Table S3. Contents of major (wt.%) elements in the magmatic rocks of the Omchikandya ore field

Sample	Rock	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O^-	H_2O^+	F	Li_2O	Rb_2O	Cs_2O	S	Total	f%	T°C	P, kb
Granites of the Omchikandya massif																							
2980	granodiorite	67.90	0.37	14.70	0.69	4.45	0.06	0.76	2.29	3.24	3.58	0.12	0.16	1.15	0.10	0.0135	0.018	0.002	0.09	99.53	83	901	8.1
1564	granite	68.59	0.53	15.42	0.28	3.67	0.07	1.09	2.62	3.86	3.79	0.14	0.14	-	0.07	-	-	-	0.09	100.13	76.7	916	8.9
2982	"	68.70	0.39	15.00	0.62	3.02	0.07	0.90	2.58	3.49	3.65	0.11	0.10	1.29	0.16	0.0142	0.017	0.002	0.15	99.16	79.9	892	8.2
1108	"	69.10	0.26	15.50	0.09	2.80	0.04	0.59	2.16	3.24	4.32	0.14	0.26	0.62	0.04	0.014	0.024	0	0	99.36	83	849	8.8
1108/1	"	69.20	0.47	15.40	1.96	1.50	0.04	0.58	0.13	2.66	4.72	0.14	-	3.85	0.05	00158	0.025	0.015	-	100.76	84.9	907	8.7
58b	"	69.82	0.37	14.18	0.63	2.12	0.08	1.00	2.94	3.24	3.62	0.16	-	-	0.08	-	-	-	0.62	98.24	72.9	892	6.8
346	"	70.00	0.49	16.70	0.15	2.05	0.05	0.63	0.33	2.68	4.53	0.14	-	4.08	0.04	0.0131	0.025	0.0138	0	101.92	77.6	903	9.7
90*	"	70.14	0.39	14.95	0.84	2.92	0.04	0.86	2.23	3.20	4.08	0.12	-	-	0.21	0.014	0.020	0	0	100.01	62.3	892	7.7
10*	"	71.02	0.30	14.57	0.91	2.85	0.03	0.64	2.37	3.14	3.92	0.09	-	-	0.17	0.009	0.013	0	0	100.03	85.1	871	6.8
P7/4	"	71.14	0.26	13.26	0.31	3.66	0.04	0.66	2.33	3.01	3.80	0	-	0.62	0.13	0.005	0.1	0.01	0	99.39	87.6	861	5.3
471	"	71.50	0.44	14.80	0.32	3.03	0.07	0.74	2.00	3.23	3.92	0.08	-	0.34	0.08	0.0113	0.0217	0.0144	0	100.60	81.8	904	6.9
89*	"	71.94	0.34	14.45	0.77	1.99	0.03	0.71	2.09	3.21	3.98	0.15	-	0.22	0.19	0.011	0.02	0	0	100.10	74.7	881	6.4
1586	"	73.23	0.32	12.80	0.42	1.75	0.06	0.22	1.62	3.03	4.09	0	0.31	0.59	0.17	0.0072	0.016	-	0.11	99.39	90.6	888	4.1
21*	"	73.41	0.20	14.11	0.60	1.86	0.01	0.49	1.95	3.37	4.00	0.04	-	-	0.15	0.01	0.02	-	0	100.22	83	817	5.5
14	"	70.41	0.37	14.70	0.61	2.69	0.05	0.70	1.97	3.19	4.00	0.12	0.27	1.19	0.12	0.0119	0.0275	0.0095	0.12	100.29	82.2	892	7.8
Leucogranite, aplites, pegmatite																							
P5/3	leucogranite	75.42	0.02	12.23	0.47	0.91	0.04	0.14	0.96	2.58	5.58	0	0.09	0.65	0.07	0.02	0.02	0	0	99.11	90.5	610	3.1
3	"	75.74	0.05	13.29	0.08	1.58	0.01	0.06	0.83	3.23	4.77	0.01		0.10	0.12	0.02	0.0182	0	0	99.91	96.5	807	3.9
171	«	76.25	0.005	11.72	0.20	0.92	0.04	0.14	0.78	2.64	5.23	0.04			0.22	0.0071	0.02	0	0	98.21	96.5	275	2.1
90/1	«	75.98	0.04	13.36	0.01	1.10	0.01	0.05	0.61	2.81	5.25	0.01		0.18	0.09	0.02	0.0182	0.0005	0	99.54	95.7	759	4
44*	micro-pegmatite	75.49	0.03	13.67	0	1.14	0	0.05	1.31	3.36	4.82	0		0.10	0.13	0.008	0.02	0	0	100.13	95.8	686	4.5
43*	"	76.39	0.01	13.46	0.18	0.85	0.01	0.05	0.45	3.14	4.93	0.01	0.30	0.48	0.13		0.0082	0.00047	0	100.10	95.3	403	
12192	aplite	76.15	0.17	12.74	0.09	0.84	0.04	0.15	0	0.36	5.04	0.25	0.27	2.36	0.08	0.0069	0.017		0.12	98.41	86.1	804	2.5
	"																						
Microcline-albite granite of the Polyarnoe deposit																							
37331	granite	69.28	0.08	16.20	0.34	0.83	0.30	0.45	0	2.87	5.60	0.47	0.39	1.78	0.94	0.096	0.05		0.21	99.00	96.3	383	6.6
417	"	71.19	0.01	14.54	0.10	2.24	0.27	0.09	1.07	2.64	3.96	0.02	-	2.38	2.73	0.0113	0.11	0.005	0	101.37	93.8	759	10.5
484	"	72.00	0.01	15.70	0.15	1.15	0.10	0.01	0.23	4.00	4.93	0.03	-	0.97	0.41	0.0538	0.1026	0.0125	0	99.86	99.2	365	8.3
263	"	72.70	0.02	15.45	0.10	1.30	0.10	0.01	0.34	3.95	4.97	0.05	0.05	0.80	0.58	0.1003	0.1037	0.0138	0	100.59	99.3	549	7.8
283	"	72.71	0.01	15.33	0.29	0.89	0.12	0.10	0.59	3.48	3.08	0.01	-	2.32	1.00	0.09	0.08	0.002	0	100.10	92.0	370	6.7
34*	"	73.34	0.05	17.34	0.80	1.28	0.33	0.02	0.45	3.33	2.99	-	-	0.28	2.53	1.46	0.0728	0.0009	-	101.74	99.0	751	
2946	"	73.70	0.01	14.75	0.15	0.72	0.07	0.01	0.25	5.89	3.39	0.02	0.10	0.32	0.43	0.08	0.07	0.002	0	99.86	98.9	380	

Sample	Rock	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	H_2O^-	H_2O^+	F	Li_2O	Rb_2O	Cs_2O	S	Total	f%	T°C	P, kb
Microcline-albite granite of the Polyarnoe deposit																							
13/1*	granite	75.79	0.01	14.20	0.10	1.09	0.06	0.05	0.05	3.72	4.60	0	-	0.30	1.27	-	0.0819	0.009	-	101.33	95.9	389	
14/7*	"	75.98	0.05	13.92	0.04	1.35	0.14	0.05	0.05	4.23	3.05	0	-	1.16	1.15	-	0.0273	0.00047	-	101.20	96.5	798	4.9
258	"	77.00	0.02	13.55	0.10	1.22	0.09	0.04	0.30	2.97	4.50	0.05	0.22	0.52	0.54	0.0755	0.1038	0.0125	-	101.12	97.0	583	3.6
14/9*	albitite	68.20	0.05	19.47	0.13	0.57	0.05	0.05	0.03	8.37	2.63	0	-	0.34	2.01	1.59	0.0291	0	-	100.32	93.2	315	7.0
4037	pegmatite	74.10	0.02	14.50	0.10	2.60	0.08	0.04	0.17	0.30	6.10	0.05	-	2.30	0.36	0.0731	0.105	0.0125	-	100.91	98.5	560	5.6
19/5*	greisenized granite	73.22	0.05	18.44	0.52	3.07	0.79	0.05	0.05	0.34	2.50	0	-	0.87	3.90	-	0.091	0.0018	-	102.25	98.6	327	8.8
19/4*	"	69.69	0.05	20.09	1.55	3.07	1.02	0.05	0.05	0.27	3.16	0	-	0.97	3.70	0.34	0.0819	0.00188	-	102.53	98.9	-	-
371	"	73.50	0.02	14.80	0.10	2.73	0.08	0.03	0.14	0.30	6.20	0.05	-	2.30	0.36	0.0731	0.105	0.0125	-	100.91	98.5	560	-
34/2*	"	72.91	0.05	6.69	0.69	2.94	0.81	0.03	0.05	0.27	3.55	0	-	1.06	2.43	-	0.1456	0.0019	-	101.63	99.2	759	-

Notes: The analyzes were performed at DPMGI SB RAS – analysts of D.A. Kulagina, G.N. Okhlopkova, S.E. Diakonova. H_2O^- not included in the amount. Melt temperature by [1], P, kb by [2].
* – analyses from [3].

1. Jung, S.; Pfander, J.A. Source composition and melting temperatures of orogenic granitoids–constrains from CaO/Na_2O, Al_2O_3/TiO_2 and accessory mineral saturation thermometry. *European Journal of Mineralogy*. **2007**, *1*, 5–40; Doi:10.1127/0935-1221/2007/0019-1774.
2. Belyaev, G.M.; Rudnik, V.A. *Formational-Genetic Types of Granitoids*; Nedra: Leningrad, Russia, **1978**; 168 pp. (In Russian).
3. Nedosekin, Yu.D. *Rare-metal granites of the North-East of the USSR;* Nauka: Moscow, USSR, **1988**; pp.141 (In Russian).