Early tholeiitic and calc-alkaline arc magmatism of middle to Late Eocene Age in the southern Ogasawara (Bonin) forearc

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In Fig. 2 at line 3 from the bottom in the legend, the solid square symbol and the word “this study” should be deleted. Please find the corrected figure below.

In Table 3 on the bottom line, both of the K–Ar dates are incorrectly positioned. The date of 39.4 ± 0.2 should be positioned in the column D13-05. The date of 45.0 ± 1.8 should be positioned in the column D16-101. Please find the corrected table below.

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Fig. 2 Space–time distribution of volcanic activity on the Philippine Sea plate (modified from Haraguchi et al. 2003), including K–Ar (Kaneoka et al. 1970; Tsunakawa 1983) and Ar–Ar ages (Cosca et al. 1998; Dobson 1986; Ishizuka et al. 2006) of Chichi-Jima boninite (solid circles) and Haha-Jima volcanics (open circles)

Table 3 Bulk rock composition of volcanic rocks estimated by ICP-MS from the southern Ogasawara Ridge dredged during cruises KT95-9

Sample ID	KT95-9 D13		D14				D16					
	D13-04	D13-05	D13-14	D13-24	D13-25	D13-112	D14-05	D16-101	D16-103	D16-105	D16-109	D16-202
Major elements (wt%)												
SiO ₂	52.43	53.21	49.46	52.38	54.39	54.43	55.40	53.08	55.85	55.42	53.67	57.88
TiO ₂	0.94	0.85	0.77	0.82	1.02	1.01	0.58	0.49	0.45	0.65	0.48	0.52
Al ₂ O ₃	18.29	17.78	18.42	18.25	17.82	17.28	19.07	18.44	18.55	17.20	18.43	19.39
Fe ₂ O ₃	9.99	9.62	10.44	9.15	9.85	10.13	6.41	8.07	7.75	8.00	8.27	6.11
MnO	0.15	0.15	0.15	0.13	0.15	0.15	0.13	0.13	0.14	0.14	0.14	0.08
MgO	4.90	4.96	5.20	4.49	3.86	4.41	5.35	5.97	4.35	5.72	6.24	3.11
CaO	9.70	10.09	11.69	9.90	8.82	8.90	9.31	10.82	8.94	9.16	10.09	8.64

Table 3 continued

Sample ID	KT95-9 D13						D14	D16				
	D13-04	D13-05	D13-14	D13-24	D13-25	D13-112	D14-05	D16-101	D16-103	D16-105	D16-109	D16-202
Na ₂ O	2.91	2.63	2.56	3.20	3.14	3.00	2.45	2.20	2.42	2.80	2.23	3.15
K ₂ O	0.40	0.42	0.47	0.70	0.52	0.45	0.55	0.47	0.83	0.81	0.59	1.02
P ₂ O ₅	0.14	0.08	0.47	0.64	0.13	0.08	0.08	0.10	0.07	0.09	0.07	0.10
Total	99.86	99.79	99.63	99.66	99.71	99.84	99.32	99.77	99.35	99.99	100.19	99.98
H ₂ O-	0.75	1.04	1.45	0.78	0.64	0.68	0.41	0.65	0.33	0.19	0.63	0.31
LOI	0.56	0.50	0.46	0.33	0.30	0.25	0.90	0.53	0.31	0.41	0.47	0.22
XRF analyzed trace elements (ppm)												
Co	26.8	30.7	37.5	33.4	21.4	32.0	17.6	25.6	16.4	31.8	33.4	14.7
Cr	25.7	48.0	18.7	87.0	21.8	18.7	34.1	141	24.2	163	134	39.9
Ba	25.6	29.0	42.1	50.6	36.8	36.3	53.3	64.8	75.2	78.9	61.3	76.4
Nb	0.6	0.4	0.4	0.3	0.7	0.6	0.8	0.5	0.7	0.9	0.6	1.1
Ni	14.0	17.3	19.8	30.4	8.8	12.2	27.3	40.9	19.3	43.6	43.3	18.4
Pb	0.0	nd	nd	nd	0.1	0.4	0.4	nd	0.5	0.5	nd	0.4
Rb	3.3	4.5	5.0	6.6	6.1	5.8	6.5	5.8	10.3	10.2	7.6	10.4
Sr	194	181	198	226	199	186	244	275	258	231	269	253
Th	nd	0.6	0.2	0.1	0.2	0.1	0.2	0.4	0.2	0.5	nd	0.6
Y	26.4	22.0	24.6	39.5	25.0	22.0	15.3	15.4	13.1	17.2	10.6	15.5
Zr	52.9	43.0	29.6	50.9	56.9	54.9	54.3	33.1	41.0	51.8	34.3	52.4
ICP-MS analyzed trace elements (ppm)												
Li	8.43	8.00	13.5	11.9	7.38	9.01	8.32	9.66	6.53	7.63	6.47	9.50
Be	0.35	0.34	0.29	0.44	0.36	0.40	0.29	0.30	0.42	0.45	0.34	0.49
Rb	2.58	4.16	4.88	5.70	5.23	5.09	5.99	4.92	8.84	9.08	6.22	9.12
Sr	217	202	226	252	222	204	258	293	275	241	290	270
Y	26.1	21.7	25.8	40.7	24.9	22.5	14.9	14.8	12.0	16.5	10.4	15.6
Zr	46.4	38.9	28.4	44.7	50.5	50.7	49.3	29.3	34.1	46.5	29.9	45.8
Nb	0.97	0.72	0.50	0.76	0.93	0.89	1.25	0.96	1.14	1.38	0.99	1.53
Mo	0.54	0.45	0.38	0.54	0.56	0.55	0.85	0.48	0.69	0.74	0.56	0.59
Sn	0.58	0.50	0.40	0.46	0.60	0.56	0.46	0.28	0.40	0.40	0.28	0.36
Sb	0.12	0.06	0.19	0.21	0.08	0.06	0.80	0.10	0.11	0.09	0.28	0.06
Cs	0.10	0.14	0.10	0.14	0.16	0.16	0.22	0.17	0.41	0.35	0.24	0.13
Ba	34.6	32.2	30.1	45.2	40.7	43.8	54.3	58.0	74.1	75.8	56.6	87.3
La	2.32	1.89	2.05	8.00	2.38	2.25	3.09	3.45	2.64	3.42	2.54	3.74
Ce	6.36	5.08	4.33	15.5	6.78	6.40	7.51	7.27	5.97	8.04	5.84	8.43
Pr	1.20	0.99	0.84	1.97	1.26	1.14	1.18	1.16	0.98	1.27	0.92	1.33
Nd	6.65	5.61	4.65	10.3	6.84	6.21	5.75	5.64	4.83	6.26	4.46	6.33
Sm	2.32	2.05	1.68	3.04	2.45	2.25	1.69	1.63	1.43	1.88	1.31	1.86
Eu	0.88	0.77	0.66	1.08	0.92	0.86	0.66	0.59	0.55	0.67	0.51	0.66
Gd	2.99	2.47	2.23	4.02	3.05	2.74	1.95	1.94	1.50	2.15	1.49	2.14
Tb	0.62	0.52	0.47	0.78	0.65	0.59	0.39	0.37	0.32	0.42	0.29	0.41
Dy	4.22	3.57	3.39	5.24	4.30	3.89	2.59	2.46	2.09	2.86	1.91	2.62
Ho	0.94	0.79	0.79	1.18	0.94	0.86	0.56	0.54	0.46	0.60	0.40	0.56
Er	2.62	2.17	2.30	3.31	2.66	2.39	1.57	1.51	1.29	1.73	1.12	1.56
Tm	0.41	0.35	0.38	0.51	0.42	0.38	0.25	0.24	0.20	0.27	0.18	0.25
Yb	2.76	2.26	2.56	3.34	2.80	2.53	1.74	1.61	1.42	1.84	1.23	1.63
Lu	0.44	0.35	0.41	0.54	0.43	0.39	0.27	0.26	0.22	0.29	0.19	0.25
Hf	1.58	1.28	0.97	1.50	1.66	1.59	1.47	0.95	1.10	1.33	0.94	1.40
Ta	0.06	0.06	0.04	0.06	0.07	0.07	0.10	0.06	0.07	0.08	0.06	0.10

Table 3 continued

Sample ID	KT95-9 D13						D14	D16				
	D13-04	D13-05	D13-14	D13-24	D13-25	D13-112	D14-05	D16-101	D16-103	D16-105	D16-109	D16-202
Tl	0.01	0.02	0.01	0.01	0.06	0.02	0.05	0.03	0.05	0.05	0.09	0.03
Pb	6.84	8.48	4.02	12.3	4.43	3.28	8.59	13.0	2.23	3.09	2.50	4.18
Th	0.14	0.11	0.09	0.19	0.17	0.16	0.28	0.26	0.27	0.36	0.26	0.33
U	0.17	0.09	0.44	0.42	0.15	0.11	0.14	1.03	0.18	0.19	0.33	0.20
K–Ar dating	39.4 ± 2.0 Ma						45.0 ± 1.8 Ma					