APPENDIX 1

Representative chemical analyses and structural formulae ($O^2 = 4$) of olivine from the Popiel Hill

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
	2701	2701	2701	2702	2702	2703	2703	2703	2704	2704	2704	AK3201	AK3201	AK3201	AK3202	AK3202	AK3202	AK3205	AK3205	AK3207	AK3207	AK3207	AK3210	AK3210	AK3211	AK3211	AK3211	AK3212	AK3212	AK3212	AK3214	AK3214	AK3214
SiO_2	40.89	41.01	40.57	39.89	40.15	40.51	39.74	40.12	40.45	40.06	40.21	40.39	40.44	40.96	40.32	40.51	40.61	39.99	40.16	40.04	40.38	40.09	40.09	40.47	40.04	39.81	38.37	40.15	39.97	40.12	40.58	40.57	40.36
TiO_2	0.01	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.03	0.00	0.05	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.03
Al_2O_3	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.00	0.00	2.33	0.04	0.01	0.00	0.00	0.00	0.00
Cr_2O_3	0.05	0.04	0.03	0.03	0.03	0.02	0.00	0.00	0.00	0.03	0.00	0.08	0.01	0.03	0.01	0.01	0.04	0.02	0.01	0.03	0.02	0.00	0.00	0.01	0.00	0.02	0.04	0.00	0.05	0.00	0.04	0.08	0.05
FeO[1)]	11.69	10.87	11.69	14.05	14.07	13.68	14.02	14.32	13.08	12.70	12.96	12.36	12.61	11.21	12.19	10.97	11.65	13.68	13.52	14.09	13.79	14.38	13.35	12.60	13.82	13.84	13.91	13.91	14.85	14.77	13.07	12.44	13.23
MnO	0.23	0.34	0.27	0.31	0.29	0.31	0.23	0.30	0.29	0.27	0.25	0.27	0.28	0.22	0.24	0.23	0.28	0.27	0.29	0.32	0.29	0.32	0.29	0.21	0.29	0.31	0.30	0.25	0.26	0.24	0.23	0.26	0.25
NiO	0.31	0.33	0.23	0.30	0.36	0.34	0.29	0.18	0.17	0.31	0.27	0.25	0.33	0.14	0.31	0.25	0.26	0.32	0.27	0.32	0.35	0.28	0.27	0.30	0.25	0.34	0.29	0.30	0.29	0.26	0.33	0.27	0.26
MgO	47.54	47.68	47.82	45.53	45.64	44.84	45.43	44.94	46.67	46.62	46.72	46.80	46.79	46.99	46.91	47.52	47.60	45.48	45.31	45.29	45.57	44.98	45.65	46.55	45.80	46.12	44.14	45.64	44.54	44.95	46.28	47.05	46.26
CaO	0.00	0.00	0.01	0.07	0.05	0.01	0.00	0.03	0.00	0.01	0.03	0.03	0.00	0.47	0.00	0.02	0.02	0.04	0.04	0.04	0.01	0.04	0.01	0.05	0.00	0.01	0.07	0.03	0.01	0.06	0.01	0.00	0.00
sum	100.71	100.29	100.63	100.21	100.61	99.71	99.72	99.89	100.65	99.99	100.45	100.20	100.46	100.09	99.98	99.51	100.47	99.79	99.60	100.13	100.42	100.14	99.68	100.25	100.21	100.45	99.46	100.32	99.99	100.41	100.53	100.69	100.44
Si	1.00	1.01	1.00	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe	0.24	0.22	0.24	0.29	0.29	0.29	0.29	0.30	0.27	0.26	0.27	0.26	0.25	0.23	0.25	0.23	0.24	0.29	0.28	0.29	0.29	0.30	0.28	0.26	0.29	0.29	0.29	0.29	0.31	0.31	0.27	0.26	0.27
Mn	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Ni	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Mg	1.74	1.75	1.75	1.70	1.69	1.67	1.70	1.68	1.72	1.73	1.73	1.73	1.73	1.73	1.74	1.75	1.75	1.70	1.69	1.69	1.69	1.68	1.70	1.72	1.70	1.71	1.66	1.70	1.67	1.67	1.71	1.73	1.71
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
%Fo	87.67	88.34	87.69	85.17	85.20	85.10	85.04	84.56	86.16	86.74	86.51	86.85	86.95	87.99	87.06	88.32	87.67	85.32	85.40	84.85	85.22	84.50	85.64	86.63	85.26	85.29	84.69	85.17	84.01	84.22	86.12	86.84	85.95

[1)]– total Fe as FeO; 1, 2 – central part of large, fractured grain occurring in olivine-orthopyroxene aggregate (red points 1 and 2 in Fig. 3A); 3 – 180 μm grain; 4 – 80 μm grain (red point 4 – Fig. 3B) in amphibole matrix; 5 – 45 μm grain (red point 5 in Fig. 3B) in amphibole matrix; 6 – 1 mm grain, margin of olivine-orthopyroxene aggregate; 7 – fractured grain (200 μm, red point 7 in Fig. 4B); 8 – crushed grain (ca. 350 μm) inside orthopyroxene-amphibole aggregate; 9 – 700 μm grain with orthopyroxene intergrowths; 10 – 200 μm crushed grain with amphibole intergrowth; 11 – 75 μm grain with amphibole intergrowths; 12 – small grain (25 μm) in amphibole-olivine-spinel aggregate; 13 – 75 μm, subhedral grain in olivine-orthopyroxene-amphibole aggregate; 14 – 80 μm grain at the contact with amphibole; 15 – fractured grain (100 μm) in serpentine matrix; 16 – small, rounded grain (15 μm) in serpentine matrix; 17 – 30 μm grain embedded in serpentine matrix; 18 – 70 μm grain, margin of olivine-orthopyroxene-amphibole aggregate; 19 – central part of large grain with orthopyroxene intergrowths; 20 – 40 μm fragment of fractured grain; 21 – 40 μm grain in olivine-orthopyroxene aggregate inside amphibole matrix; 22 – 50 μm grain in olivine-orthopyroxene-amphibole aggregate; 23 – 60 μm grain, marginal part of olivine-amphibole aggregate; 24 - 50 μm grain in olivine-amphibole aggregate; 25, 26, 27 – 100 μm grain (red points 25, 26, 27 in Fig. 4D); 28 – fragment (60 μm) of fractured grain; 29 – fragment (40 μm) of fractured grain; 30 – 60 μm grain in contact with amphibole (red point 30 in Fig. 4A); 31 – 45 μm grain in contact with orthopyroxene; 32 – 70 μm grain in serpentine matrix; 33 – marginal fragment of fractured grain