
Wadi Zabin	opx		57.67	0.02	1.93	0.61	5.95	0.16	0.08	34.53	0.81	0.00	0.00	101.75	0.912		
0422.2 / 2713.6	cpx		54.56	0.02	2.15	0.87	2.33	0.08	0.03	18.15	23.02	0.16	0.00	101.37	0.933		
	spinel		0.06	0.02	25.36	41.16	21.78	0.22	0.11	12.51	0.01	0.00	0.00	101.23	0.567	0.521	0.028

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
04122504	olivine		41.70	0.00	0.00	0.01	8.93	0.12	0.40	50.53	0.02	0.00	0.00	101.71	0.910		
Wadi Zabin	opx		57.28	0.02	2.00	0.65	5.51	0.08	0.13	34.39	1.06	0.00	0.00	101.12	0.918		
0422.5 / 2714.6	cpx		54.50	0.04	1.95	0.67	1.92	0.06	0.04	17.67	24.20	0.01	0.00	101.06	0.942		
	spinel		0.06	0.05	24.17	43.27	20.91	0.22	0.11	13.02	0.01	0.00	0.00	101.83	0.588	0.546	0.027
04122505	olivine		41.59	0.01	0.01	0.00	8.62	0.10	0.39	50.79	0.02	0.00	0.00	101.54	0.913		
Wadi Zabin	opx		58.06	0.03	1.55	0.56	5.71	0.15	0.07	34.22	0.86	0.01	0.00	101.22	0.914		
0422.7 / 2715.1	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.06	0.03	20.61	46.19	21.92	0.25	0.08	11.47	0.00	0.01	0.00	100.63	0.536	0.601	0.026
04122506	olivine		40.36	0.01	0.00	0.02	8.66	0.12	0.41	49.36	0.01	0.00	0.00	98.94	0.910		
Wadi Zabin	opx		58.13	0.02	1.56	0.49	5.78	0.09	0.10	34.07	1.08	0.00	0.00	101.33	0.913		
0423.2 / 2714.9	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.02	0.05	20.89	44.79	23.53	0.27	0.08	10.86	0.01	0.00	0.00	100.51	0.510	0.590	0.030
04122601	olivine		41.87	0.00	0.00	0.03	8.77	0.11	0.40	51.31	0.03	0.00	0.00	102.51	0.912		
Wadi Zabin	opx		58.57	0.01	1.15	0.50	5.83	0.09	0.10	34.62	0.81	0.01	0.00	101.70	0.914		
0424.5 / 2714.9	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.03	0.04	15.40	50.75	23.77	0.32	0.08	10.63	0.01	0.00	0.00	101.03	0.511	0.689	0.035
04122602	olivine		41.87	0.01	0.00	0.01	8.59	0.10	0.34	51.65	0.01	0.00	0.00	102.59	0.915		
Wadi Zabin	opx		57.44	0.01	1.88	0.65	5.67	0.11	0.07	34.97	0.71	0.00	0.00	101.51	0.917		
0424.1 / 2714.6	cpx		54.38	0.04	2.10	0.84	2.16	0.06	0.04	17.80	23.94	0.17	0.00	101.53	0.936		
	spinel		0.01	0.04	23.42	43.77	21.26	0.25	0.12	12.79	0.00	0.01	0.00	101.66	0.583	0.556	0.029
04122603	olivine		41.75	0.01	0.01	0.01	9.04	0.12	0.39	50.79	0.03	0.01	0.00	102.15	0.909		
Wadi Zabin	opx		57.95	0.01	1.85	0.69	5.84	0.12	0.08	34.05	0.80	0.00	0.00	101.39	0.912		
0423.9 / 2714.1	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.02	0.04	21.18	45.00	22.18	0.24	0.10	12.11	0.01	0.02	0.00	100.90	0.562	0.588	0.032
04122604	olivine		41.02	0.02	0.00	0.02	8.90	0.16	0.38	50.10	0.03	0.00	0.00	100.63	0.909		
Wadi Zabin	opx		58.02	0.02	1.62	0.58	5.92	0.12	0.08	34.25	0.79	0.01	0.00	101.42	0.912		
0425.1 / 2714.8	cpx		54.38	0.03	2.01	0.91	2.40	0.06	0.04	17.49	23.36	0.26	0.00	100.94	0.929		
	spinel		0.03	0.02	19.82	46.25	23.68	0.26	0.07	11.11	0.00	0.00	0.00	101.24	0.520	0.610	0.033
04122605	olivine		41.68	0.01	0.00	0.01	9.20	0.12	0.38	50.32	0.02	0.00	0.00	101.73	0.907		
Wadi Zabin	opx		—	—	—	—	—	—	—	—	—	—	—	—	—		
0425.0 / 2714.4	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.02	0.03	22.26	43.05	23.80	0.28	0.11	11.79	0.00	0.00	0.00	101.36	0.545	0.565	0.038
04122606	olivine		41.78	0.00	0.01	0.02	9.20	0.10	0.41	50.98	0.01	0.00	0.00	102.51	0.908		
Wadi Zabin	opx		58.04	0.01	1.89	0.68	5.57	0.15	0.07	34.24	0.69	0.01	0.00	101.34	0.916		
0425.0 / 2713.6	cpx		54.26	0.03	2.13	0.86	2.23	0.07	0.05	17.69	24.20	0.11	0.00	101.64	0.934		
	spinel		0.02	0.04	22.93	43.00	23.27	0.24	0.13	12.13	0.01	0.00	0.00	101.78	0.555	0.557	0.036

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
04123001	olivine		41.73	0.00	0.00	0.00	8.71	0.11	0.34	50.76	0.01	0.00	0.00	101.68	0.912		
Wadi Rajmi	opx		57.54	0.01	1.54	0.55	5.59	0.14	0.08	34.75	0.81	0.00	0.00	101.02	0.917		
0421.44 / 2721.33	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.05	0.05	20.83	47.84	19.81	0.26	0.06	12.06	0.02	0.01	0.00	100.97	0.559	0.606	0.017
04123004	olivine		41.78	0.00	0.00	0.05	8.50	0.13	0.34	51.05	0.02	0.00	0.00	101.87	0.915		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—	—		
0421.41 / 2721.26	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.05	0.17	13.85	53.05	23.42	0.30	0.04	10.37	0.01	0.00	0.00	101.26	0.499	0.720	0.030
04123005	olivine		41.92	0.00	0.00	0.01	8.50	0.10	0.37	50.70	0.02	0.00	0.00	101.62	0.914		
Wadi Rajmi	opx		57.96	0.01	1.52	0.61	5.58	0.12	0.06	34.86	0.79	0.01	0.00	101.53	0.918		
0421.14 / 2721.18	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.04	0.07	18.42	49.86	20.01	0.26	0.08	11.96	0.01	0.01	0.00	100.71	0.562	0.645	0.020
04123006	olivine		41.87	0.01	0.00	0.02	7.81	0.09	0.34	51.49	0.02	0.00	0.00	101.65	0.922		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—	—		
0421.14 / 2721.18	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.05	0.23	11.90	55.81	21.53	0.34	0.05	11.00	0.00	0.02	0.00	100.93	0.532	0.759	0.027
04123007	olivine		41.73	0.00	0.02	0.04	8.30	0.10	0.40	50.69	0.01	0.00	0.00	101.29	0.916		
Wadi Rajmi	opx		57.42	0.02	2.01	0.67	5.58	0.13	0.09	34.84	0.53	0.00	0.00	101.28	0.918		
0421.14 / 2721.18	cpx		53.75	0.05	2.30	0.98	1.73	0.07	0.06	17.55	23.13	0.09	0.00	99.71	0.948		
	spinel		0.05	0.07	23.42	44.78	19.47	0.24	0.06	12.98	0.00	0.00	0.00	101.08	0.591	0.562	0.020
04123008	olivine		42.26	0.01	0.00	0.00	8.02	0.11	0.31	51.45	0.04	0.00	0.00	102.19	0.920		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—	—		
0421.14 / 2721.18	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.03	0.15	12.22	51.54	24.26	0.34	0.05	10.70	0.02	0.00	0.00	99.33	0.530	0.745	0.048
04123009	olivine		42.07	0.01	0.00	0.01	8.54	0.11	0.34	51.26	0.01	0.00	0.00	102.35	0.915		
Wadi Rajmi	opx		58.31	0.01	0.98	0.51	5.47	0.12	0.10	34.90	1.25	0.01	0.00	101.67	0.919		
0421.46 / 2721.55	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.03	0.06	15.30	55.13	19.86	0.31	0.03	11.10	0.01	0.01	0.00	101.83	0.526	0.707	0.012
04123010	olivine		41.75	0.01	0.00	0.02	7.90	0.11	0.39	51.74	0.06	0.00	0.00	101.99	0.921		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—	—		
0421.46 / 2721.55	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.03	0.18	13.35	52.78	24.52	0.27	0.11	10.89	0.00	0.00	0.00	102.12	0.520	0.726	0.041
04123011	olivine		41.94	0.00	0.01	0.01	8.48	0.11	0.43	51.35	0.02	0.01	0.00	102.33	0.915		
Wadi Rajmi	opx		57.63	0.01	1.68	0.56	5.42	0.10	0.09	35.07	0.90	0.01	0.00	101.46	0.920		
0421.57 / 2721.43	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.05	0.04	20.27	48.23	20.23	0.25	0.07	12.37	0.00	0.01	0.00	101.51	0.571	0.615	0.022

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
UTM coordinate ^a																	
04123012	olivine		41.73	0.00	0.00	0.03	8.42	0.12	0.35	51.35	0.04	0.00	0.00	102.04	0.916		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—			
0421.57 / 2721.43	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.21	14.86	49.99	25.30	0.30	0.11	10.68	0.04	0.00	0.00	101.52	0.510	0.693	0.044
04123013	olivine		41.88	0.01	0.00	0.03	8.01	0.10	0.37	51.57	0.06	0.00	0.00	102.04	0.920		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—			
0421.42 / 2721.50	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.22	11.76	52.31	26.39	0.32	0.06	10.05	0.02	0.00	0.00	101.16	0.490	0.749	0.050
04123014	olivine		41.85	0.02	0.00	0.00	8.43	0.08	0.36	50.87	0.01	0.00	0.00	101.62	0.915		
Wadi Rajmi	opx		57.07	0.01	1.05	0.47	5.56	0.13	0.07	34.77	1.39	0.00	0.00	100.53	0.918		
0421.42 / 2721.50	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.03	15.40	53.22	21.39	0.31	0.05	10.68	0.01	0.01	0.00	101.13	0.511	0.699	0.020
04123015	olivine		40.25	0.01	0.00	0.00	8.48	0.10	0.38	50.30	0.02	0.00	0.00	99.55	0.914		
Wadi Rajmi	opx		57.77	0.01	1.39	0.58	5.56	0.12	0.06	35.04	0.50	0.00	0.00	101.03	0.918		
0421.16 / 2721.70	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.06	18.41	50.06	21.04	0.28	0.06	11.28	0.00	0.01	0.00	101.22	0.531	0.646	0.020
04123016	olivine		41.92	0.00	0.00	0.03	8.33	0.11	0.35	51.54	0.04	0.00	0.00	102.32	0.917		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—			
0421.16 / 2721.70	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.04	0.21	12.95	51.98	25.57	0.36	0.07	10.24	0.01	0.00	0.00	101.44	0.495	0.729	0.044
04123018	olivine		42.14	0.01	0.00	0.01	8.73	0.08	0.42	51.42	0.02	0.00	0.00	102.84	0.913		
Wadi Rajmi	opx		57.84	0.01	1.89	0.66	5.46	0.10	0.06	34.75	0.67	0.01	0.00	101.46	0.919		
0420.97 / 2721.60	cpx		54.09	0.04	2.24	1.13	1.92	0.07	0.03	17.60	24.41	0.11	0.00	101.64	0.942		
	spinel		0.04	0.06	23.17	46.14	19.44	0.23	0.08	12.75	0.01	0.01	0.00	101.92	0.578	0.572	0.017
04123019	olivine		41.23	0.01	0.00	0.01	8.71	0.14	0.36	50.35	0.02	0.00	0.00	100.82	0.912		
Wadi Rajmi	opx		57.38	0.01	1.20	0.55	5.95	0.14	0.09	35.00	0.52	0.01	0.00	100.85	0.913		
0420.97 / 2721.60	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.03	0.07	16.96	51.68	21.63	0.31	0.09	11.01	0.01	0.00	0.00	101.80	0.520	0.671	0.021
04123020	olivine		42.01	0.00	0.00	0.01	8.58	0.09	0.36	50.79	0.02	0.01	0.00	101.87	0.913		
Wadi Rajmi	opx		57.76	0.01	1.41	0.55	5.52	0.10	0.09	34.89	0.87	0.00	0.00	101.20	0.919		
0421.14 / 2721.53	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.04	0.03	18.83	50.40	20.47	0.24	0.09	11.92	0.00	0.01	0.00	102.05	0.553	0.642	0.020
04123021	olivine		41.99	0.00	0.00	0.03	8.41	0.13	0.33	51.29	0.02	0.00	0.00	102.20	0.916		
Wadi Rajmi	opx		—	—	—	—	—	—	—	—	—	—	—	—			
0421.14 / 2721.53	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.04	0.13	13.37	54.47	22.70	0.35	0.07	10.14	0.02	0.01	0.00	101.31	0.491	0.732	0.025

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^T ^b	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
05010401	olivine		42.11	0.00	0.00	0.01	8.99	0.10	0.37	51.23	0.02	0.00	0.00	102.84	0.910		
Rayy	opx		57.36	0.02	1.95	0.59	5.72	0.13	0.09	34.48	1.15	0.00	0.00	101.51	0.915		
0412.92 / 2726.00	cpx		54.85	0.04	2.09	0.83	2.06	0.05	0.04	17.60	24.18	0.02	0.00	101.75	0.938		
	spinel		0.01	0.08	21.60	46.10	21.24	0.25	0.11	12.16	0.01	0.01	0.00	101.58	0.560	0.589	0.025
05010403	olivine		41.99	0.01	0.00	0.00	8.75	0.12	0.36	50.68	0.02	0.00	0.00	101.94	0.912		
Rayy	opx		57.81	0.03	1.55	0.50	5.88	0.12	0.08	35.28	0.84	0.00	0.00	102.09	0.915		
0413.61 / 2725.59	cpx		55.14	0.06	1.70	0.74	2.06	0.08	0.03	17.87	24.06	0.04	0.00	101.77	0.939		
	spinel		0.08	0.13	19.84	47.33	22.13	0.27	0.11	11.64	0.01	0.01	0.00	101.54	0.540	0.615	0.027
05010405	olivine		42.06	0.01	0.00	0.01	8.64	0.12	0.39	51.25	0.02	0.00	0.00	102.50	0.914		
Rayy	opx		58.24	0.02	1.34	0.48	5.54	0.11	0.11	34.41	1.27	0.00	0.00	101.53	0.917		
0414.21 / 2725.00	cpx		55.03	0.01	1.38	0.67	2.09	0.04	0.05	18.06	23.97	0.01	0.00	101.31	0.939		
	spinel		0.03	0.03	17.89	49.31	22.02	0.28	0.05	11.27	0.01	0.01	0.00	100.91	0.533	0.649	0.027
05010501	olivine		42.10	0.01	0.01	0.02	9.05	0.12	0.40	51.00	0.01	0.00	0.00	102.73	0.909		
Rayy	opx		57.33	0.01	2.12	0.67	5.53	0.14	0.08	33.64	2.31	0.00	0.00	101.83	0.916		
0416.5 / 2721.5	cpx		54.73	0.03	2.10	0.90	2.02	0.04	0.05	17.47	24.35	0.02	0.00	101.71	0.939		
	spinel		0.02	0.04	26.12	42.81	18.50	0.21	0.10	13.23	0.00	0.01	0.00	101.03	0.596	0.524	0.014
05010506	olivine		41.71	0.01	0.00	0.00	9.00	0.10	0.41	50.84	0.02	0.00	0.00	102.10	0.910		
Rayy	opx		57.64	0.01	2.56	0.68	6.00	0.10	0.10	33.95	0.65	0.00	0.00	101.70	0.910		
0415.49 / 2721.61	cpx		54.12	0.07	2.12	0.67	2.17	0.07	0.09	17.39	24.21	0.02	0.01	100.94	0.935		
	spinel		0.02	0.05	31.35	37.60	17.00	0.19	0.15	14.80	0.00	0.01	0.00	101.17	0.646	0.446	0.014
05010509	olivine		40.65	0.00	0.00	0.02	9.37	0.14	0.40	49.89	0.02	0.00	0.00	100.49	0.905		
Rayy	opx		58.02	0.00	2.13	0.63	6.02	0.11	0.09	34.01	0.68	0.00	0.00	101.68	0.910		
0413.07 / 2722.06	cpx		54.56	0.03	2.24	0.76	2.09	0.07	0.04	17.28	24.41	0.01	0.00	101.49	0.936		
	spinel		0.01	0.07	27.59	40.62	19.43	0.24	0.09	13.26	0.00	0.01	0.00	101.32	0.593	0.497	0.018
05010511	olivine		—	—	—	—	—	—	—	—	—	—	—	—	—		
Rayy	opx		58.45	0.00	1.33	0.53	5.89	0.12	0.07	34.47	0.70	0.01	0.00	101.57	0.913		
0412.03 / 2723.87	cpx		55.47	0.02	1.22	0.52	2.00	0.06	0.02	17.98	24.20	0.03	0.01	101.51	0.941		
	spinel		0.00	0.08	16.87	52.22	21.18	0.26	0.06	11.03	0.00	0.00	0.00	101.71	0.520	0.675	0.018
05010513	olivine		41.58	0.01	0.00	0.03	8.86	0.12	0.36	50.73	0.01	0.00	0.00	101.70	0.911		
Rayy	opx		58.46	0.01	1.44	0.49	5.87	0.09	0.09	34.17	1.06	0.00	0.00	101.69	0.912		
0411.64 / 2724.01	cpx		54.58	0.04	1.82	0.91	2.09	0.09	0.04	17.42	23.96	0.06	0.00	101.01	0.937		
	spinel		0.02	0.08	19.98	48.77	20.20	0.24	0.04	11.53	0.00	0.00	0.00	100.87	0.538	0.621	0.015
05010515	olivine		41.75	0.00	0.00	0.01	8.61	0.12	0.37	50.72	0.00	0.00	0.00	101.60	0.913		
Rayy	opx		58.70	0.02	1.01	0.34	5.82	0.12	0.09	34.72	0.72	0.01	0.00	101.55	0.914		
0411.48 / 2724.51	cpx		—	—	—	—	—	—	—	—	—	—	—	—	—		
	spinel		0.03	0.07	16.12	51.24	22.40	0.28	0.05	10.05	0.01	0.00	0.00	100.26	0.485	0.681	0.021

Appendix 1. Continued

Reference No.	Mineral	Mode (wt%)	SiO ₂	TiO ₂	Al ₂ O ₃	Cr ₂ O ₃	FeO ^{T b}	MnO	NiO	MgO	CaO	Na ₂ O	K ₂ O	Total	Mg# ^{c, d}	Cr# ^d	Fe ³⁺ # ^d
05010517	olivine		41.47	0.01	0.01	0.01	8.63	0.09	0.37	50.91	0.02	0.00	0.00	101.52	0.913		
Rayy	opx		57.14	0.03	1.87	0.61	5.82	0.12	0.09	33.75	1.13	0.01	0.00	100.56	0.912		
0410.48 / 2724.60	cpx		53.69	0.06	1.58	0.51	2.10	0.08	0.09	17.72	23.84	0.02	0.00	99.68	0.938		
	spinel		0.01	0.09	22.75	46.39	18.77	0.24	0.09	13.04	0.00	0.01	0.00	101.39	0.594	0.578	0.017
05010519	olivine		41.73	0.01	0.00	0.00	8.70	0.12	0.38	50.94	0.01	0.00	0.00	101.90	0.913		
Rayy	opx		58.64	0.01	0.71	0.36	5.69	0.11	0.12	34.52	0.91	0.00	0.00	101.07	0.915		
0410.34 / 2724.96	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.02	0.07	12.08	55.21	23.32	0.30	0.05	9.08	0.01	0.00	0.00	100.15	0.450	0.754	0.022
05010601	olivine		41.08	0.00	0.00	0.01	8.78	0.13	0.41	50.23	0.01	0.00	0.00	100.66	0.911		
Wadi Shuwayhah	opx		58.70	0.02	1.01	0.49	5.75	0.11	0.08	34.37	0.86	0.00	0.00	101.39	0.914		
0411.96 / 2720.83	cpx		55.77	0.03	0.98	0.52	1.89	0.02	0.00	17.92	24.20	0.06	0.00	101.40	0.944		
	spinel		0.01	0.08	14.86	52.32	21.82	0.34	0.05	10.23	0.01	0.02	0.00	99.74	0.499	0.702	0.022
05010603	olivine		41.51	0.02	0.02	0.02	8.48	0.10	0.39	50.71	0.02	0.00	0.00	101.26	0.914		
Wadi Shuwayhah	opx		58.48	0.02	1.34	0.51	5.58	0.12	0.09	34.29	1.11	0.02	0.00	101.55	0.916		
0408.60 / 2721.00	cpx		55.21	0.03	1.67	0.95	1.83	0.06	0.07	17.47	24.20	0.21	0.00	101.70	0.944		
	spinel		0.03	0.06	19.29	50.13	18.90	0.24	0.08	12.06	0.01	0.00	0.00	100.81	0.564	0.635	0.013
05010605	olivine		41.32	0.01	0.00	0.01	8.77	0.11	0.40	50.37	0.02	0.00	0.00	101.02	0.911		
Wadi Shuwayhah	opx		57.04	0.04	2.70	0.67	5.86	0.13	0.08	32.98	1.18	0.00	0.00	100.68	0.909		
0407.9 / 2720.6	cpx		53.53	0.08	3.35	1.15	2.17	0.08	0.04	16.89	23.77	0.04	0.00	101.10	0.932		
	spinel		0.02	0.08	32.06	36.64	16.79	0.17	0.15	15.14	0.01	0.00	0.00	101.06	0.658	0.434	0.015
05010606	olivine		41.27	0.01	0.01	0.02	8.76	0.13	0.36	50.37	0.00	0.00	0.00	100.93	0.911		
Wadi Shuwayhah	opx		57.34	0.02	2.45	0.65	5.81	0.12	0.09	33.41	1.07	0.00	0.00	100.96	0.911		
0408.2 / 2721.7	cpx		53.65	0.05	2.72	1.00	1.99	0.07	0.05	17.01	24.00	0.01	0.00	100.55	0.938		
	spinel		0.02	0.04	29.67	38.54	17.34	0.20	0.10	14.30	0.01	0.00	0.00	100.22	0.635	0.466	0.015
05010608	olivine		41.80	0.01	0.00	0.00	8.47	0.11	0.39	51.07	0.02	0.00	0.00	101.86	0.915		
Wadi Shuwayhah	opx		58.58	0.01	1.50	0.56	5.41	0.14	0.09	34.60	0.66	0.01	0.00	101.56	0.919		
0409.56 / 2722.24	cpx		—	—	—	—	—	—	—	—	—	—	—	—			
	spinel		0.01	0.07	21.33	47.10	19.03	0.25	0.09	12.43	0.01	0.01	0.00	100.31	0.577	0.597	0.017