Table DR1: Sample localities and classification information

	Lat.	Long.	SiO_2	MgO	Ni	Sr	type
Michoacan-Guanajuato Volcanic Field							
MGV19	19• 27.51	101•51.85	51.05	10.33	224	321	CA
MGV20	19• 07.81	102• 00.62	51.37	9.69	166	341	CA
MGV21	19• 01.43	102• 04.56	50.88	8.66	130	977	T
MGV22	18• 56.36	101• 43.45	49.42	8.88	199	2714	A
MGV23	18• 57.89	101• 42.96	53.05	8.52	174	452	CA
MGV24	19• 16.40	101• 38.49	53.79	8.16	164	479	CA
Sierra Chichinautzin							
MEX-232	19• 07.62	99• 16.95	51.80	9.13	218	881	A
MEX-257	18• 58.42	98• 59.94	51.60	9.02	200	478	A
TMV11	19• 07.85	99• 16.77	49.97	9.99	232	967	A
MEX-297	19• 04.49	99• 05.85	52.60	10.109	260	523	A
TMV-13	19• 06.18	99• 14.72	50.96	8.109	145	507	A
TMV4	19• 03.41	99• 06.17	53.51	7.969	190	564	T
MEX-296	19• 03.70	99• 06.33	51.80	9.469	176	530	CA
TMV7	19• 11.78	99• 15.65	54.04	8.74	137	561	CA
TMV16B	18• 52.77	99• 06.68	53.12	8.56	183	354	CA
Palma Sola							
PS-1	19• 37.37	96• 56.38	48.72	8.28	127	390	CA
PS-11	19• 57.94	96• 50.55	45.51	11.11	36	979	A
PS-99-16	19• 43.25	96• 32.95	44.98	8.10	104	1136	A
PS-99-35	19• 42.77	96• 32.70	44.31	8.53	122	781	A
western Mexico							
515	20• 54.15	103• 43.78	53.13	4.18	20	516	A
399	21• 09.65	104• 45.00	53.40	4.20	21	542	A
313	21• 10.40	105• 11.44	52.80	4.96	34	635	A
102	20• 31.55	104• 28.76	52.35	5.17	68	723	A
109	20• 38.29	104• 30.23	49.15	6.61	106	736	A
510	20• 09.72	104• 20.30	48.26	10.8	224	1339	A
377	20• 09.14	104• 56.63	55.60	4.0	30	1412	CA
416	21• 00.59	105• 05.09	54.00	4.4	29	1548	CA
482	20• 56.27	104• 53.00	55.40	5.9	88	836	CA
411	20• 48.38	105• 04.63	53.20	7.6	117	2100	CA
MAS-42	20• 32.50	104• 55.20	53.64	8.38	152	750	CA
MAS-127	20• 44.02	104• 53.33	55.55	7.76	96	850	CA
MAS-108	20• 33.33	104• 54.85	53.09	8.8	142	724	CA

* Zr, Y, Ce, Ba, Rb and Sr data from Righter and Carmichael (1992), Righter et al. (1995), and Righter and Rosas-Elguera (2001) [KR], Lange and Carmichael (1990) [MAS] and Wallace and Carmichael (1999) [MEX].
A = alkaline,; CA = calc-alkaline; T = transitional; after Hasenaka and Carmichael (1987).

Table DR2: Trace element analyses of samples from Table 1; Re and Os by NTIMS (in ppb) and all others by ICP-MS (in ppm)

sample*	Re	Os	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Cs	Ba	Rb	Zr	Y	U	Th
Michoacan-Guanjuato Volcan Field																							
MGV19	0.0850	0.076	9.7	18.3	3.07	12.58	3.01	1.25	3.20	0.61	2.95	0.75	1.83	0.38	1.82	0.32	0.53	249	15	88	15	0.26	0.98
MGV20	0.0520	0.039	6.7	13.6	2.24	9.33	2.41	0.92	2.72	0.42	2.69	0.54	1.62	0.21	1.60	0.23	0.31	151	7	67	15	0.22	0.54
MGV21	0.1220	0.021	28.7	57.1	7.75	29.31	4.97	2.00	3.97	0.53	2.99	0.55	1.79	0.22	1.61	0.21	0.21	691	12	143	17	0.47	1.82
MGV22	0.0380	0.017	104	196	22.46	79.31	10.40	4.01	6.49	0.86	3.21	0.78	1.65	0.32	1.37	0.24	0.65	1685	23	211	16	1.34	5.37
MGV23	0.0540	0.052	10.7	22.2	3.46	14.11	3.29	1.31	3.28	0.63	3.23	0.80	2.00	0.37	1.86	0.32	0.47	248	14	112	17	0.24	0.87

MGV24	0.0590	0.044	10.4	20.5	3.39	13.80	3.36	1.38	3.28	0.69	3.15	0.80	1.92	0.40	1.84	0.32	0.52	270	13	89	17	0.34	1.15
Sierra Chichinautzin																							
MEX-232	0.2050	0.012	39.2	94.7	12.63	56.09	10.99	3.25	8.22	0.95	5.19	0.85	2.39	0.25	1.96	0.24	0.15	988	22	150	25	1.18	4.07
MEX-257	0.0920	0.041	21.7	49.7	6.35	27.51	5.93	2.01	5.47	0.84	4.98	0.91	2.79	0.42	2.61	0.34	0.74	338	26	190	25	0.79	2.53
TMV11	0.0627	0.039	48.7	117	16.21	70.33	13.32	4.09	9.65	1.13	5.46	0.92	2.42	0.34	1.97	0.27	0.57	1214	29	175	26	1.36	4.89
MEX-297	0.0660	0.047	16.9	35.5	5.21	21.72	4.79	1.86	4.88	0.82	4.16	0.97	2.49	0.45	2.20	0.37	0.57	268	16	154	22	0.62	2.15
TMV-13	0.1550	0.006	18.8	44.3	5.40	22.94	5.10	1.72	5.17	0.75	4.99	0.93	2.76	0.30	2.39	0.32	0.68	274	22	208	25	0.74	2.29
TMV4	0.0320	0.029	18.9	43.8	5.29	22.84	4.76	1.69	4.73	0.69	4.29	0.84	2.32	0.24	2.08	0.28	0.52	330	22	199	22	0.69	2.28
Mex-296	0.0870	0.011	16.1	36.4	4.97	21.56	4.81	1.58	4.50	0.66	4.22	0.78	2.34	0.26	2.07	0.27	0.38	259	16	151	22	0.54	1.88
TMV7	0.1240	0.006	14.1	31.3	4.29	18.21	3.94	1.38	3.76	0.56	3.48	0.65	1.94	0.32	1.86	0.25	0.43	319	16	140	18	0.57	1.86
TMV16B	0.0695	0.023	11.3	25.6	3.47	15.42	3.62	1.24	3.59	0.54	3.66	0.69	2.03	0.21	1.81	0.23	0.66	247	21	130	18	0.56	1.84
Palma Sola																							
PS-1	0.2890	0.003	10.8	26.1	3.56	15.62	3.91	1.49	4.14	0.68	4.25	0.80	2.54	0.38	2.23	0.30	0.25	158	10	131	21	0.41	1.38
PS-11	0.3790	0.007	33.5	69.1	8.19	33.19	6.60	2.24	5.98	0.83	4.53	0.79	2.30	0.33	2.10	0.27	0.99	519	30	147	23	1.63	6.17
PS-99-16	0.2550	0.015	41.1	95.0	10.77	44.14	8.30	2.92	7.13	0.95	5.30	0.95	2.53	0.37	2.10	0.25	0.43	442	24	300	23	1.49	4.33
PS-99-35	0.2080	0.014	27.7	61.9	7.98	34.72	7.34	2.79	6.64	0.95	5.60	0.94	2.64	0.39	1.93	0.26	0.65	733	17	166	26	0.99	3.13
western Mexico																							
KR-515	0.2370	0.001	27.7	48	7.54	32.37	8.12	2.60	7.02	1.01	5.84	1.13	3.22	0.45	3.10	0.43	0.25	695	24	225	41	0.91	2.18
KR-399	0.1840		35.0	72	9.16	39.78	9.51	2.57	6.87	1.06	5.64	1.19	3.06	0.46	2.75	0.43	0.36	728	27	278	34	0.78	2.24
KR-313	0.1290	0.008	36.1	64	8.25	35.00	8.43	2.31	6.40	0.98	5.38	1.13	3.33	0.49	3.05	0.50	0.30	655	19	272	35	0.94	2.04
KR-102	0.2210	0.011	32.0	83	8.42	36.71	9.27	2.48	7.32	1.11	6.09	1.17	3.41	0.40	2.89	0.52	0.49	621	20	273	33	0.95	2.37
KR-109	0.3780	0.014	22.3	71	6.59	28.35	7.51	2.20	5.72	0.82	4.54	0.90	2.52	0.33	2.20	0.33	0.08	470	14	188	31	0.67	1.80
KR-510	0.0480	0.036	43.3	83	9.78	35.53	7.12	1.91	4.25	0.56	2.84	0.52	1.58	0.22	1.46	0.23	0.27	893	21	173	16	1.87	7.73
KR-377	0.3500	0.004	34.0	62	8.84	35.32	7.76	2.30	4.77	0.57	3.40	0.62	1.75	0.17	1.61	0.14	0.35	1136	16	140	24	n.d.	n.d.
KR-416	0.1360	0.002	26.5	67	7.74	32.37	6.77	1.91	4.16	0.47	2.59	0.41	1.34	0.12	1.12	0.10	0.38	869	13	121	16	0.39	1.77
KR-482	0.1720	0.005	11.8	33	3.31	15.26	4.01	1.21	2.78	0.41	2.25	0.45	1.29	0.17	1.36	0.22	0.17	570	10	89	19	0.37	0.64
KR-411		0.003	41.0	90	10.51	41.02	7.62	2.18	4.18	0.51	2.41	0.43	1.38	0.18	1.32	0.21	0.20	924	10	91	17	0.91	3.26
MAS-42	0.0710	0.023	81.0	29	22.83	91.12	12.70	4.56	7.73	0.85	4.38	0.71	1.99	0.29	1.66	0.21	0.34	2416	11	95	14	1.88	5.47
MAS-127	0.1160	0.015		27															14	99	14		
MAS-108	0.2220	0.027	9.7	32	2.99	13.25	3.71	1.06	3.01	0.42	2.61	0.50	1.53	0.19	1.32	0.17	0.45	343	14	84	16	0.21	1.23

* additional Zr, Y, Ce, Ba, Rb and Sr data from Righter and Carmichael (1992), Righter et al. (1995), Righter and Rosas-Elguera (2001) [KR], Lange and Carmichael (1990) [MAS] and Wallace and Carmichael (1999) [MEX]; ICP-MS analytical details can be found in Hollocher and Ruiz (1995).

References

Wallace, P., and Carmichael, I.S.E., 1999, Quaternary volcanism near the Valley of Mexico: Implications for subduction zone magmatism and the effects of crustal thickness variations on primitive magma compositions: Contributions to Mineralogy and Petrology, v. 135, p. 291–314.

Righter, K., and Rosas-Elguera, J., 2001, Alkaline lavas in the volcanic front of the western Mexican volcanic belt: Geology and petrology of the Ayutla and Tapalpa volcanic fields: Journal of Petrology, v. 42, p. 2333–2361.

Righter, K., Carmichael, I.S.E., Becker, T.A., and Renne, R.P., 1995, Pliocene to Quaternary volcanism and tectonism at the intersection of the Mexican volcanic belt and the Gulf of California: Geological Society of America Bulletin, v. 107, p. 612–626.

Righter, K., and Carmichael, I.S.E., 1992, Hawaiites and related lavas in the Atenguillo graben, western Mexican volcanic belt: Geological Society of America Bulletin, v. 104, p. 1592–1607.

Hasenaka, T., and Carmichael, I.S.E., 1987, The cinder cones of Michoacán-Guanajuato, central Mexico: Petrology and chemistry: Journal of Petrology, v. 28, p. 241–69.

Hollocher, K., and Ruiz, J., 1995, Major and trace element determinations on NIST glass SRM 611, 612, 614 and 1834 by inductively coupled plasma-mass spectrometry: Geostandards Newsletter, v. 19, p. 27–34.

Lange, R.A., and Carmichael, I.S.E., 1990, Hydrous basaltic andesites associated with minette and related lavas in western Mexico: Journal of Petrology, v. 31, p. 1225–1259.