

**Table A2: Major element compositions of lithologies from Lake Machattie (LMDH001) analysed by AusQuest**

Sample #	585410	585408	585409	585402	585411	585412	585413	585414	585403	585415	585416
From	961.82	962.05	967.85	970.58	974.87	977.53	978.83	979.14	981.85	986.1	993.11
To	961.91	962.22	967.98	970.71	974.97	977.67	979	979.27	981.99	986.24	993.26
SiO <sub>2</sub>	34.26	35.74	29.19	27.15	32.93	30.16	36.89	38.06	29.30	36.90	35.69
TiO <sub>2</sub>	7.40	6.62	8.73	9.52	3.75	8.86	3.88	4.04	10.26	5.24	6.99
Al <sub>2</sub> O <sub>3</sub>	5.44	5.62	5.47	4.94	9.68	5.19	10.80	11.40	5.36	6.30	6.24
Cr <sub>2</sub> O <sub>3</sub>	0.06	0.06	0.00	0.00	0.04	0.03	0.05	0.05	0.00	0.13	0.06
V <sub>2</sub> O <sub>5</sub>	0.09	0.09	0.12	0.11	0.05	0.10	0.05	0.05	0.12	0.09	0.086
FeO	16.80	15.40	21.30	20.70	10.50	18.30	11.40	12.00	21.60	15.20	15.4
MnO	0.18	0.18	0.21	0.20	0.21	0.19	0.20	0.21	0.22	0.16	0.18
MgO	10.60	11.00	9.59	9.22	7.99	9.69	8.72	8.31	9.79	10.90	10.6
CaO	18.20	18.40	16.60	17.90	12.80	17.80	13.10	13.40	16.60	20.00	18.6
Na <sub>2</sub> O	0.49	0.61	0.50	0.49	3.02	0.55	2.38	2.01	0.40	0.41	0.42
K <sub>2</sub> O	0.01	0.09	0.02	0.04	2.11	0.05	3.04	3.08	0.02	0.02	0.062
P <sub>2</sub> O <sub>5</sub>	1.27	1.06	1.83	3.62	1.39	2.41	1.58	1.46	1.72	1.44	0.837
WO <sub>3</sub>	0.02	0.02	0.02	0.02	0.00	0.02	0.03	0.02	0.04	0.01	0.02
SO <sub>2</sub>	0.76	0.54	1.12	1.10	1.30	0.96	0.38	0.38	1.20	0.66	0.5
CO <sub>2</sub>	3.50	3.90	3.70	3.50	11.40	4.40	4.90	2.50	2.60	1.60	2.9
TotC	0.96	1.06	1.04	0.97	3.1	1.2	1.33	0.69	0.73	0.43	0.79
LOI	2.48	3.02	2.91	2.57	12.10	3.70	5.62	3.74	1.28	1.51	3.21
Total	99.02	99.50	98.66	98.56	100.96	99.21	99.45	98.91	98.64	99.40	99.685
Na <sub>2</sub> O+K <sub>2</sub> O	0.50	0.70	0.52	0.53	5.13	0.60	5.42	5.09	0.42	0.43	0.48
CaO/Al <sub>2</sub> O <sub>3</sub>	3.35	3.27	3.03	3.62	1.32	3.43	1.21	1.18	3.10	3.17	2.98
MgO/CaO	0.58	0.60	0.58	0.52	0.62	0.54	0.67	0.62	0.59	0.55	0.57
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	6.30	6.36	5.34	5.50	3.40	5.81	3.42	3.34	5.47	5.86	5.72
Fe/Mn	93.68	85.87	101.80	103.88	50.18	96.67	57.21	57.35	98.54	95.35	85.87
CaO wt. %	39.76	40.91	34.80	37.28	40.63	38.71	39.20	39.50	34.43	43.23	41.54
MgO wt. %	23.15	24.46	20.10	19.20	25.37	21.07	26.09	24.50	20.31	23.56	23.67
FeO+MnO%	37.09	34.64	45.09	43.52	34.00	40.21	34.71	36.00	45.26	33.20	34.79

Sample #	585417	585418	585419	585404	585420	585306	585307	585308	585309	585310
From	999.1	1004.84	1014.1	1020.2	1026.54	1030	1031	1032	1033	1034
To	999.24	1004.96	1014.23	1020.34	1026.7	1031	1032	1033	1034	1035
SiO <sub>2</sub>	31.17	32.99	29.01	32.45	27.56	27.69	28.58	26.81	27.34	28.04
TiO <sub>2</sub>	10.94	8.05	9.20	8.05	10.52	8.99	7.36	6.61	8.03	7.59
Al <sub>2</sub> O <sub>3</sub>	5.87	5.74	5.53	5.75	5.24	5.37	5.44	5.36	5.06	5.64
Cr <sub>2</sub> O <sub>3</sub>	0.03	0.02	0.00	0.02	0.01	0.01	0.00	0.01	0.00	0.01
V <sub>2</sub> O <sub>5</sub>	0.11	0.09	0.11	0.11	0.11	0.11	0.11	0.09	0.10	0.09
FeO	20.40	16.90	20.10	19.00	21.30	21.40	20.00	16.60	19.40	17.40
MnO	0.22	0.19	0.21	0.20	0.22	0.21	0.19	0.19	0.19	0.19
MgO	10.00	10.10	9.41	10.10	9.29	9.19	9.22	7.71	8.95	8.68
CaO	15.80	17.90	17.90	18.60	17.90	16.90	16.30	18.10	16.90	16.60
Na <sub>2</sub> O	0.36	0.39	0.42	0.41	0.40	0.77	1.33	1.93	1.25	1.63
K <sub>2</sub> O	0.05	0.04	0.03	0.01	0.02	0.10	0.13	0.74	0.06	0.50
P <sub>2</sub> O <sub>5</sub>	0.54	1.42	2.84	2.14	3.40	2.36	1.79	2.29	2.37	2.59
WO <sub>3</sub>	0.00	0.01	0.03	0.03	0.02	0.02	0.03	0.00	0.01	0.01
SO <sub>2</sub>	0.80	0.72	0.96	0.90	1.10	1.44	1.40	1.52	1.60	0.98
CO <sub>2</sub>	2.10	3.30	2.70	1.30	2.10	4.00	5.90	9.20	5.90	7.50
TotC	0.56	0.91	0.74	0.35	0.57	1.09	1.6	2.51	1.61	2.06
LOI	1.94	3.28	2.23	0.74	1.17	3.51	5.84	9.94	6.46	8.09
Total	98.77	98.75	98.72	98.86	98.83	99.16	99.32	100.40	99.34	100.10
Na <sub>2</sub> O+K <sub>2</sub> O	0.41	0.43	0.45	0.42	0.42	0.87	1.46	2.67	1.31	2.13
CaO/Al <sub>2</sub> O <sub>3</sub>	2.69	3.12	3.24	3.23	3.42	3.15	3.00	3.38	3.34	2.94
MgO/CaO	0.63	0.56	0.53	0.54	0.52	0.54	0.57	0.43	0.53	0.52
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.31	5.75	5.25	5.64	5.26	5.16	5.25	5.00	5.40	4.97
Fe/Mn	93.07	89.28	96.07	95.35	97.18	102.28	105.65	87.69	102.48	91.92
CaO wt. %	34.04	39.70	37.59	38.83	36.75	35.43	35.66	42.49	37.19	38.72
MgO wt. %	21.54	22.40	19.76	21.09	19.07	19.27	20.17	18.10	19.70	20.25
FeO+MnO%	44.42	37.90	42.65	40.08	44.18	45.30	44.17	39.41	43.11	41.03

Sample #	585421	585311	585422	585423	585424	585425	585426	585427	585428	585429
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From	1035.12	1040	1045.7	1047.2	1057.17	1065.34	1070.41	1073.5	1078.18	1080.71
To	1035.24	1041	1045.87	1047.25	1057.32	1065.8	1070.54	1073.64	1078.35	1080.85
SiO <sub>2</sub>	30	28.75	28.57	32.64	29.34	32.06	37.10	33.31	32.10	28.35
TiO <sub>2</sub>	6.93	7.81	8.36	4.74	8.71	7.95	4.36	7.01	7.70	9.01
Al <sub>2</sub> O <sub>3</sub>	5.35	5.86	7.09	9.67	5.81	6.09	12.00	6.71	7.47	6.36
Cr <sub>2</sub> O <sub>3</sub>	0.003	0.01	0.01	0.01	0.00	0.02	0.02	0.06	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.095	0.12	0.11	0.06	0.12	0.10	0.06	0.09	0.10	0.10
FeO	17.9	22.00	22.00	12.00	21.90	19.30	11.30	17.80	19.50	21.10
MnO	0.18	0.19	0.22	0.25	0.23	0.23	0.21	0.22	0.23	0.25
MgO	9.4	10.10	8.95	6.93	9.43	9.89	6.57	9.84	9.67	8.97
CaO	18.3	15.50	17.40	16.40	17.90	18.30	13.10	18.70	18.40	18.10
Na <sub>2</sub> O	1.08	0.69	0.53	1.98	0.35	0.41	2.77	0.44	0.39	0.45
K <sub>2</sub> O	0.055	0.05	0.04	3.42	0.02	0.01	3.22	0.03	0.04	0.01
P <sub>2</sub> O <sub>5</sub>	2.91	2.22	2.05	3.03	2.56	1.84	1.59	1.56	1.44	2.87
WO <sub>3</sub>	0.01	0.03	0.01	0.02	0.02	0.00	0.00	0.02	0.00	0.02
SO <sub>2</sub>	0.86	1.00	1.16	0.40	1.04	0.86	0.44	0.68	0.84	1.06
CO <sub>2</sub>	4.6	3.40	2.50	5.40	2.10	2.20	3.70	2.50	1.80	3.00
TotC	1.27	0.96	0.69	1.46	0.57	0.6	1	0.68	0.51	0.84
LOI	4.93	4.00	1.82	6.50	1.20	1.30	4.96	2.07	0.81	1.51
Total	99.273	99.29	99.01	99.51	99.20	98.95	98.69	99.22	99.20	99.01
Na <sub>2</sub> O+K <sub>2</sub> O	1.14	0.74	0.57	5.40	0.37	0.42	5.99	0.47	0.43	0.46
CaO/Al <sub>2</sub> O <sub>3</sub>	3.42	2.65	2.45	1.70	3.08	3.00	1.09	2.79	2.46	2.85
MgO/CaO	0.51	0.65	0.51	0.42	0.53	0.54	0.50	0.53	0.53	0.50
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.61	4.91	4.03	3.38	5.05	5.26	3.09	4.96	4.30	4.46
Fe/Mn	99.81	116.22	100.37	48.18	95.57	84.22	54.01	81.21	85.10	84.71
CaO wt. %	39.97	32.43	35.82	46.09	36.19	38.35	42.01	40.16	38.49	37.38
MgO wt. %	20.53	21.13	18.43	19.48	19.07	20.73	21.07	21.13	20.23	18.53
FeO+MnO%	39.49	46.43	45.75	34.43	44.74	40.93	36.91	38.70	41.28	44.09

Sample #	585430	585405	585432	585431	585433	585434	585435	585436	585452	585437
From	1083.7	1086.15	1091.41	1092.19	1098.42	1106.5	1116.12	1124.25	1124.8	1128.57
To	1083.84	1086.29	1091.52	1093.32	1098.57	1106.63	1116.28	1124.43	1124.95	1128.86
SiO <sub>2</sub>	34.89	37.06	33.52	32.69	27.39	34.41	37.87	35.13	34.37	31.95
TiO <sub>2</sub>	4.62	3.37	6.95	7.10	8.07	6.65	3.12	4.31	6.80	6.93
Al <sub>2</sub> O <sub>3</sub>	8.86	8.29	7.23	7.28	7.05	7.27	23.70	9.73	16.40	14.60
Cr <sub>2</sub> O <sub>3</sub>	0.05	0.065	0.01	0.02	0.01	0.04	0.00	0.04	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.05	0.036	0.09	0.10	0.13	0.09	0.04	0.05	0.06	0.07
FeO	15.20	14.2	18.80	19.90	25.90	17.40	8.75	13.70	13.50	14.00
MnO	0.28	0.27	0.26	0.26	0.34	0.29	0.13	0.24	0.23	0.21
MgO	10.50	15.6	9.79	9.69	8.78	9.89	3.04	8.93	5.87	7.00
CaO	11.90	9.23	18.10	17.90	16.40	18.60	15.40	12.80	16.90	16.70
Na <sub>2</sub> O	2.19	1.69	0.45	0.46	0.32	0.52	1.69	2.40	0.91	1.16
K <sub>2</sub> O	2.26	2.21	0.02	0.04	0.02	0.02	0.30	2.44	0.22	0.19
P <sub>2</sub> O <sub>5</sub>	2.77	1.77	0.98	1.09	1.92	1.00	0.72	2.12	1.59	1.96
WO <sub>3</sub>	0.02	0.00	0.01	0.00	0.00	0.00	0.03	0.01	0.00	0.02
SO <sub>2</sub>	0.46	0.34	0.66	0.84	0.62	0.64	0.34	0.50	0.60	0.58
CO <sub>2</sub>	3.00	1.8	1.90	2.20	1.50	2.30	3.20	5.00	1.60	3.30
TotC	0.83	0.52	0.56	0.61	0.46	0.65	0.88	1.37	0.46	0.92
LOI	3.30	4.12	1.54	1.40	0.85	1.73	3.47	5.95	1.56	3.34
Total	98.17	98.761	98.97	99.37	98.25	99.17	99.48	99.72	99.47	99.63
Na <sub>2</sub> O+K <sub>2</sub> O	4.45	3.90	0.47	0.50	0.34	0.54	1.99	4.84	1.13	1.35
CaO/Al <sub>2</sub> O <sub>3</sub>	1.34	1.11	2.50	2.46	2.33	2.56	0.65	1.32	1.03	1.14
MgO/CaO	0.88	1.69	0.54	0.54	0.54	0.53	0.20	0.70	0.35	0.42
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	3.94	4.47	4.64	4.49	3.89	4.73	1.60	3.61	2.10	2.19
Fe/Mn	54.49	52.79	72.57	76.82	76.46	60.22	67.56	57.29	58.91	66.91
CaO wt. %	31.41	23.49	38.55	37.49	31.89	40.28	56.37	35.88	46.30	44.05
MgO wt. %	27.72	39.69	20.85	20.29	17.08	21.42	11.13	25.04	16.08	18.46
FeO+MnO%	40.87	36.82	40.60	42.22	51.03	38.31	32.50	39.08	37.62	37.48

Sample #	585438	585439	585441	585440	585442	585443	585444	585498	585445	585499
From	1132.3	1137.8	1145.33	1146.44	1152.1	1154.2	1155.64	1161.5	1163.69	1168.9
To	1132.48	1137.99	1145.49	1146.58	1152.1	1152.65	1155.81	1162	1163.84	1169.1
SiO <sub>2</sub>	22.89	28.07	26.47	34.72	27.99	31.38	28.25	27.73	31.12	24.99
TiO <sub>2</sub>	7.68	9.19	8.66	6.03	9.39	4.15	8.12	8.64	6.95	8.64
Al <sub>2</sub> O <sub>3</sub>	5.94	7.48	5.68	7.55	7.31	8.65	6.69	6.86	8.34	6.41
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.01	0.07	0.01	0.02	0.01	0.00	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.08	0.11	0.086	0.08	0.10	0.05	0.12	0.09	0.11	0.10
FeO	13.60	19.60	17.6	13.70	20.40	14.70	23.00	17.70	19.90	19.10
MnO	0.23	0.28	0.33	0.22	0.29	0.26	0.31	0.25	0.27	0.25
MgO	6.82	9.41	8.44	9.94	8.83	9.43	9.23	8.62	9.43	8.04
CaO	16.00	18.40	18.9	19.20	17.60	14.70	16.70	18.30	18.00	16.20
Na <sub>2</sub> O	1.29	0.33	0.83	0.91	0.56	2.28	0.43	0.40	0.40	1.32
K <sub>2</sub> O	0.12	0.01	0.225	0.06	0.05	2.52	0.03	0.03	0.02	0.11
P <sub>2</sub> O <sub>5</sub>	2.39	3.14	2.81	1.55	2.69	2.46	2.02	3.03	1.54	2.98
WO <sub>3</sub>	0.00	0.03	0.02	0.01	0.01	0.02	0.04	0.03	0.00	0.02
SO <sub>2</sub>	6.11	0.96	0.96	0.50	1.70	0.86	0.90	1.20	1.14	1.72
CO <sub>2</sub>	18.20	2.10	7	3.70	2.60	5.20	5.50	5.50	3.10	7.50
TotC	4.97	0.59	1.91	1.03	0.73	1.44	1.52	1.5	0.89	2.06
LOI	16.00	1.46	6.41	4.11	1.44	6.33	1.85	5.03	1.59	8.16
Total	104.11	99.07	99.341	99.67	99.09	99.25	99.22	99.42	99.71	100.09
Na <sub>2</sub> O+K <sub>2</sub> O	1.41	0.34	1.06	0.97	0.61	4.80	0.46	0.43	0.42	1.43
CaO/Al <sub>2</sub> O <sub>3</sub>	2.69	2.46	3.33	2.54	2.41	1.70	2.50	2.67	2.16	2.53
MgO/CaO	0.43	0.51	0.45	0.52	0.50	0.64	0.55	0.47	0.52	0.50
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	3.85	3.75	4.66	4.60	3.83	3.63	4.22	4.04	3.73	3.90
Fe/Mn	59.35	70.26	53.53	62.50	70.60	56.75	74.47	71.06	73.98	76.68
CaO wt. %	43.66	38.58	41.75	44.59	37.35	37.61	33.92	40.78	37.82	37.16
MgO wt. %	18.61	19.73	18.64	23.08	18.74	24.12	18.74	19.21	19.81	18.44
FeO+MnO%	37.74	41.69	39.61	32.33	43.91	38.27	47.34	40.00	42.37	44.39

Sample #	585446	585500	585302	585303	585304	585305	585447	585448	585449	585450
From	1172.46	1175	1176	1177	1178	1179	1181.76	1184.7	1193.13	1197.54
To	1172.6	1176	1177	1178	1179	1180	1181.92	1184.87	1193.27	1197.7
SiO <sub>2</sub>	29.67	28.72	26.88	27.7	28.92	29.14	29.99	31.14	27.58	24.15
TiO <sub>2</sub>	7.59	9.19	8.34	8.71	8.36	8.45	7.19	5.91	6.80	6.63
Al <sub>2</sub> O <sub>3</sub>	7.32	6.44	6.04	6.2	6.35	6.45	6.74	6.78	6.12	5.49
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.00	0.00	0.005	0.01	0.01	0.02	0.01	0.02	0.02
V <sub>2</sub> O <sub>5</sub>	0.11	0.11	0.11	0.105	0.11	0.11	0.11	0.09	0.08	0.08
FeO	21.00	21.10	23.70	20.3	20.10	20.20	20.00	9.99	16.30	15.00
MnO	0.28	0.30	0.31	0.28	0.28	0.29	0.27	0.25	0.24	0.25
MgO	9.24	9.33	8.70	9.03	9.29	9.36	9.43	2.08	8.34	7.36
CaO	17.70	17.80	17.00	17.1	17.50	17.80	17.70	20.60	15.40	15.90
Na <sub>2</sub> O	0.38	0.33	0.31	0.37	0.32	0.33	0.33	3.27	0.66	2.72
K <sub>2</sub> O	0.03	0.01	0.02	0.021	0.02	0.02	0.02	0.04	0.06	0.15
P <sub>2</sub> O <sub>5</sub>	1.80	2.56	2.86	2.58	2.36	2.37	1.99	1.63	1.68	1.42
WO <sub>3</sub>	0.03	0.02	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.01
SO <sub>2</sub>	0.46	1.48	1.02	1.2	1.12	1.16	1.22	1.56	0.86	0.32
CO <sub>2</sub>	2.10	2.70	3.10	4.8	3.80	3.40	2.70	14.40	11.70	17.10
TotC	0.58	0.74	0.85	1.3	1.04	0.94	0.76	3.93	3.21	4.69
LOI	1.38	0.94	2.11	4.32	3.32	2.66	3.76	15.00	13.20	18.20
Total	97.59	99.07	98.24	99.231	99.11	99.31	99.53	102.26	100.53	102.39
Na <sub>2</sub> O+K <sub>2</sub> O	0.41	0.34	0.33	0.39	0.34	0.35	0.35	3.31	0.72	2.87
CaO/Al <sub>2</sub> O <sub>3</sub>	2.42	2.76	2.81	2.76	2.76	2.76	2.63	3.04	2.52	2.90
MgO/CaO	0.52	0.52	0.51	0.53	0.53	0.53	0.53	0.10	0.54	0.46
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.05	4.46	4.45	4.47	4.55	4.52	4.45	4.59	4.51	4.40
Fe/Mn	75.28	70.59	76.73	72.77	72.05	69.91	74.35	40.11	68.17	60.22
CaO wt. %	36.71	36.68	34.20	36.61	37.10	37.36	37.34	62.58	38.23	41.29
MgO wt. %	19.16	19.23	17.50	19.33	19.69	19.64	19.89	6.32	20.71	19.11
FeO+MnO%	44.13	44.10	48.30	44.06	43.21	43.00	42.76	31.11	41.06	39.60

Sample #	585451	585453	585454	585455	585456	585457	585312	585313	585458	585459
From	1208.14	1217.74	1227.57	1238.52	1245.45	1255.51	1256	1257	1265.23	1274.66
To	1208.3	1217.91	1227.74	1238.68	1245.57	1255.7	1257	1258	1265.39	1274.84
SiO <sub>2</sub>	30.85	33.61	34.78	26.47	20.41	27.21	27.48	26.20	32.60	33.33
TiO <sub>2</sub>	7.36	6.99	4.02	9.39	7.65	8.59	7.17	8.83	6.08	6.05
Al <sub>2</sub> O <sub>3</sub>	7.43	7.25	10.40	6.60	5.47	7.77	7.53	7.59	15.90	16.50
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.04	0.02	0.00	0.001	0.00	0.00	0.01	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.12	0.09	0.04	0.11	0.083	0.11	0.10	0.10	0.07	0.08
FeO	21.30	17.00	12.30	20.20	13.5	19.70	18.50	18.80	13.60	14.80
MnO	0.29	0.25	0.26	0.28	0.23	0.22	0.20	0.21	0.18	0.19
MgO	9.59	9.89	7.80	8.62	6.5	8.33	8.30	8.29	6.03	5.91
CaO	17.00	18.00	13.50	17.60	17.5	17.50	17.70	17.40	16.80	16.50
Na <sub>2</sub> O	0.35	0.43	2.78	0.52	2.13	0.49	0.54	0.95	0.74	0.66
K <sub>2</sub> O	0.01	0.02	3.24	0.04	0.108	0.03	0.07	0.09	0.11	0.08
P <sub>2</sub> O <sub>5</sub>	1.05	0.74	2.42	2.94	2.48	2.36	2.55	2.84	1.52	1.20
WO <sub>3</sub>	0.01	0.04	0.00	0.03	0.01	0.02	0.03	0.02	0.00	0.02
SO <sub>2</sub>	1.18	0.78	0.52	0.96	7.19	1.04	1.50	0.88	0.38	0.64
CO <sub>2</sub>	2.40	3.60	4.20	4.40	21.8	5.10	5.90	5.60	3.90	2.90
TotC	0.66	0.99	1.17	1.22	5.99	1.41	1.62	1.53	1.07	0.8
LOI	1.78	3.66	5.55	4.09	14.6	4.98	6.13	5.85	4.69	2.87
Total	98.99	99.79	98.80	99.07	103.852	99.76	99.42	99.59	99.77	99.62
Na <sub>2</sub> O+K <sub>2</sub> O	0.36	0.45	6.02	0.56	2.24	0.52	0.61	1.04	0.85	0.74
CaO/Al <sub>2</sub> O <sub>3</sub>	2.29	2.48	1.30	2.67	3.20	2.25	2.35	2.29	1.06	1.00
MgO/CaO	0.56	0.55	0.58	0.49	0.37	0.48	0.47	0.48	0.36	0.36
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.15	4.64	3.34	4.01	3.73	3.50	3.65	3.45	2.05	2.02
Fe/Mn	73.72	68.25	47.48	72.41	58.91	89.88	92.84	89.85	75.83	78.18
CaO wt. %	35.28	39.88	39.87	37.69	46.38	38.25	39.60	38.93	45.89	44.12
MgO wt. %	19.90	21.91	23.04	18.46	17.23	18.21	18.57	18.55	16.47	15.80
FeO+MnO%	44.81	38.21	37.09	43.85	36.39	43.54	41.83	42.53	37.64	40.08

Sample #	585460	585461	585489	585462	585463	585464	585465	585466	585467	585468
From	1285.4	1296.24	1301.79	1312.14	1321.54	1333.4	1340.52	1347.63	1353	1354.17
To	1285.56	1296.4	1301.95	1312.32	1321.7	1333.58	1340.68	1347.82	1354.17	1355.05
SiO <sub>2</sub>	29.29	27.03	40.18	27.49	28.01	27.59	26.48	25.69	27.26	26.27
TiO <sub>2</sub>	5.31	8.41	3.11	8.85	9.00	9.9	8.94	10.10	8.23	5.33
Al <sub>2</sub> O <sub>3</sub>	15.00	8.06	9.38	7.51	7.50	7.58	7.27	6.89	8.59	12.10
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.06	0.00	0.00	0.002	0.00	0.00	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.06	0.11	0.04	0.11	0.11	0.101	0.10	0.11	0.10	0.05
FeO	11.90	19.60	12.60	19.80	19.60	19.5	19.10	20.20	17.50	11.80
MnO	0.14	0.22	0.20	0.23	0.23	0.23	0.22	0.24	0.20	0.17
MgO	5.03	8.26	15.50	8.57	8.72	8.68	8.46	8.31	7.91	4.92
CaO	15.20	18.50	8.53	18.00	18.30	17.6	17.40	17.30	17.30	13.70
Na <sub>2</sub> O	0.79	0.33	2.35	0.52	0.34	0.67	1.03	1.07	1.52	4.62
K <sub>2</sub> O	0.15	0.02	1.79	0.03	0.02	0.035	0.05	0.04	0.26	0.55
P <sub>2</sub> O <sub>5</sub>	1.21	3.10	0.95	2.77	2.86	2.8	3.29	3.31	2.60	1.50
WO <sub>3</sub>	0.00	0.03	0.00	0.03	0.03	0.02	0.02	0.02	0.00	0.00
SO <sub>2</sub>	0.48	1.20	0.40	1.06	1.26	1.4	1.10	1.20	1.18	0.06
CO <sub>2</sub>	10.70	4.00	2.60	3.70	3.20	2.8	4.00	3.50	4.70	13.30
TotC	2.92	1.1	0.75	1.02	0.93	0.78	1.11	0.95	1.3	3.64
LOI	13.60	3.65	3.71	3.64	2.53	2.51	4.60	3.54	5.22	17.10
Total	101.07	99.62	99.54	99.63	99.43	99.398	99.17	98.97	99.16	101.80
Na <sub>2</sub> O+K <sub>2</sub> O	0.94	0.35	4.14	0.55	0.36	0.71	1.08	1.11	1.78	5.17
CaO/Al <sub>2</sub> O <sub>3</sub>	1.01	2.30	0.91	2.40	2.44	2.32	2.39	2.51	2.01	1.13
MgO/CaO	0.33	0.45	1.82	0.48	0.48	0.49	0.49	0.48	0.46	0.36
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	1.95	3.35	4.28	3.66	3.73	3.64	3.64	3.73	3.17	2.17
Fe/Mn	85.31	89.42	63.23	86.40	85.53	85.10	87.14	84.48	87.82	69.67
CaO wt.%	47.10	39.72	23.16	38.63	39.06	38.25	38.51	37.57	40.32	44.79
MgO wt.%	15.59	17.73	42.09	18.39	18.61	18.87	18.73	18.05	18.43	16.08
FeO+MnO%	37.31	42.55	34.75	42.98	42.33	42.88	42.76	44.39	41.25	39.13



Sample #	585469	585470	585471	585472	585473	585474	585475	585476	585477	585478
From	1355.05	1356.05	1357.05	1358.08	1359.07	1360.07	1360.73	1361.64	1362.64	1363.66
To	1356.07	1357.05	1358.08	1359.07	1360.07	1360.73	1361.64	1362.64	1363.66	1364.67
SiO <sub>2</sub>	25.30	11.78	24.58	22.15	21.47	21.24	15.7	25.13	20.49	19.11
TiO <sub>2</sub>	5.38	2.91	4.55	6.54	7.27	7.33	5.24	8.27	5.33	3.23
Al <sub>2</sub> O <sub>3</sub>	9.31	3.48	10.70	6.54	5.89	6.23	4.53	7.19	5.87	4.83
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.00	0.00	0.00	0.00	0.001	0.01	0.00	0.01
V <sub>2</sub> O <sub>5</sub>	0.02	0.01	0.03	0.09	0.09	0.07	0.015	0.02	0.02	0.04
FeO	13.00	27.20	12.20	16.00	16.00	16.20	19.3	10.50	17.10	22.30
MnO	0.51	1.26	0.33	0.18	0.20	0.28	0.88	0.45	0.65	0.66
MgO	5.13	7.10	4.94	6.92	6.83	6.57	6.9	5.51	6.34	7.15
CaO	13.80	10.00	14.30	14.40	14.40	14.30	14.3	14.60	14.40	10.80
Na <sub>2</sub> O	4.14	1.89	4.27	4.11	4.37	4.26	2.59	4.31	3.47	3.38
K <sub>2</sub> O	0.32	0.00	0.29	0.73	0.28	0.21	0.008	0.01	0.01	0.03
P <sub>2</sub> O <sub>5</sub>	1.34	1.06	2.01	2.20	2.48	2.29	0.811	0.55	0.80	0.39
WO <sub>3</sub>	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
SO <sub>2</sub>	-0.02	0.02	0.04	0.38	0.08	0.02	-0.02	-0.02	0.10	0.20
CO <sub>2</sub>	17.60	27.50	15.90	15.00	15.40	16.70	26.9	20.60	22.30	25.40
TotC	4.8	8.4	4.34	4.12	4.22	4.59	7.39	5.64	6.1	6.95
LOI	19.60	28.50	19.60	17.30	17.90	18.50	26.8	21.60	22.50	24.70
Total	102.62	103.60	102.17	101.69	101.47	102.08	104.435	103.77	103.17	103.76
Na <sub>2</sub> O+K <sub>2</sub> O	4.46	1.89	4.56	4.84	4.65	4.47	2.60	4.32	3.48	3.41
CaO/Al <sub>2</sub> O <sub>3</sub>	1.48	2.87	1.34	2.20	2.44	2.30	3.16	2.03	2.45	2.24
MgO/CaO	0.37	0.71	0.35	0.48	0.47	0.46	0.48	0.38	0.44	0.66
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	2.72	3.39	2.30	3.39	3.65	3.41	3.47	3.50	3.49	3.96
Fe/Mn	25.58	21.67	37.11	89.22	80.30	58.07	22.01	23.42	26.40	33.91
CaO wt. %	42.54	21.95	45.01	38.40	38.47	38.29	34.56	47.01	37.41	26.40
MgO wt. %	15.81	15.58	15.55	18.45	18.25	17.59	16.67	17.74	16.47	17.48
FeO+MnO%	41.65	62.47	39.44	43.15	43.28	44.12	48.77	35.25	46.12	56.12

Sample #	585479	585480	585481	585482	585483	585488	585484	585485	585314	585315
From	1364.67	1365.29	1366.3	1367.3	1368.3	1378.62	1388.77	1389.79	1390	1391
To	1365.29	1366.3	1367.3	1368.3	1369.3	1378.81	1388.97	1389.95	1391	1392
SiO <sub>2</sub>	21.54	24.17	26.20	26.02	27.42	26.29	26.72	26.99	25.76	26.30
TiO <sub>2</sub>	7.39	6.30	5.88	6.15	6.41	10.08	8.96	9.59	9.29	9.26
Al <sub>2</sub> O <sub>3</sub>	5.33	8.91	10.20	10.60	11.60	6.38	6.70	6.7	6.57	6.53
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.007	0.00	0.01
V <sub>2</sub> O <sub>5</sub>	0.09	0.07	0.05	0.06	0.07	0.09	0.09	0.093	0.09	0.09
FeO	17.30	14.40	12.80	14.60	13.90	19.00	18.70	18.9	18.30	18.20
MnO	0.26	0.20	0.18	0.20	0.18	0.25	0.22	0.25	0.23	0.23
MgO	6.86	5.92	5.70	5.14	4.93	8.71	8.54	8.67	8.47	8.49
CaO	14.40	14.10	13.40	15.30	15.10	17.00	17.20	17.8	16.40	17.40
Na <sub>2</sub> O	3.49	3.96	4.06	2.53	3.29	1.12	1.24	0.86	1.41	1.22
K <sub>2</sub> O	0.43	0.44	0.51	0.82	0.59	0.05	0.06	0.074	0.06	0.06
P <sub>2</sub> O <sub>5</sub>	2.23	1.80	1.52	1.86	1.84	2.93	2.92	3.1	2.99	3.19
WO <sub>3</sub>	0.00	0.01	0.00	0.00	0.03	0.03	0.01	0.01	0.03	0.00
SO <sub>2</sub>	0.38	0.84	0.64	0.58	0.80	1.56	1.46	1.38	1.28	1.08
CO <sub>2</sub>	16.70	15.70	14.40	10.80	9.20	4.30	4.70	4	6.20	5.60
TotC	4.55	4.32	3.96	2.96	2.5	1.18	1.33	1.09	1.68	1.53
LOI	17.50	16.40	16.60	13.70	12.10	4.63	5.56	4.04	6.81	5.83
Total	101.75	101.84	101.70	100.50	100.76	99.30	99.71	99.554	99.37	99.41
Na <sub>2</sub> O+K <sub>2</sub> O	3.92	4.40	4.57	3.35	3.88	1.17	1.30	0.93	1.47	1.28
CaO/Al <sub>2</sub> O <sub>3</sub>	2.70	1.58	1.31	1.44	1.30	2.66	2.57	2.66	2.50	2.66
MgO/CaO	0.48	0.42	0.43	0.34	0.33	0.51	0.50	0.49	0.52	0.49
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.04	2.71	2.57	2.45	2.36	4.12	3.99	4.03	3.92	4.03
Fe/Mn	66.78	72.27	71.37	73.27	77.51	76.28	85.31	75.88	79.86	79.42
CaO wt. %	37.09	40.73	41.77	43.42	44.27	37.81	38.51	39.02	37.79	39.26
MgO wt. %	17.67	17.10	17.77	14.59	14.45	19.37	19.12	19.00	19.52	19.16
FeO+MnO%	45.23	42.17	40.46	42.00	41.28	42.82	42.36	41.98	42.70	41.58

Sample #	585316	585317	585318	585319	585320	585321	585322	585323	585325	585324
From	1392	1393	1394	1400	1401	1402	1403	1404	1404	1405
To	1393	1394	1395	1401	1402	1403	1404	1405	1407	1406
SiO <sub>2</sub>	27.13	26.54	27.36	27.13	28.12	26.98	27.96	27.00	31.16	30.17
TiO <sub>2</sub>	9.90	9.86	9.56	9.17	9.20	9.65	8.56	7.66	7.45	7.63
Al <sub>2</sub> O <sub>3</sub>	6.86	6.70	6.86	6.74	6.77	6.54	6.62	6.43	7.14	7.01
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.014	0.03
V <sub>2</sub> O <sub>5</sub>	0.10	0.10	0.10	0.09	0.09	0.10	0.10	0.11	0.101	0.09
FeO	20.20	19.30	19.40	18.40	18.50	20.10	19.30	20.30	19.5	18.40
MnO	0.25	0.24	0.24	0.23	0.24	0.25	0.22	0.22	0.23	0.24
MgO	8.94	8.67	8.87	8.88	9.07	9.26	8.96	8.83	9.69	9.49
CaO	17.20	17.50	17.80	17.80	17.90	15.40	15.40	14.70	16.4	15.50
Na <sub>2</sub> O	0.72	0.86	0.70	0.83	0.66	0.92	1.26	1.42	0.74	1.23
K <sub>2</sub> O	0.04	0.04	0.04	0.06	0.05	0.06	0.07	0.09	0.081	0.12
P <sub>2</sub> O <sub>5</sub>	2.86	2.99	3.07	2.73	2.84	1.96	1.04	0.89	0.484	0.47
WO <sub>3</sub>	0.02	0.02	0.00	0.02	0.02	0.00	0.00	0.02	0.01	0.02
SO <sub>2</sub>	1.08	1.12	1.08	1.02	0.98	1.12	1.06	1.60	1.24	0.86
CO <sub>2</sub>	3.70	4.00	3.30	4.30	3.50	4.40	6.60	7.40	3.9	5.70
TotC	1	1.09	0.9	1.18	0.96	1.2	1.79	2.02	1.05	1.56
LOI	3.31	3.88	2.87	4.56	3.34	4.88	7.11	8.05	3.37	6.20
Total	99.61	98.91	98.85	98.85	98.77	98.41	99.44	99.34	98.66	99.03
Na <sub>2</sub> O+K <sub>2</sub> O	0.76	0.90	0.74	0.89	0.71	0.98	1.33	1.51	0.82	1.35
CaO/Al <sub>2</sub> O <sub>3</sub>	2.51	2.61	2.59	2.64	2.64	2.35	2.33	2.29	2.30	2.21
MgO/CaO	0.52	0.50	0.50	0.50	0.51	0.60	0.58	0.60	0.59	0.61
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	3.95	3.96	3.99	4.03	4.15	4.13	4.22	4.20	4.36	4.30
Fe/Mn	81.10	80.71	81.13	80.30	77.37	80.70	88.05	92.61	85.10	76.95
CaO wt. %	36.92	38.28	38.44	39.28	39.16	34.21	35.10	33.37	35.79	35.53
MgO wt. %	19.19	18.97	19.15	19.60	19.84	20.57	20.42	20.05	21.15	21.75
FeO+MnO%	43.89	42.75	42.41	41.12	41.00	45.21	44.48	46.58	43.06	42.72

Sample #	585486	585487	585490	585491	585492	585493	585494	585326	585327	585328
From	1408.37	1419.12	1429.58	1439.4	1449.61	1458.65	1467.57	1470	1471	1472
To	1408.57	1419.27	1429.78	1439.62	1449.8	1458.85	1467.8	1471	1472	1473
SiO <sub>2</sub>	31.50	27.38	29.80	29.88	33.18	36.37	28.76	30.50	29.78	28.02
TiO <sub>2</sub>	6.95	9.46	7.55	8.15	6.96	3.66	8.94	8.14	8.48	7.97
Al <sub>2</sub> O <sub>3</sub>	7.51	6.36	6.60	6.72	7.64	9.80	7.54	7.84	7.49	7.21
Cr <sub>2</sub> O <sub>3</sub>	0.04	0.00	0.01	0.02	0.02	0.06	0.01	0.02	0.02	0.017
V <sub>2</sub> O <sub>5</sub>	0.11	0.10	0.10	0.10	0.10	0.05	0.11	0.11	0.10	0.101
FeO	20.00	20.00	19.40	18.90	18.00	12.30	21.10	19.90	19.10	19.2
MnO	0.24	0.24	0.21	0.22	0.20	0.22	0.23	0.22	0.22	0.22
MgO	9.69	8.80	9.47	9.41	9.90	12.20	9.19	9.44	9.20	8.84
CaO	17.10	18.00	18.60	19.20	18.50	12.40	17.70	17.70	17.80	16.8
Na <sub>2</sub> O	0.49	0.32	0.37	0.48	0.37	2.15	0.43	0.45	0.73	1.22
K <sub>2</sub> O	0.02	0.03	0.04	0.03	0.01	2.84	0.05	0.02	0.13	0.305
P <sub>2</sub> O <sub>5</sub>	0.67	3.21	2.91	3.09	1.05	1.44	2.15	1.48	1.74	1.63
WO <sub>3</sub>	0.04	0.02	0.01	0.02	0.02	0.02	0.02	0.00	0.03	0.00
SO <sub>2</sub>	1.42	1.44	1.62	1.20	0.84	0.56	1.40	0.76	0.78	0.74
CO <sub>2</sub>	3.40	3.60	2.70	2.20	2.50	3.60	1.90	1.80	3.30	5.8
TotC	0.95	1.01	0.74	0.63	0.73	1.02	0.53	0.49	0.9	1.57
LOI	2.49	3.04	2.04	1.32	1.92	4.44	0.95	1.45	2.55	5.27
Total	99.22	99.41	99.46	99.36	99.44	99.53	99.11	98.51	99.05	99.103
Na <sub>2</sub> O+K <sub>2</sub> O	0.51	0.35	0.41	0.51	0.38	4.99	0.48	0.47	0.86	1.53
CaO/Al <sub>2</sub> O <sub>3</sub>	2.28	2.83	2.82	2.86	2.42	1.27	2.35	2.26	2.38	2.33
MgO/CaO	0.57	0.49	0.51	0.49	0.54	0.98	0.52	0.53	0.52	0.53
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.19	4.31	4.52	4.45	4.34	3.71	3.81	3.89	3.98	3.89
Fe/Mn	83.64	83.64	92.72	86.23	90.33	56.12	92.08	90.79	87.14	87.60
CaO wt. %	36.36	38.27	39.01	40.23	39.70	33.41	36.71	37.45	38.43	37.28
MgO wt. %	20.60	18.71	19.86	19.72	21.24	32.87	19.06	19.97	19.86	19.62
FeO+MnO%	43.04	43.03	41.13	40.06	39.06	33.73	44.23	42.57	41.71	43.10

Sample #	585329	585330	585331	585332	585495	585496	585333	585334	585497	585335
From	1473	1474	1475	1476	1477.2	1482.7	1486	1487.7	1493.41	1500.55
To	1474	1475	1476	1477	1477.4	1482.89	1487	1488	1493.58	1501
SiO <sub>2</sub>	29.52	29.49	30.50	32.70	31.78	36.96	29.39	36.00	28.23	28.07
TiO <sub>2</sub>	8.61	9.57	9.10	6.27	6.54	4.25	4.78	3.92	9.06	7.55
Al <sub>2</sub> O <sub>3</sub>	7.63	7.55	7.76	8.18	8.33	11.30	9.99	11.00	7.82	8.15
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.03	0.03	0.07	0.05	0.04	0.01	0.04	0.01	0.01
V <sub>2</sub> O <sub>5</sub>	0.11	0.10	0.09	0.09	0.10	0.05	0.06	0.05	0.11	0.12
FeO	20.30	20.10	17.50	15.90	18.30	12.10	14.90	11.80	20.60	21.10
MnO	0.23	0.23	0.21	0.20	0.21	0.22	0.32	0.21	0.23	0.22
MgO	9.23	9.29	9.21	9.41	9.36	7.28	6.04	7.56	8.82	9.09
CaO	17.40	17.40	17.90	18.60	18.90	12.90	13.70	12.40	17.90	17.50
Na <sub>2</sub> O	0.62	0.54	0.78	1.10	0.72	2.85	3.79	3.31	0.35	0.47
K <sub>2</sub> O	0.08	0.04	0.06	0.15	0.09	2.85	0.58	2.28	0.04	0.04
P <sub>2</sub> O <sub>5</sub>	1.56	1.59	1.51	1.00	1.71	1.67	1.64	1.67	2.32	1.75
WO <sub>3</sub>	0.01	0.04	0.01	0.04	0.01	0.02	0.02	0.00	0.02	0.02
SO <sub>2</sub>	0.96	0.76	0.68	0.90	1.16	0.56	0.32	0.32	1.46	0.90
CO <sub>2</sub>	2.50	2.50	3.30	4.40	2.40	4.20	10.60	5.50	2.40	3.00
TotC	0.69	0.67	0.9	1.2	0.68	1.15	2.88	1.5	0.65	0.82
LOI	1.76	1.55	2.59	3.80	1.65	5.08	12.20	7.19	1.28	3.02
Total	98.71	98.95	98.83	99.61	99.58	99.27	100.62	99.23	98.89	98.83
Na <sub>2</sub> O+K <sub>2</sub> O	0.70	0.58	0.84	1.25	0.81	5.70	4.37	5.59	0.39	0.51
CaO/Al <sub>2</sub> O <sub>3</sub>	2.28	2.30	2.31	2.27	2.27	1.14	1.37	1.13	2.29	2.15
MgO/CaO	0.53	0.53	0.51	0.51	0.50	0.56	0.44	0.61	0.49	0.52
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	3.87	3.91	3.93	4.00	3.82	3.27	2.94	3.27	3.61	3.44
Fe/Mn	88.59	87.71	83.64	79.79	87.46	55.20	46.73	56.40	89.90	96.26
CaO wt. %	36.90	37.01	39.94	42.17	40.41	39.69	39.19	38.79	37.64	36.53
MgO wt. %	19.57	19.76	20.55	21.33	20.01	22.40	17.28	23.65	18.55	18.97
FeO+MnO%	43.53	43.24	39.51	36.50	39.58	37.91	43.54	37.57	43.81	44.50

Sample #	585336	585337	585338	585339	585340	585341	585342	585343	585344	585345
From	1515	1523	1524	1525	1535	1536	1537	1538	1539	1539.77
To	1515.35	1524	1525	1526	1536	1537	1538	1539	1539.77	1540
SiO <sub>2</sub>	28.78	27.64	25.99	26.66	27.88	28.13	28.28	27.87	27.50	25.70
TiO <sub>2</sub>	5.78	6.33	8.45	9.16	9.54	10.08	8.76	8.65	9.35	9.30
Al <sub>2</sub> O <sub>3</sub>	7.17	8.43	5.79	5.89	6.18	6.01	6.20	6.27	6.01	5.66
Cr <sub>2</sub> O <sub>3</sub>	0.012	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01
V <sub>2</sub> O <sub>5</sub>	0.074	0.08	0.10	0.10	0.11	0.10	0.11	0.13	0.12	0.11
FeO	14.3	16.20	17.90	18.00	20.20	19.10	20.70	22.70	21.50	21.20
MnO	0.2	0.25	0.18	0.19	0.20	0.19	0.20	0.20	0.21	0.21
MgO	8.11	6.91	8.50	8.75	9.24	9.36	9.37	9.34	9.31	9.02
CaO	18	14.60	16.90	17.40	18.60	17.90	17.40	16.80	17.50	18.60
Na <sub>2</sub> O	1.66	2.49	0.53	0.55	0.37	0.44	0.46	0.35	0.33	0.36
K <sub>2</sub> O	0.822	0.40	0.09	0.07	0.02	0.03	0.03	0.02	0.02	0.02
P <sub>2</sub> O <sub>5</sub>	2.18	2.15	2.79	3.02	3.52	2.89	2.34	2.14	2.89	3.38
WO <sub>3</sub>	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.00
SO <sub>2</sub>	0.76	0.58	0.90	0.94	1.02	0.96	1.52	1.14	1.04	1.08
CO <sub>2</sub>	8.2	10.20	8.80	6.80	2.20	3.00	3.60	2.80	2.60	3.20
TotC	2.24	2.77	2.41	1.85	0.67	0.89	1.02	0.81	0.76	0.94
LOI	9.59	11.60	9.33	7.14	1.13	2.21	2.14	1.94	1.77	2.77
Total	99.668	100.42	99.85	99.71	98.74	98.30	98.52	98.38	98.30	98.35
Na <sub>2</sub> O+K <sub>2</sub> O	2.48	2.89	0.62	0.62	0.39	0.47	0.49	0.37	0.35	0.38
CaO/Al <sub>2</sub> O <sub>3</sub>	2.51	1.73	2.92	2.95	3.01	2.98	2.81	2.68	2.91	3.29
MgO/CaO	0.45	0.47	0.50	0.50	0.50	0.52	0.54	0.56	0.53	0.48
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.01	3.28	4.49	4.53	4.51	4.68	4.56	4.44	4.58	4.54
Fe/Mn	71.76	65.04	99.81	95.09	101.37	100.90	103.88	113.92	102.76	101.33
CaO wt. %	44.32	38.46	38.87	39.24	38.56	38.45	36.50	34.26	36.07	37.94
MgO wt. %	19.97	18.20	19.55	19.73	19.15	20.11	19.66	19.05	19.19	18.40
FeO+MnO%	35.71	43.34	41.58	41.02	42.29	41.44	43.84	46.70	44.74	43.67

Sample #	585346	585347	585348	585349	2570	585350	585351	585352	585353	585354
From	1547.7	1554.78	1558.07	1559.32	1569.55	1580	1581	1582	1591.03	1591.4
To	1548	1554.98	1558.37	1559.7	1569.75	1581	1582	1583	1591.27	1591.65
SiO <sub>2</sub>	26.77	26.22	27.55	27.64	31.74	27.84	30.37	31.14	31.14	31.49
TiO <sub>2</sub>	8.16	9.48	9.82	8.17	8.27	9.72	8.90	8.36	7.11	5.41
Al <sub>2</sub> O <sub>3</sub>	5.94	5.46	6.02	6.34	6.42	5.97	6.34	6.47	5.94	6.16
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.004	0.00	0.01	0.03	0.01	0.01	0.02	0.08	0.07
V <sub>2</sub> O <sub>5</sub>	0.10	0.099	0.11	0.09	0.10	0.11	0.11	0.11	0.09	0.09
FeO	19.00	18.9	20.20	18.00	19.30	20.80	20.70	19.80	16.70	15.50
MnO	0.18	0.17	0.20	0.20	0.20	0.20	0.20	0.19	0.17	0.15
MgO	8.88	8.77	9.25	9.24	9.89	9.38	9.89	9.89	9.79	9.79
CaO	16.90	17.3	18.30	17.30	18.10	18.50	17.80	18.20	18.00	18.60
Na <sub>2</sub> O	0.98	1.06	0.47	1.42	0.47	0.33	0.35	0.37	0.78	0.97
K <sub>2</sub> O	0.48	0.026	0.02	0.67	0.10	0.02	0.02	0.02	0.02	0.04
P <sub>2</sub> O <sub>5</sub>	3.05	3.08	3.28	3.21	2.11	3.49	1.98	2.01	1.91	1.65
WO <sub>3</sub>	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	0.02	0.04	0.02	-0.01
SO <sub>2</sub>	1.18	1.2	1.24	1.20	1.04	1.12	1.04	1.02	0.72	0.58
CO <sub>2</sub>	6.10	6.1	2.80	5.40	1.60	2.70	2.00	1.90	5.40	6.70
TotC	1.7	1.68	0.8	1.48	0.49	0.73	0.54	0.53	1.47	1.83
LOI	5.77	6.24	1.63	4.86	0.80	0.53	0.66	0.90	5.14	7.96
Total	99.08	99.679	98.88	99.83	99.05	98.76	98.94	99.07	99.08	100.28
Na <sub>2</sub> O+K <sub>2</sub> O	1.46	1.09	0.49	2.09	0.57	0.35	0.37	0.39	0.80	1.01
CaO/Al <sub>2</sub> O <sub>3</sub>	2.85	3.17	3.04	2.73	2.82	3.10	2.81	2.81	3.03	3.02
MgO/CaO	0.53	0.51	0.51	0.53	0.55	0.51	0.56	0.54	0.54	0.53
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.51	4.80	4.58	4.36	4.94	4.66	4.79	4.81	5.24	5.11
Fe/Mn	105.95	111.59	101.37	90.33	96.86	104.38	103.88	104.60	98.60	103.71
CaO wt. %	37.59	38.33	38.16	38.67	38.11	37.85	36.63	37.85	40.30	42.23
MgO wt. %	19.75	19.43	19.29	20.65	20.83	19.19	20.35	20.57	21.92	22.23
FeO+MnO%	42.66	42.25	42.54	40.68	41.06	42.96	43.01	41.58	37.77	35.54

Sample #	2571	2572	2573	2574	585355	585356	585357	585358	585359	585360
From	1602.39	1612.47	1624.15	1637.39	1644	1645	1646	1647	1648	1649
To	1602.52	1612.67	1624.43	1637.64	1645	1646	1647	1648	1649	1650
SiO <sub>2</sub>	33.67	39.00	30.04	36.21	35.75	34.04	33.76	32.24	30.82	28.00
TiO <sub>2</sub>	6.47	5.13	7.38	5.58	6.27	7.10	6.88	7.51	8.76	9.51
Al <sub>2</sub> O <sub>3</sub>	6.74	7.44	7.15	7.03	6.80	6.80	6.86	6.73	6.50	5.97
Cr <sub>2</sub> O <sub>3</sub>	0.02	0.14	0.018	0.10	0.05	0.02	0.01	0.01	0.00	0.00
V <sub>2</sub> O <sub>5</sub>	0.11	0.08	0.126	0.09	0.11	0.12	0.12	0.12	0.12	0.12
FeO	18.90	13.00	22.3	15.70	17.70	19.90	20.10	21.20	21.60	21.70
MnO	0.17	0.15	0.23	0.18	0.20	0.21	0.21	0.22	0.23	0.23
MgO	10.30	11.10	9.69	10.60	10.80	10.60	10.50	10.20	9.94	9.49
CaO	18.40	20.20	17.6	19.00	18.40	17.60	17.80	17.40	17.10	18.30
Na <sub>2</sub> O	0.44	0.49	0.38	0.48	0.41	0.39	0.39	0.38	0.36	0.32
K <sub>2</sub> O	0.04	0.06	0.044	0.07	0.02	0.02	0.02	0.02	0.02	0.01
P <sub>2</sub> O <sub>5</sub>	1.28	0.53	1.82	0.93	0.42	0.34	0.61	0.93	1.27	3.31
WO <sub>3</sub>	0.03	0.04	0.00	0.00	0.04	0.03	0.02	0.02	0.03	0.01
SO <sub>2</sub>	1.14	0.64	1.36	0.66	0.44	0.60	0.72	0.90	1.10	1.06
CO <sub>2</sub>	1.60	1.50	1.5	2.40	1.90	1.70	1.50	1.60	1.70	1.80
TotC	0.46	0.42	0.45	0.72	0.52	0.47	0.46	0.44	0.45	0.49
LOI	0.81	1.08	0.49	1.86	1.05	0.80	0.55	0.65	0.63	0.37
Total	98.99	99.50	99.068	99.20	98.97	99.03	99.01	98.97	98.93	98.90
Na <sub>2</sub> O+K <sub>2</sub> O	0.48	0.55	0.42	0.55	0.43	0.41	0.41	0.40	0.38	0.33
CaO/Al <sub>2</sub> O <sub>3</sub>	2.73	2.72	2.46	2.70	2.71	2.59	2.59	2.59	2.63	3.07
MgO/CaO	0.56	0.55	0.55	0.56	0.59	0.60	0.59	0.59	0.58	0.52
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.00	5.24	4.20	5.15	5.26	5.01	4.92	4.79	4.74	4.69
Fe/Mn	111.59	86.99	97.31	87.54	88.83	95.11	96.07	96.72	94.26	94.70
CaO wt. %	38.52	45.44	35.33	41.78	39.07	36.43	36.62	35.50	34.99	36.81
MgO wt. %	21.56	24.97	19.45	23.31	22.93	21.94	21.60	20.81	20.34	19.09
FeO+MnO%	39.92	29.58	45.22	34.92	38.00	41.63	41.78	43.70	44.67	44.11



Sample #	585361	585362	585363	585364	585365	585366	585367	585368	585369	585370
From	1650	1651	1652	1653	1655	1656	1657	1658	1659	1662.2
To	1651	1652	1653	1654	1656	1657	1658	1659	1660	1662.55
SiO <sub>2</sub>	27.71	27.66	30.40	30.06	32.37	33.93	31.18	36.65	37.73	33.54
TiO <sub>2</sub>	9.59	9.92	9.31	8.95	8.29	8.33	10.61	5.85	5.27	6.71
Al <sub>2</sub> O <sub>3</sub>	5.87	5.80	6.10	6.11	6.71	6.35	5.67	6.45	6.46	6.24
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.02	0.04	0.026	0.04	0.04	0.06	0.11	0.11	0.03
V <sub>2</sub> O <sub>5</sub>	0.12	0.12	0.11	0.109	0.10	0.10	0.10	0.10	0.09	0.12
FeO	21.80	21.70	20.20	20.2	17.70	17.40	18.60	16.50	15.00	20.60
MnO	0.23	0.23	0.22	0.21	0.21	0.20	0.22	0.20	0.18	0.22
MgO	9.43	9.44	9.89	9.84	9.94	10.50	10.20	11.10	11.20	10.50
CaO	18.30	18.20	18.00	18	17.90	18.50	17.90	18.80	19.60	17.20
Na <sub>2</sub> O	0.33	0.32	0.35	0.43	0.74	0.39	0.40	0.41	0.43	0.37
K <sub>2</sub> O	0.01	0.01	0.01	0.03	0.37	0.02	0.03	0.01	0.01	0.02
P <sub>2</sub> O <sub>5</sub>	3.46	3.48	2.16	2.32	1.61	1.22	1.94	0.59	0.77	0.49
WO <sub>3</sub>	0.05	0.01	0.01	0.01	0.00	0.02	0.02	0.00	0.01	0.02
SO <sub>2</sub>	1.08	1.14	0.94	1.04	0.66	0.60	0.82	0.46	0.74	1.02
CO <sub>2</sub>	1.70	2.10	1.90	1.9	2.50	2.10	1.90	2.30	1.80	1.80
TotC	0.47	0.56	0.52	0.53	0.67	0.57	0.52	0.64	0.48	0.49
LOI	0.28	0.09	0.53	0.8	1.61	0.71	0.61	1.18	1.04	1.08
Total	98.74	98.70	98.79	98.665	98.90	98.87	98.88	99.04	99.12	98.64
Na <sub>2</sub> O+K <sub>2</sub> O	0.34	0.33	0.36	0.46	1.11	0.41	0.43	0.42	0.44	0.39
CaO/Al <sub>2</sub> O <sub>3</sub>	3.12	3.14	2.95	2.95	2.67	2.91	3.16	2.91	3.03	2.76
MgO/CaO	0.52	0.52	0.55	0.55	0.56	0.57	0.57	0.59	0.57	0.61
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	4.72	4.77	4.98	4.92	4.82	5.34	5.50	5.68	5.84	5.38
Fe/Mn	95.13	94.70	92.16	96.55	84.60	87.32	84.86	82.80	83.64	93.98
CaO wt. %	36.78	36.72	37.26	37.31	39.13	39.70	38.15	40.34	42.63	35.45
MgO wt. %	18.95	19.04	20.47	20.39	21.73	22.53	21.74	23.82	24.36	21.64
FeO+MnO%	44.27	44.24	42.27	42.30	39.15	37.77	40.11	35.84	33.01	42.91

Sample #	585371	585372	585373	585374	585375	585376	585377	585378	585379	585380
From	1671.37	1681	1682	1683	1684	1698	1701.6	1704.36	1717.2	1718.65
To	1671.83	1682	1683	1684	1685	1699	1701.94	1704.61	1717.63	1718.85
SiO <sub>2</sub>	30.83	33.90	38.58	36.28	32.14	16.32	33.67	27.33	34.57	27.72
TiO <sub>2</sub>	10.02	7.00	4.61	4.49	4.59	2.14	4.91	9.43	6.50	10.39
Al <sub>2</sub> O <sub>3</sub>	5.47	5.69	6.27	6.26	5.37	3.08	5.87	5.43	6.44	5.43
Cr <sub>2</sub> O <sub>3</sub>	0.03	0.11	0.07	0.07	0.068	0.05	0.06	0.01	0.04	0.01
V <sub>2</sub> O <sub>5</sub>	0.10	0.08	0.07	0.08	0.078	0.04	0.09	0.11	0.11	0.12
FeO	19.00	14.60	12.30	12.70	15.3	20.00	14.80	20.70	19.40	22.00
MnO	0.21	0.17	0.16	0.16	0.32	1.00	0.17	0.20	0.17	0.20
MgO	10.10	10.30	11.10	10.50	9.89	7.77	9.22	9.34	10.80	9.69
CaO	18.50	19.90	20.40	20.80	18.3	15.30	18.20	17.70	16.90	17.60
Na <sub>2</sub> O	0.37	0.97	0.96	0.94	1.59	2.95	2.38	0.68	0.56	0.35
K <sub>2</sub> O	0.01	0.13	0.12	0.28	0.031	0.01	0.33	0.28	0.02	0.02
P <sub>2</sub> O <sub>5</sub>	2.54	2.53	1.10	2.83	1.01	0.40	0.92	3.16	0.64	2.97
WO <sub>3</sub>	0.02	0.04	0.02	0.04	0.01	0.02	0.00	0.02	0.03	0.01
SO <sub>2</sub>	0.94	0.66	0.38	0.60	0.48	0.70	0.38	1.02	0.76	1.16
CO <sub>2</sub>	1.50	3.30	3.00	2.90	8.1	27.00	6.70	2.90	1.60	1.50
TotC	0.42	0.9	0.82	0.78	2.21	7.37	1.84	0.82	0.44	0.41
LOI	0.32	2.49	2.64	2.44	8.53	26.30	6.81	2.26	1.43	1.21
Total	98.88	99.47	99.60	99.24	99.917	103.45	99.64	98.49	98.81	99.29
Na <sub>2</sub> O+K <sub>2</sub> O	0.38	1.10	1.08	1.22	1.62	2.96	2.71	0.96	0.58	0.37
CaO/Al <sub>2</sub> O <sub>3</sub>	3.38	3.50	3.25	3.32	3.41	4.97	3.10	3.26	2.62	3.24
MgO/CaO	0.55	0.52	0.54	0.50	0.54	0.51	0.51	0.53	0.64	0.55
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.64	5.96	6.15	5.80	5.99	5.30	5.74	5.03	5.37	5.10
Fe/Mn	90.81	86.20	77.16	79.67	47.99	20.07	87.38	103.88	114.54	110.41
CaO wt. %	38.69	44.25	46.41	47.10	41.77	34.72	42.93	36.92	35.75	35.56
MgO wt. %	21.13	22.90	25.25	23.78	22.57	17.63	21.75	19.48	22.85	19.58
FeO+MnO%	40.18	32.84	28.34	29.12	35.65	47.65	35.31	43.60	41.40	44.86

Sample #	585381	585382	585383	585384	585385	585386	585387	585388	585389	585390
From	1722	1723	1724	1725	1726	1733	1734	1745.65	1751.6	1756
To	1723	1724	1725	1726	1727	1734	1735	1746	1752	1757
SiO <sub>2</sub>	26.45	30.04	29.66	33.23	31.01	32.01	29.68	33.84	29.80	31.04
TiO <sub>2</sub>	6.91	5.31	5.94	5.61	7.28	5.67	7.32	6.01	10.13	7.82
Al <sub>2</sub> O <sub>3</sub>	5.23	6.31	5.45	5.98	6.05	5.67	5.89	6.38	5.47	5.75
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.05	0.06	0.06	0.02	0.094	0.02	0.03	0.04	0.02
V <sub>2</sub> O <sub>5</sub>	0.11	0.06	0.09	0.10	0.12	0.087	0.11	0.10	0.10	0.10
FeO	18.90	13.30	15.00	16.60	20.20	17.3	19.30	17.50	18.40	18.90
MnO	0.25	0.22	0.15	0.15	0.18	0.18	0.17	0.16	0.17	0.16
MgO	8.86	8.47	9.30	10.20	9.99	11.9	9.69	10.40	9.79	9.94
CaO	14.50	14.10	16.10	17.90	16.30	15.4	16.00	17.70	18.10	17.90
Na <sub>2</sub> O	2.65	4.01	2.63	0.83	0.75	1.25	1.35	0.86	0.45	0.53
K <sub>2</sub> O	0.69	0.89	0.25	0.03	0.03	0.059	0.07	0.10	0.03	0.03
P <sub>2</sub> O <sub>5</sub>	0.55	0.85	1.66	1.21	0.73	0.513	1.14	0.66	2.50	2.05
WO <sub>3</sub>	0.00	0.01	0.03	0.02	0.00	0.00	0.01	0.01	0.01	0.01
SO <sub>2</sub>	1.06	0.54	0.64	0.58	0.98	0.8	0.92	0.54	0.94	1.08
CO <sub>2</sub>	11.00	12.40	10.70	5.40	4.10	6.3	5.90	0.30	3.00	3.50
TotC	2.99	3.39	2.94	1.48	1.14	1.72	1.62	0.1	0.84	0.96
LOI	11.00	13.30	11.40	5.06	3.44	6.6	5.89	3.95	2.23	2.59
Total	100.15	100.85	101.29	99.03	98.20	99.243	99.18	98.34	99.00	98.88
Na <sub>2</sub> O+K <sub>2</sub> O	3.34	4.90	2.88	0.86	0.78	1.31	1.42	0.96	0.48	0.56
CaO/Al <sub>2</sub> O <sub>3</sub>	2.77	2.23	2.95	2.99	2.69	2.72	2.72	2.77	3.31	3.11
MgO/CaO	0.61	0.60	0.58	0.57	0.61	0.77	0.61	0.59	0.54	0.56
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.06	4.76	5.44	5.56	5.13	5.65	5.04	5.30	5.45	5.40
Fe/Mn	75.88	60.68	100.37	111.08	112.64	96.47	113.95	109.78	108.63	118.56
CaO wt. %	34.11	39.07	39.70	39.91	34.93	34.39	35.43	38.68	38.96	38.17
MgO wt. %	20.84	23.47	22.93	22.74	21.41	26.57	21.46	22.73	21.07	21.19
FeO+MnO%	45.05	37.46	37.36	37.35	43.67	39.04	43.11	38.59	39.97	40.64

Sample #	585391	585392	585393	585394	585395	585396	585397	2501	2502	2503
From	1761	1762	1763	1764	1765	1766	1767	1776	1777	1778
To	1762	1763	1764	1765	1766	1767	1768	1777	1778	1779
SiO <sub>2</sub>	27.49	26.59	27.92	31.66	33.66	32.25	29.84	31.33	30.19	30.01
TiO <sub>2</sub>	9.39	9.38	10.38	7.73	6.77	6.31	9.39	7.78	8.18	9.39
Al <sub>2</sub> O <sub>3</sub>	5.43	5.31	5.31	5.73	5.88	5.86	5.52	5.95	5.83	5.68
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.00	0.01	0.04	0.04	0.02	0.011	0.00	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.12	0.12	0.11	0.10	0.10	0.11	0.116	0.13	0.13	0.13
FeO	21.60	21.90	21.10	18.70	17.30	18.60	20.9	22.50	22.80	22.70
MnO	0.18	0.18	0.18	0.16	0.16	0.16	0.19	0.18	0.18	0.18
MgO	9.59	9.32	9.59	10.10	10.50	10.10	9.99	10.20	10.10	10.00
CaO	17.90	17.60	17.60	17.70	18.60	17.50	17.4	16.60	16.60	16.50
Na <sub>2</sub> O	0.51	0.75	0.53	0.77	0.75	1.11	0.49	0.39	0.46	0.35
K <sub>2</sub> O	0.08	0.22	0.05	0.10	0.14	0.27	0.036	0.03	0.03	0.02
P <sub>2</sub> O <sub>5</sub>	3.27	3.49	3.19	1.61	1.67	1.21	2.07	1.08	1.44	1.36
WO <sub>3</sub>	0.03	0.01	0.00	0.02	0.00	0.05	0.05	0.00	0.00	0.03
SO <sub>2</sub>	1.16	1.10	1.10	0.94	0.82	0.80	1.1	1.12	1.46	1.44
CO <sub>2</sub>	2.60	3.50	2.20	3.30	2.60	4.10	2.4	1.80	2.10	2.20
TotC	0.74	0.95	0.63	0.9	0.73	1.11	0.66	0.52	0.6	0.62
LOI	1.54	2.18	1.39	2.53	1.67	3.39	0.93	0.81	0.85	0.42
Total	99.03	99.10	99.08	98.79	98.77	98.85	98.693	98.60	98.84	98.83
Na <sub>2</sub> O+K <sub>2</sub> O	0.59	0.97	0.58	0.87	0.89	1.38	0.53	0.42	0.49	0.37
CaO/Al <sub>2</sub> O <sub>3</sub>	3.30	3.31	3.31	3.09	3.16	2.99	3.15	2.79	2.85	2.90
MgO/CaO	0.54	0.53	0.54	0.57	0.56	0.58	0.57	0.61	0.61	0.61
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.06	5.01	5.26	5.53	5.72	5.50	5.41	5.27	5.18	5.28
Fe/Mn	120.44	122.12	117.66	117.31	108.52	116.68	110.41	125.46	127.13	126.58
CaO wt. %	36.33	35.92	36.31	37.93	39.95	37.75	35.89	33.55	33.41	33.41
MgO wt. %	19.46	19.02	19.79	21.65	22.55	21.79	20.61	20.61	20.33	20.25
FeO+MnO%	44.21	45.06	43.90	40.42	37.50	40.47	43.50	45.84	46.26	46.33

Sample #	2504	585398	585399	585400	2575
From	1779	1783.1	1785.4	1787.25	1787.6
To	1780	1783.84	1786	1787.55	1787.89
SiO <sub>2</sub>	28.12	31.17	28.44	29.44	29.04
TiO <sub>2</sub>	10.88	7.45	7.34	9.38	9.59
Al <sub>2</sub> O <sub>3</sub>	5.34	5.62	5.28	5.42	5.55
Cr <sub>2</sub> O <sub>3</sub>	0.01	0.02	0.01	0.01	0.00
V <sub>2</sub> O <sub>5</sub>	0.12	0.11	0.10	0.11	0.11
FeO	22.60	19.70	19.00	21.10	21.10
MnO	0.19	0.16	0.15	0.17	0.18
MgO	9.84	9.99	9.42	9.94	9.88
CaO	16.60	16.30	15.20	17.10	17.60
Na <sub>2</sub> O	0.34	1.22	2.16	0.46	0.43
K <sub>2</sub> O	0.02	0.32	0.53	0.04	0.06
P <sub>2</sub> O <sub>5</sub>	2.13	0.89	0.93	2.15	2.56
WO <sub>3</sub>	0.04	0.01	0.01	0.01	0.02
SO <sub>2</sub>	1.50	1.06	1.32	1.22	1.30
CO <sub>2</sub>	1.80	4.50	8.40	2.10	2.10
TotC	0.51	1.23	2.29	0.58	0.58
LOI	0.51	3.55	8.09	1.21	1.13
Total	98.75	98.80	100.27	98.33	99.14
Na <sub>2</sub> O+K <sub>2</sub> O	0.36	1.54	2.69	0.50	0.49
CaO/Al <sub>2</sub> O <sub>3</sub>	3.11	2.90	2.88	3.15	3.17
MgO/CaO	0.59	0.61	0.62	0.58	0.56
SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>	5.27	5.55	5.39	5.43	5.23
Fe/Mn	119.39	123.58	127.13	124.58	117.66
CaO wt. %	33.72	35.32	34.73	35.40	36.10
MgO wt. %	19.99	21.65	21.52	20.58	20.26
FeO+MnO%	46.29	43.03	43.75	44.03	43.64