Table S4. Contents of major (wt.%) elements in amphiboles of the granitoids of the Burgali and Arga-Ynnakh-Khaya ore fields

Massif	Levo-Dzholokag									Burgali	Verkhne-Burgali	Western Arga-Ynnakh-Khaya			Kester harpolith		
Rock	diorite		granodiorite				granite			leuco-granite	microcline-albite granite	granite-porphyre		granite	microcline-albite granite		ongonite
	Fe-hornblende						tschermakite			Fe-gedrite	gedrite	magnezio-gastinsite	Mg-hornblende		magnezio-gastinsite	tschermakite	gedrite
Sample	602/2		602/1				2005			603/2	2003	K6		K13	K14		K21
SiO_2	49.67	49.37	48.70	48.97	49.93	48.73	47.37	43.92	44.95	36.08	43.97	42.59	46.47	47.97	43.30	44.15	46.40
TiO_2	0.55	0.54	0.60	0.66	0.35	0.79	0.98	1.62	1.58	2.39	0.02	3.65	2.49	0.36	3.53	3.52	0
Al_2O_3	5.74	5.66	5.85	5.55	4.93	5.95	7.37	10.24	10.45	19.12	22.69	9.08	4.90	9.15	8.13	8.88	23.98
Fe_2O_3	2.28	2.30	3.20	2.85	1.75	3.52	3.08	6.99	6.43	5.03	0.46	3.57	8.69	10.17	6.95	10.17	0
FeO	19.75	20.47	19.92	20.61	21.13	17.81	17.35	10.48	10.63	23.72	9.18	11.56	11.22	4.16	12.28	6.73	5.02
MnO	0.60	0.64	0.51	0.45	0.55	0.54	0.52	0.26	0.32	0.18	0.15	0.29	0.32	0.47	0.30	0.33	0.05
MgO	9.28	8.74	8.63	8.36	8.91	9.58	8.88	12.17	12.10	8.60	18.45	13.22	12.92	14.50	10.90	13.35	0.72
CaO	9.66	10.10	10.24	10.41	10.19	10.66	11.15	10.44	10.37	0.32	3.95	11.87	11.90	10.91	10.33	10.28	17.31
Na_2O	1.17	1.04	1.18	1.12	0.75	1.27	1.19	2.37	2.41	0	0.02	2.83	1.23	1.74	2.79	2.46	2.99
K_2O	0.57	0.62	0.54	0.55	0.36	0.62	0.72	0.33	0.30	1.39	0	0.74	0.40	0.12	0.33	0.84	0.12
H_2O	1.84	1.81	1.83	1.79	1.81	1.81	1.84	1.92	1.9	1.92	2.21	1.90	1.90	1.95	1.87	1.95	1.99
F	0.12	0.13	0.15	0.21	0.18	0.1	0.11	0.02	0.03	-	-	-	-	-	-	-	-
Total	101.23	101.43	101.34	101.53	100.85	101.42	100.56	100.75	101.47	98.75	101.21	101.30	99.59	98.59	100.71	99.67	96.59
Si	7.22	7.22	7.16	7.21	7.44	7.15	7.05	6.37	6.46	5.56	5.96	6.27	6.74	6.76	6.43	6.33	6.58
Al^{4+}	0.78	0.78	0.84	0.79	0.56	0.85	0.95	1.63	1.54	2.44	2.04	1.57	0.84	1.24	1.42	1.5	1.42
Al^{6+}	0.20	0.20	0.17	0.18	0.30	0.18	0.35	0.12	0.23	1.03	1.58	0	0	0.28	0	0.	2.60
Ti	0.06	0.06	0.07	0.07	0.04	0.09	0.11	0.18	0.17	0.28	0	0.40	0.27	0.04	0.39	0.2	0
Fe^{3+}	0.25	0.26	0.36	0.32	0.20	0.39	0.35	0.77	070	0.58	0.05	0.40	0.95	1.08	0.78	1.10	0
Fe^{2+}	2.44	2.54	2.48	2.56	2.63	2.20	2.16	1.28	1.29	3.05	1.05	1.42	1.36	0.49	1.52	0.81	0.60
Mn	0.07	0.08	0.06	0.06	0.07	0.07	0.07	0.03	0.04	0.02	0.02	0.04	0.04	0.06	0.04	0.04	0.01
Mg	2.01	1.91	1.89	1.84	1.98	2.09	1.97	2.63	2.59	1.97	3.73	2.90	2.79	3.05	2.41	2.85	015
Ca	1.50	1.58	1.61	1.64	1.63	1.67	1.78	1.62	1.60	0.05	0.57	1.87	1.85	1.65	1.64	1.58	2.00
Na	0.33	0.29	0.34	0.32	0.22	0.36	0.34	0.67	0.67	0	0.01	0.81	0.35	0.48	0.80	0.68	0.82
K	0.11	0.12	0.10	0.10	007	0.12	0.14	0.06	0.05	0.27	-	0.14	0.07	0.02	0.05	0.15	0.02
F	0.06	0.06	0.07	0.10	0.08	0.07	0.05	0.01	0.01	-	-	-	-	-	-	-	-
O=Fl	0.05	-	0.06	0.09	0.08	0.06	0.05	0.01	0.01	-	-	-	-	-	-	-	-
Fe/(Fe+Mg)	57.2	59.4	70.0	61.0	58.8	55.3	56.0	43.8	43.4	64.8	21.9	38.6	45.0	50.7	48.8	38.8	87.4
P, kb	1	1	1.2	0.9	2.2	1.2	2.6	4.9	5.0	-	-	4.5	6.5	4.2	3.8	16.6	-
T°C	852	853	850	854	696	849	828	792	790	-	-	921	930	824	902	933	-
Log f O_2	-15.5	-	-	-	-16	-15.5	-	-11.6	-11.8	-	-	-10	-10.2	-11.7	-11.7	-10.3	-

H_2O in melt %	5.9	-	-	-	6.4	5.9	-	6.3	6.8	-	-	3.5	4.7	-	4.9	3.8	-	

Notes: the analyses were performed by L.A. Pavlova and S.P. Roev at DPMGI SB RAS using the Camebax-micro x-ray microanalyzer. Calculation of crystallization parameters by [1].

1. Rudolfi, R.; Renzolli, A. Calcic amphiboles in calc-alkaline and alkaline magmas: Thermobarometric and chemometric empirical equations valid up to 1130 °C and 2.2 Gpa. *Contributions to Mineralogy and Petrology* **2012**, *163*, 877–895, doi: 10.1007/s00410-011-0704-6.