

Site 1256, Table T37. Whole-rock major and trace element compositions of unaltered rocks, Expedition 312.

Core, section, piece, interval (cm):	312-1256-D-																						
	173R-2 (Piece 1C, 6-10)	214R-2 (Piece 7B, 50-55)	174R-1 (Piece 23, 130-134)	175R-1 (Piece 13, 58-62)	175R-1 (Piece 22, 113-117)	176R-1 (Piece 31, 133-136)	176R-2 (Piece 4B, 22-25)	178R-1 (Piece 1, 0-3)	181R-1 (Piece 12, 43-47)	182R-1 (Piece 7, 25-28)	187R-1 (Piece 3, 15-17)	189R-1 (Piece 10, 66-68)	190R-1 (Piece 2, 14-17)	194R-1 (Piece 8, 35-37)	196R-1 (Piece 7, 30-32)	198R-1 (Piece 10, 46-49)	202R-1 (Piece 3, 37-42)	207R-1 (Piece 3, 10-15)	209R-1 (Piece 4, 15-19)	212R-1 (Piece 4, 17-20)	212R-1 (Piece 7, 29-32)	214R-1 (Piece 11, 43-47)	214R-2 (Piece 1, 0-4)
Unit:	1256D-66	1256D-85	1256D-68	1256D-69	1256D-69	1256D-70	1256D-72	1256D-73	1256D-73	1256D-74	1256D-75	1256D-77	1256D-77	1256D-78	1256D-78	1256D-78	1256D-79	1256D-80a	1256D-80a	1256D-80a	1256D-80b	1256D-82	1256D-84
Subdivision:	Basaltic dike	Patchy gabbro	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Basaltic dike	Trondhjemite dike	Quartz-rite oxide diorite	Gabbro
Depth (mbsf):	1262.03	1412.85	1266.70	1271.88	1272.43	1277.43	1277.82	1285.70	1300.53	1305.15	1324.45	1334.56	1338.84	1358.25	1364.00	1369.46	1373.17	1390.80	1396.65	1404.27	1404.39	1411.32	1412.35
Thin section:	3	64	6	8	9	12	15	None	21	22	26	30	31	35	36	39	50	55	118	56	104	60	63
Major element oxide (wt%):																							
SiO <sub>2</sub>	52.04	49.78	52.21	51.63	51.99	50.92	51.05	51.46	51.53	51.82	51.42	49.72	50.25	52.06	51.70	52.04	51.41	51.97	52.20	51.13	71.58	49.58	50.15
TiO <sub>2</sub>	1.13	1.39	1.75	1.51	1.61	1.76	2.16	1.08	1.23	1.50	1.94	1.45	1.42	1.33	1.38	1.80	1.96	1.47	1.61	1.54	0.84	4.12	1.27
Al <sub>2</sub> O <sub>3</sub>	14.15	16.20	13.04	13.82	13.54	13.38	12.86	14.42	14.02	13.29	12.93	15.65	15.47	13.55	13.87	13.05	13.02	13.41	13.08	13.96	11.17	12.15	15.86
FeO	11.02	10.05	13.69	11.97	12.03	13.81	15.53	9.95	11.42	13.11	14.18	9.53	9.57	11.68	11.35	13.97	14.37	12.48	12.86	11.84	6.19	17.44	10.40
MnO	0.25	0.14	0.26	0.27	0.21	0.33	0.31	0.18	0.22	0.24	0.23	0.19	0.19	0.19	0.18	0.24	0.22	0.22	0.18	0.19	0.10	0.17	0.14
MgO	7.73	6.94	6.22	6.97	6.82	6.35	5.32	8.12	7.70	6.54	6.32	8.49	8.49	7.27	7.47	6.35	6.21	7.13	6.91	7.15	1.03	4.45	7.08
CaO	11.60	12.42	10.20	11.43	11.22	10.73	9.94	12.43	11.45	10.28	9.66	12.27	11.75	11.37	11.49	9.98	9.92	10.60	10.27	11.51	4.86	7.96	12.00
Na <sub>2</sub> O	1.97	2.83	2.45	2.24	2.37	2.41	2.64	2.24	2.24	2.97	3.00	2.56	2.42	2.42	2.41	2.40	2.70	2.59	2.69	2.52	3.97	3.68	2.75
K <sub>2</sub> O	0.03	0.09	0.05	0.05	0.04	0.08	0.04	0.03	0.06	0.14	0.14	0.06	0.07	0.04	0.04	0.03	0.06	0.05	0.05	0.04	0.10	0.23	0.18
P <sub>2</sub> O <sub>5</sub>	0.07	0.16	0.14	0.12	0.17	0.21	0.15	0.09	0.13	0.12	0.17	0.17	0.16	0.08	0.11	0.14	0.15	0.09	0.15	0.11	0.17	0.22	0.17
LOI	1.12	1.01	1.63	1.24	0.03	1.97	1.84	0.90	1.25	BD	0.07	BD	1.49	BD	0.21	0.04	0.51	0.72	BD	0.29	2.34	0.60	2.86
Trace element (ppm):																							
Ba	6.15	10.8	10.9	10.3	7.78	12.8	9.64	3.32	9.11	20.8	13.3	15.9	14.5	5.31	6.67	6.36	7.25	8.03	7.30	8.89	14.6	35.4	38.4
Sr	71.3	96.4	77.4	77.4	80.6	81.7	86.0	77.5	69.1	78.7	78.1	122	127	75.7	73.6	75.8	82.9	76.7	79.4	90.2	99.6	96.4	100
Zr	60.2	58.0	90	81.7	79.9	92.1	117	54.6	61.4	77.7	96.6	83.6	84.7	65.9	68.0	91.6	96.9	74.7	76.4	82.4	837	177	65.3
Y	23.4	23.9	30.3	28.1	27.1	31.6	37.0	22.9	24.7	28.1	32.3	24.8	24.6	26.1	26.7	31.2	32.5	27.3	28.8	27.7	50.1	54.3	25.2
Sc	41.6	40.3	42.8	40.9	40.4	43.6	44.9	40.0	41.1	42.3	43.2	39.6	39.9	41.2	41.3	42.7	43.6	42.0	41.7	41.4	36.4	45.9	40.5
V	286	263	381	333	330	383	424	276	305	344	394	248	242	315	313	376	401	336	360	319	101	323	256
Cr	179	255	43.0	97.3	94.5	46.5	29.1	261	227	13.4	36.9	325	326	123	163	45.0	32.0	78.6	50.3	161	BD	BD	278
Co	43.9	45.8	49.8	46.6	46.8	48.4	50.2	45.7	55.9	48.4	54.9	45.4	49.0	50.7	48.4	49.0	53.3	48.6	47.3	44.8	42.2	69.0	45.7
Ni	68.3	83.6	48.4	46.4	46.4	40.8	27.5	80.7	81.7	34.5	36.2	135	132	63.5	74.7	41.2	34.9	56.6	41.2	50.7	9.0	32.8	91.4
Cu	80.1	56.7	51.5	58.8	56.2	BD	42.4	BD	63.9	226	96.1	BD	9.68	156	34.0	49.3	31.9	83.3	8.98	58.1	BD	BD	41.8
Zn	88.2	57.7	102	83.9	89.4	125	106	76.4	76.6	73.7	62.4	63.9	64.8	67.8	80.9	66.3	67.7	69.8	75.0	75.8	54.6	60.7	56.1
Mg#	55.6	55.2	44.7	50.9	50.3	45.0	37.9	59.2	54.6	47.1	44.3	61.1	61.2	53	54.0	44.7	43.5	50.4	48.9	51.8	24.0	31.2	54.8
Total alkalis	2.00	2.92	2.50	2.29	2.41	2.49	2.68	2.27	2.30	3.10	3.14	2.63	2.69	2.46	2.45	2.43	2.75	2.64	2.74	4.08	3.91	2.93	
Ca/Al	1.11	1.03	1.06	1.12	1.12	1.08	1.04	1.16	1.10	1.04	1.01	1.06	1.13	1.12	1.12	1.03	1.03	1.07	1.06	1.11	0.59	0.88	1.02
K/Ti	0.04	0.09	0.04	0.04	0.03	0.06	0.02	0.04	0.06	0.13	0.10	0.06	0.07	0.04	0.04	0.02	0.04	0.04	0.04	0.04	0.17	0.08	0.20
Ti/Zr	113	144	116	111	121	115	110	119	120	116	121	104	101	121	122	118	122	118	127	112	6.01	139	117
Zr/Y	2.58	2.43	2.98	2.90	2.95	2.92	3.17	2.39	2.48	2.76	2.99	3.37	3.45	2.52	2.55	2.93	2.98	2.73	2.65	2.97	16.7	3.26	2.59
Sr/Y	3.05	4.04	2.56	2.75	2.97	2.59	2.33	3.38	2.79	2.80	2.92	4.91	5.17	2.90	2.76	2.43	2.55	2.81	2.76	3.25	1.99	1.77	3.96
Sr/Ba	11.6	8.92	7.11	7.48	10.4	6.40	8.92	23.3	7.58	3.78	5.90	7.65	8.74	14.3	11.0	11.9	11.4	9.55	10.9	10.1	6.85	2.72	2.60
K/Ba	41.8	71.4	36.3	37.6	40.6	51.8	31.7	77.6	50.4	54.2	87.6	32.3	39.0	58.8	53.1	41.8	65.6	47.2	56.5	40.9	57.7	55.0	39.8

Notes: Element ratios are included for reference. Mg# = MgO/(40.311)/[(MgO/40.311) + (FeO/71.846)], total alkalis = K<sub>2</sub>O + Na<sub>2</sub>O. BD = below detection.

Core, section, piece, interval (cm):	312-1256-D-																						
	214R-2 (Piece 7B, 50-55)	215R-1 (Piece 2, 10-15)	215R-1 (Piece 10, 40-44)	216R-1 (Piece 24B, 115-122)	217R-1 (Piece 2, 4-9)	220R-1 (Piece 9, 54-58)	222R-1 (Piece 2B, 25-36)	223R-1 (Piece 8A, 35-42)	223R-2 (Piece 1E, 41-48)	225R-1 (Piece 1, 0-3)	227R-1, (Piece 5A, 28-30)	230R-1, (Piece 8C, 68-72)	230R-2, (Piece 6B, 36-40)	231R-3, (Piece 2, 21-27)	232R-1, (Piece 5C, 97-100)	234R-1, (Piece 7, 19-22)	201G-1, (Piece 2, 19-40)	201G-1, (Piece 5, 52-69)	201G-1, (Piece 8, 99-107)	201G-1, (Piece 10, 135-138)	79R-2, (Piece 7, 38-42)	135R-1, (Piece 5B, 33-35)	146R-3, (Piece 9, 81-84)
Unit:	1256D-85	1256D-85	1256D-86	1256D-86	1256D-87	1256D-88	1256D-88	1256D-88	1256D-89	1256D-90a	1256D-90a	1256D-91	1256D-92	1256D-92	1256D-92	1256D-94	Dolerite	Basalt	Basalt	Meta basalt	Sheet flow	Massive basalt	Massive basalt
Subdivision:	Patchy gabbro	Patchy gabbro	Gabbro	Gabbro	Gabbro	Gabbro	Gabbro	Gabbro	Basaltic dike	Basaltic dike	Gabbro	Gabbro	Gabbro	Gabbro	Basaltic dike								
Depth (mbsf):	1412.85	1415.80	1417.53	1419.05	1421.64	1435.54	1444.85	1449.65	1451.19	1458.90	1468.78	1483.68	1484.86	1490.77	1493.87	1502.69					771.54	1090.03	1145.55
Thin section:	64	119	73	76	78	85	87	90	92	97	100	108	110	112	113	117	40	45	42	46			
Major element oxide (wt%):																							
SiO <sub>2</sub>	49.78	50.41	50.89	51.11	51.44	51.12	51.81	50.34	49.42	51.82	50.48	47.58	50.29	50.70	49.96	51.09	52.14	50.78	51.80	52.81	55.47	51.58	51.92
TiO <sub>2</sub>	1.39	1.26	1.14	0.83	0.81	0.90	0.97	0.71	0.75	0.97	1.39	2.49	1.14	1.22	1.20	2.29	1.47	0.96	1.25	1.55	2.10	1.06	1.66
Al <sub>2</sub> O <sub>3</sub>	16.20	15.80	15.84	16.48	15.19	15.17	14.74	15.89	14.52	14.72	13.68	14.86	14.86	14.85	14.86	12.43	13.47	15.02	13.91	15.97	12.74	14.61	12.97
FeO	10.05	9.63	9.32	8.55	6.98	8.73	9.03	7.48	8.87	9.08	12.55	16.43	9.95	9.65	10.57	15.43	11.60	9.46					