



T°C	t _{min}	⁴⁰ Ar, 10 ⁻⁹ cm ³ STP	⁴⁰ Ar/ ³⁹ Ar	±1σ	³⁸ Ar/ ³⁹ Ar	±1σ	³⁷ Ar/ ³⁹ Ar	±1σ	³⁶ Ar/ ³⁹ Ar	±1σ	Ca/K	Σ ³⁹ Ar (%)	Age, Ma	±1σ
Ol-151 amphibole, phlogopite (5.14 mg)														
J=0.004754±0.000059														
500	10	24,4	59,99	0,42	0,1422	0,0049	6,316	4,687	0,1650	0,0048	22,7	19,1	93,9	11,4
600	10	18,5	67,36	0,65	0,1847	0,0038	26,374	7,109	0,1504	0,0058	94,9	31,9	186,5	13,2
800	10	39,6	116,25	1,05	0,1181	0,0039	18,925	6,434	0,2381	0,0060	68,1	47,9	356,1	12,6
925	10	67,7	131,11	0,28	0,1122	0,0020	0,004	0,022	0,2397	0,0022	0,01	72,1	454,6	6,6
1000	10	17,2	63,80	0,45	0,1426	0,0057	0,193	0,068	0,1249	0,0070	0,7	84,7	217,0	16,0
1130	10	87,9	269,50	2,33	0,0992	0,0036	18,328	3,691	0,1042	0,0077	66,0	100,0	1368,2	17,1
Ol-112 amphibole, phlogopite (1.93 mg)														
J=0.004754±0.000059														
500	10	9,7	15,23	0,05	0,0454	0,0021	2,558	1,645	0,0390	0,0026	9,2	19,7	31,6	6,6
650	10	8,5	29,38	0,22	0,0895	0,0041	21,253	3,102	0,0312	0,0065	76,5	28,6	165,1	15,1
850	10	24,4	57,19	0,20	0,0461	0,0016	7,061	1,722	0,0858	0,0030	25,4	41,7	254,3	7,3
1000	10	47,2	52,66	0,11	0,0305	0,0015	5,004	0,982	0,0149	0,0018	18,0	69,4	372,6	5,7
1150	10	54,2	54,64	0,12	0,0379	0,0008	2,963	0,757	0,0233	0,0020	10,7	100,0	369,0	5,9
Ol-203 phlogopite (5.02 mg)														
J=0.004751±0.000059														
600	10	37,2	131,37	0,87	0,1768	0,0056	-	-	0,3714	0,0101	-	2,4	176,4	22,6
700	10	170,5	203,70	0,35	0,1155	0,0009	-	-	0,3566	0,0027	-	9,5	691,5	8,5
750	10	111,2	390,93	2,39	0,0931	0,0057	-	-	0,1046	0,0097	-	11,9	1798,9	18,2
800	10	327,1	706,53	2,20	0,0785	0,0047	-	-	0,1364	0,0050	-	15,8	2574,0	17,8
850	10	509,0	760,01	1,63	0,0652	0,0023	-	-	0,0953	0,0051	-	21,5	2704,3	17,9
875	10	262,9	650,82	1,42	0,0495	0,0042	-	-	0,0434	0,0046	-	24,9	2515,0	17,3
925	10	424,1	706,09	1,40	0,0426	0,0006	-	-	0,0624	0,0032	-	30,0	2617,6	17,5
975	10	568,3	681,61	1,36	0,0511	0,0025	-	-	0,0374	0,0033	-	37,1	2582,9	17,4
1025	10	781,1	668,85	0,65	0,0452	0,0010	-	-	0,0387	0,0028	-	47,0	2555,8	17,1
1075	10	1532,6	713,96	0,37	0,0305	0,0007	-	-	0,0376	0,0012	-	65,2	2647,9	17,3
1130	10	2995,6	729,55	0,41	0,0279	0,0004	-	-	0,0313	0,0010	-	100,0	2682,0	17,4

⁴⁰Ar/³⁹Ar geochronological studies by the method of stepwise heating were carried out according to the methodology described in (Travin AV, Yudin DS, Vladimirov AG, Khromykh SV, Volkova NI, Mekhonoshin AS, Kolotilina TB **Thermochronology of the Chernorud granulite zone (Olkhon region, Western Baikal region)**). *Geochemistry International*. 2009. No. 11. pp. 1181-1199. Minerals for ⁴⁰Ar/³⁹Ar isotope-geochronological studies were isolated using standard magnetic and density separation techniques. The attachments of mineral fractions together with the attachments of biotite MSA-11 (OSO No. 129-88) used as a monitor were wrapped in aluminum foil, placed in a quartz ampoule and sealed after pumping air out of it. Biotite MCA-11, prepared by VIMS in 1988 as a standard K/Ar sample, was certified as a ⁴⁰Ar/³⁹Ar monitor using international standard samples of muscovite Bern 4m, biotite LP-6 (Baksi AK, Archibald DA., Farrar E. **Intercalibration of ⁴⁰Ar/³⁹Ar dating standards // Chemical Geology. 1996. V. 129. P. 307-324**). As the integral age of the MCA-11 biotite, the average of the calibration results was taken to be 311.0 ± 1.5 million years.

The minerals (grains were 250-100 μm size) after magnetic separation and final hand picking have been wrapped in Al-foil, vacuum sealed in quartz vials and irradiated. K/Ar standard biotite MCA-11 calibrated with LP-6 biotite and MMhb-1 hornblende was put between every two samples for neutron gradient monitoring. A feature of the technique is the irradiation

of quartz ampoules with samples in the channel of the research reactor of the Politechnical Institute at Tomsk (Russia), which is cooled by water. When irradiated under such conditions, the temperature of the ampoules with the samples does not exceed 100°C. $^{40}\text{Ar}/^{39}\text{Ar}$ step heating experiments were accomplished in a quartz reactor heated by external furnace. For temperature monitoring thermocouple was used. Released gases were purified by exposure to a Ti-getters and SAES getters. The Ar isotope composition was measured on multi-collector mass spectrometer ARGUS. $^{1200^\circ\text{C}}$ blank of ^{40}Ar deed not exceed $n \cdot 10^{-9} \text{ cm}^3 \text{ STP}$.