

## So-OT pfd-upper (loc.12 Tobanoyu)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.8	0.3	12.5	2.2	0.1	0.4	1.8	2.8	3.0	100.0
2	76.6	0.3	12.7	2.0	0.1	0.4	1.9	2.6	3.4	100.0
3	76.8	0.3	12.6	2.1	0.1	0.4	2.0	2.6	3.2	100.0
4	77.0	0.3	12.6	2.1	0.2	0.4	1.9	2.5	3.2	100.0
5	77.1	0.2	12.7	2.1	0.1	0.4	1.8	2.7	3.0	100.0
6	77.2	0.3	12.3	2.2	0.2	0.4	1.8	2.4	3.2	100.0
7	77.1	0.3	12.7	2.2	0.1	0.4	1.8	2.4	3.1	100.0
8	76.6	0.4	12.6	2.2	0.2	0.3	1.8	2.6	3.4	100.0
9	77.2	0.3	12.6	1.9	0.1	0.3	1.9	2.5	3.2	100.0
10	76.7	0.3	12.6	2.1	0.3	0.4	1.9	2.4	3.3	100.0
11	78.1	0.2	12.7	2.0	0.1	0.4	1.7	2.2	2.7	100.0
12	77.7	0.2	12.6	2.0	0.0	0.4	1.7	2.4	3.1	100.0
13	77.3	0.2	12.7	2.0	0.1	0.3	1.9	2.6	3.0	100.0
14	76.9	0.3	12.6	2.0	0.1	0.4	1.8	2.6	3.2	100.0
15	76.5	0.4	12.5	2.6	0.2	0.4	1.9	2.5	3.0	100.0
16	77.4	0.2	12.6	2.1	0.0	0.3	1.8	2.6	3.0	100.0
Ave.	77.1	0.3	12.6	2.1	0.1	0.4	1.8	2.5	3.1	100.0
S.D.	0.4	0.1	0.1	0.2	0.1	0.0	0.1	0.2	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.1	0.3	12.2	2.2	0.0	0.4	1.8	2.8	3.0	97.8
2	74.9	0.3	12.4	2.0	0.1	0.4	1.8	2.6	3.3	97.7
3	73.8	0.3	12.1	2.0	0.1	0.4	1.9	2.5	3.1	96.2
4	74.5	0.3	12.1	2.0	0.2	0.4	1.8	2.4	3.1	96.7
5	74.9	0.2	12.3	2.0	0.1	0.4	1.8	2.6	2.9	97.1
6	75.0	0.3	12.0	2.1	0.2	0.4	1.7	2.3	3.1	97.2
7	74.8	0.3	12.3	2.1	0.1	0.3	1.8	2.3	3.0	97.0
8	74.7	0.4	12.3	2.1	0.2	0.3	1.8	2.5	3.3	97.5
9	74.9	0.3	12.2	1.8	0.1	0.3	1.9	2.4	3.1	97.0
10	75.0	0.3	12.3	2.1	0.3	0.4	1.8	2.3	3.2	97.8
11	75.4	0.2	12.3	1.9	0.1	0.4	1.7	2.1	2.6	96.6
12	75.2	0.2	12.2	1.9	0.0	0.4	1.7	2.3	3.0	96.9
13	75.4	0.2	12.4	1.9	0.0	0.3	1.9	2.5	2.9	97.6
14	75.7	0.3	12.4	2.0	0.1	0.4	1.8	2.6	3.2	98.4
15	73.1	0.4	11.9	2.5	0.2	0.4	1.8	2.4	2.9	95.7
16	75.6	0.2	12.3	2.0	0.0	0.3	1.7	2.5	2.9	97.6
Ave.	74.9	0.3	12.2	2.0	0.1	0.4	1.8	2.4	3.0	97.2
S.D.	0.6	0.1	0.1	0.2	0.1	0.0	0.1	0.2	0.2	0.7

## So-OT pfd-middle (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.9	0.4	12.6	1.8	0.2	0.4	1.9	2.3	3.6	100.0
2	77.1	0.3	12.4	1.8	0.1	0.3	1.9	2.3	3.7	100.0
3	77.0	0.4	12.6	1.9	0.2	0.3	1.9	2.3	3.5	100.0
4	77.0	0.2	12.5	1.8	0.2	0.4	1.9	2.3	3.7	100.0
5	76.9	0.3	12.5	1.8	0.2	0.4	2.0	2.3	3.6	100.0
6	76.8	0.4	12.3	1.9	0.2	0.4	2.0	2.3	3.7	100.0
7	77.3	0.3	12.5	1.7	0.1	0.4	1.9	2.3	3.6	100.0
8	76.7	0.3	12.5	1.9	0.1	0.4	1.8	3.0	3.4	100.0
9	76.8	0.3	12.5	1.9	0.2	0.4	1.7	2.3	3.9	100.0
10	77.6	0.3	12.3	1.9	0.0	0.4	1.9	2.3	3.4	100.0
11	77.9	0.3	12.3	1.9	0.1	0.3	1.8	2.3	3.0	100.0
12	77.0	0.3	12.6	1.9	0.1	0.3	1.9	2.3	3.7	100.0
13	77.2	0.3	12.4	1.8	0.2	0.4	1.8	2.3	3.6	100.0
14	76.9	0.3	12.4	1.8	0.2	0.4	2.0	2.3	3.7	100.0
15	76.6	0.4	12.5	1.9	0.2	0.4	1.9	2.3	3.7	100.0
Ave.	77.1	0.3	12.5	1.8	0.1	0.4	1.9	2.3	3.6	100.0
S.D.	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.2	0.4	12.3	1.7	0.2	0.4	1.9	2.2	3.5	97.8
2	75.3	0.3	12.1	1.8	0.1	0.3	1.8	2.3	3.6	97.6
3	74.9	0.4	12.2	1.8	0.2	0.3	1.8	2.3	3.4	97.3
4	74.2	0.2	12.1	1.7	0.1	0.4	1.8	2.2	3.6	96.3
5	73.7	0.3	12.0	1.7	0.2	0.4	1.9	2.2	3.4	95.8
6	73.3	0.3	11.7	1.8	0.2	0.4	1.9	2.2	3.6	95.4
7	73.1	0.3	11.8	1.6	0.1	0.4	1.8	2.1	3.4	94.6
8	74.8	0.3	12.1	1.9	0.1	0.4	1.8	2.9	3.3	97.6
9	67.6	0.2	11.0	1.7	0.2	0.3	1.5	2.0	3.4	88.0
10	65.3	0.2	10.4	1.6	0.0	0.3	1.6	1.9	2.9	84.2
11	70.2	0.3	11.1	1.7	0.1	0.3	1.6	2.1	2.7	90.1
12	74.2	0.3	12.1	1.8	0.1	0.3	1.8	2.2	3.6	96.4
13	74.8	0.3	12.0	1.7	0.1	0.4	1.8	2.2	3.5	96.9
14	74.3	0.3	12.0	1.7	0.2	0.4	1.9	2.2	3.5	96.6
15	72.9	0.4	11.9	1.8	0.2	0.4	1.8	2.2	3.5	95.3
Ave.	72.9	0.3	11.8	1.7	0.1	0.4	1.8	2.2	3.4	94.7
S.D.	2.9	0.1	0.5	0.1	0.1	0.0	0.1	0.2	0.3	4.0

## So-OT pfd-middle (loc.8 Katamata)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.8	0.3	12.6	1.9	0.1	0.3	2.0	2.4	3.6	100.0
2	76.9	0.4	12.4	1.9	0.2	0.4	2.0	2.6	3.1	100.0
3	77.2	0.3	12.4	1.8	0.1	0.5	1.8	2.3	3.6	100.0
4	77.1	0.4	12.4	1.8	0.1	0.4	1.9	2.4	3.5	100.0
5	77.2	0.3	12.5	1.8	0.1	0.3	1.8	2.3	3.7	100.0
6	77.2	0.3	12.4	1.9	0.0	0.4	1.8	2.4	3.7	100.0
7	76.4	0.4	12.5	2.1	0.3	0.4	2.0	2.4	3.6	100.0
8	76.5	0.5	12.4	2.0	0.2	0.4	2.0	2.4	3.7	100.0
9	77.1	0.3	12.5	1.9	0.2	0.4	1.9	2.3	3.6	100.0
10	77.0	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.6	100.0
11	77.0	0.4	12.6	1.9	0.1	0.4	1.8	2.3	3.6	100.0
12	76.7	0.4	12.6	1.9	0.2	0.4	1.9	2.3	3.8	100.0
13	77.8	0.3	12.6	1.8	0.1	0.3	1.8	2.1	3.2	100.0
14	77.2	0.3	12.4	1.7	0.1	0.4	1.8	2.4	3.7	100.0
15	76.9	0.4	12.6	1.8	0.2	0.4	1.8	2.3	3.6	100.0
16	77.1	0.4	12.5	1.8	0.2	0.3	1.8	2.5	3.4	100.0
Ave.	77.0	0.4	12.5	1.9	0.1	0.4	1.9	2.3	3.6	100.0
S.D.	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.9	0.3	12.2	1.8	0.0	0.3	1.9	2.3	3.5	96.3
2	74.3	0.4	12.0	1.8	0.2	0.4	2.0	2.5	3.0	96.6
3	74.1	0.3	11.9	1.7	0.1	0.4	1.7	2.2	3.5	95.9
4	74.1	0.4	11.9	1.8	0.1	0.4	1.9	2.3	3.4	96.1
5	74.3	0.3	12.0	1.8	0.0	0.3	1.8	2.2	3.5	96.2
6	74.9	0.3	12.1	1.9	0.0	0.3	1.7	2.3	3.6	97.0
7	72.4	0.4	11.8	1.9	0.2	0.4	1.9	2.2	3.4	94.7
8	74.1	0.4	12.0	1.9	0.2	0.3	2.0	2.4	3.5	96.9
9	74.1	0.3	12.0	1.8	0.1	0.4	1.8	2.2	3.5	96.2
10	73.7	0.3	12.0	1.8	0.1	0.3	1.8	2.2	3.5	95.6
11	74.3	0.4	12.1	1.8	0.1	0.4	1.8	2.2	3.5	96.6
12	74.3	0.4	12.2	1.8	0.2	0.4	1.8	2.2	3.7	97.0
13	74.1	0.3	12.0	1.7	0.1	0.3	1.7	2.0	3.1	95.3
14	73.3	0.3	11.8	1.6	0.1	0.4	1.7	2.2	3.5	94.9
15	73.9	0.4	12.2	1.7	0.1	0.4	1.8	2.2	3.4	96.2
16	74.1	0.4	12.0	1.7	0.1	0.3	1.7	2.4	3.2	96.1
Ave.	74.0	0.3	12.0	1.8	0.1	0.4	1.8	2.3	3.4	96.1
S.D.	0.6	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.7

## So-OT pfd-middle (loc.9 Shiota)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.1	0.3	12.4	2.1	0.2	0.4	1.9	2.5	3.2	100.0
2	77.0	0.3	12.5	1.9	0.2	0.4	1.8	2.4	3.6	100.0
3	77.1	0.3	12.4	2.1	0.2	0.4	1.8	2.2	3.5	100.0
4	76.8	0.4	12.5	2.2	0.2	0.4	2.0	2.7	3.0	100.0
5	76.7	0.3	12.5	2.2	0.2	0.4	1.8	3.1	2.9	100.0
6	76.7	0.3	12.5	2.1	0.2	0.4	1.9	2.2	3.7	100.0
7	76.8	0.3	12.5	2.0	0.1	0.4	1.9	2.3	3.5	100.0
8	76.6	0.4	12.5	2.6	0.3	0.4	1.9	2.2	3.2	100.0
9	77.4	0.3	12.3	2.0	0.1	0.3	1.9	2.3	3.4	100.0
10	76.9	0.3	12.5	2.1	0.2	0.4	1.8	2.3	3.6	100.0
11	77.1	0.3	12.5	1.9	0.1	0.4	1.8	2.4	3.7	100.0
12	76.9	0.4	12.6	1.9	0.2	0.4	1.9	2.3	3.6	100.0
13	77.2	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.5	100.0
14	76.8	0.3	12.6	1.8	0.2	0.4	1.9	2.3	3.7	100.0
15	77.0	0.4	12.5	1.8	0.1	0.4	1.9	2.3	3.6	100.0
16	76.9	0.3	12.6	2.0	0.1	0.4	1.9	2.3	3.5	100.0
Ave.	76.9	0.3	12.5	2.0	0.2	0.4	1.9	2.4	3.4	100.0
S.D.	0.2	0.0	0.1	0.2	0.0	0.0	0.1	0.2	0.3	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.1	0.3	12.1	2.0	0.2	0.4	1.9	2.4	3.2	97.5
2	75.3	0.3	12.3	1.9	0.1	0.4	1.8	2.3	3.5	97.8
3	74.8	0.3	12.1	2.0	0.1	0.4	1.8	2.2	3.3	97.0
4	73.8	0.3	12.0	2.1	0.2	0.4	1.9	2.6	2.9	96.0
5	74.1	0.3	12.0	2.1	0.1	0.4	1.8	3.0	2.8	96.6
6	75.3	0.3	12.3	2.1	0.1	0.4	1.8	2.2	3.7	98.2
7	74.1	0.3	12.1	1.9	0.1	0.4	1.8	2.2	3.4	96.5
8	75.0	0.4	12.2	2.6	0.2	0.4	1.9	2.2	3.1	97.9
9	74.1	0.3	11.8	1.9	0.1	0.3	1.8	2.2	3.2	95.7
10	75.5	0.3	12.2	2.0	0.2	0.4	1.8	2.2	3.5	98.2
11	75.6	0.3	12.3	1.8	0.1	0.4	1.8	2.3	3.6	98.1
12	75.7	0.3	12.4	1.9	0.2	0.4	1.9	2.3	3.5	98.5
13	74.7	0.2	12.2	1.8	0.1	0.4	1.8	2.2	3.4	96.8
14	74.8	0.3	12.2	1.8	0.2	0.4	1.9	2.3	3.6	97.5
15	75.7	0.4	12.3	1.8	0.1	0.4	1.9	2.3	3.5	98.4
16	75.1	0.3	12.3	1.9	0.1	0.4	1.9	2.3	3.4	97.7
Ave.	74.9	0.3	12.2	2.0	0.1	0.4	1.8	2.3	3.4	97.4
S.D.	0.6	0.0	0.2	0.2	0.0	0.0	0.1	0.2	0.3	0.9

## So-OT pfd-middle (loc.12 Tobanoyu)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.7	0.4	12.4	2.1	0.2	0.4	1.9	2.6	3.3	100.0
2	77.2	0.3	12.7	2.0	0.2	0.4	1.8	2.3	3.1	100.0
3	77.3	0.2	12.7	2.1	0.0	0.4	1.9	3.1	2.4	100.0
4	77.1	0.3	12.6	1.9	0.1	0.4	1.8	2.3	3.6	100.0
5	77.0	0.2	12.7	2.0	0.0	0.4	1.8	2.4	3.5	100.0
6	77.4	0.2	12.6	1.9	0.1	0.4	1.8	2.2	3.4	100.0
7	76.8	0.3	12.7	2.2	0.1	0.4	1.9	2.4	3.3	100.0
8	76.9	0.3	12.6	2.0	0.1	0.3	1.9	2.3	3.6	100.0
9	76.6	0.4	12.6	2.0	0.2	0.4	1.9	2.3	3.5	100.0
10	77.5	0.2	12.5	2.0	0.0	0.4	1.7	2.3	3.4	100.0
11	77.0	0.3	12.6	2.0	0.2	0.3	1.9	2.2	3.5	100.0
12	77.3	0.2	12.7	1.9	0.0	0.4	1.8	2.2	3.3	100.0
13	76.8	0.2	12.6	2.0	0.1	0.3	2.0	2.4	3.6	100.0
14	76.5	0.4	12.6	2.2	0.1	0.4	2.0	2.4	3.5	100.0
15	78.0	0.2	12.8	1.9	0.0	0.4	1.7	2.0	3.0	100.0
16	77.4	0.3	12.6	2.0	0.1	0.4	1.8	2.3	3.2	100.0
Ave.	77.1	0.3	12.6	2.0	0.1	0.4	1.8	2.4	3.3	100.0
S.D.	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.3	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.5	0.3	12.2	2.1	0.2	0.4	1.9	2.6	3.3	98.4
2	75.3	0.3	12.4	2.0	0.2	0.4	1.7	2.2	3.0	97.5
3	73.9	0.2	12.2	2.0	0.0	0.4	1.8	2.9	2.3	95.7
4	74.6	0.3	12.2	1.8	0.1	0.4	1.8	2.2	3.4	96.7
5	74.5	0.2	12.2	1.9	0.0	0.4	1.8	2.3	3.4	96.7
6	74.5	0.2	12.1	1.9	0.1	0.3	1.7	2.1	3.3	96.2
7	74.2	0.3	12.3	2.1	0.1	0.3	1.8	2.3	3.2	96.5
8	74.6	0.3	12.3	1.9	0.1	0.3	1.8	2.3	3.5	97.0
9	76.6	0.4	12.6	2.0	0.2	0.4	1.9	2.3	3.5	100.0
10	74.2	0.2	12.0	1.9	0.0	0.3	1.6	2.2	3.2	95.8
11	75.4	0.3	12.4	1.9	0.2	0.3	1.8	2.2	3.5	98.0
12	74.7	0.2	12.3	1.8	0.0	0.4	1.8	2.1	3.2	96.6
13	74.1	0.2	12.1	1.9	0.1	0.3	1.9	2.3	3.5	96.5
14	74.4	0.4	12.2	2.1	0.1	0.4	1.9	2.3	3.4	97.2
15	75.4	0.2	12.4	1.9	0.0	0.4	1.7	1.9	2.9	96.7
16	73.8	0.3	12.0	1.9	0.1	0.4	1.7	2.1	3.0	95.4
Ave.	74.7	0.3	12.2	2.0	0.1	0.4	1.8	2.3	3.2	96.9
S.D.	0.7	0.1	0.2	0.1	0.1	0.0	0.1	0.2	0.3	1.1

## So-OT pfd-middle (loc.13 Kanawasaki)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.0	0.4	12.5	1.8	0.1	0.4	1.8	2.3	3.6	100.0
2	76.7	0.3	12.6	1.9	0.2	0.4	1.9	2.3	3.7	100.0
3	76.8	0.4	12.6	1.8	0.2	0.3	2.0	2.3	3.7	100.0
4	77.4	0.3	12.5	1.5	0.2	0.3	2.0	2.2	3.6	100.0
5	77.2	0.3	12.5	1.9	0.0	0.4	1.9	2.4	3.5	100.0
6	76.8	0.4	12.5	1.8	0.2	0.4	2.0	2.3	3.6	100.0
7	76.6	0.4	12.5	1.9	0.2	0.4	1.9	2.3	3.8	100.0
8	76.8	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.8	100.0
9	77.5	0.2	12.7	1.4	0.1	0.5	1.8	2.2	3.6	100.0
10	76.9	0.2	12.5	1.9	0.1	0.4	2.0	2.3	3.7	100.0
11	76.8	0.3	12.4	2.2	0.2	0.4	2.0	2.3	3.4	100.0
12	77.6	0.3	12.6	1.0	0.2	0.4	1.9	2.5	3.4	100.0
13	78.4	0.3	12.5	0.8	0.1	0.3	1.8	2.8	3.0	100.0
14	76.9	0.4	12.3	2.1	0.2	0.4	2.1	2.3	3.5	100.0
15	76.7	0.4	12.5	1.9	0.3	0.4	1.9	2.4	3.6	100.0
16	76.5	0.4	12.6	1.9	0.2	0.5	2.0	2.4	3.7	100.0
Ave.	77.0	0.3	12.5	1.7	0.2	0.4	1.9	2.4	3.6	100.0
S.D.	0.5	0.1	0.1	0.4	0.1	0.0	0.1	0.1	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	74.0	0.4	12.0	1.7	0.1	0.4	1.8	2.2	3.5	96.0
2	73.9	0.3	12.1	1.9	0.2	0.4	1.9	2.2	3.5	96.4
3	73.9	0.3	12.1	1.8	0.2	0.3	1.9	2.2	3.6	96.3
4	74.3	0.3	12.0	1.4	0.2	0.3	1.9	2.1	3.5	96.0
5	72.1	0.2	11.7	1.8	0.0	0.3	1.8	2.2	3.3	93.3
6	74.1	0.3	12.1	1.8	0.2	0.3	1.9	2.3	3.5	96.4
7	75.2	0.4	12.3	1.9	0.2	0.3	1.9	2.3	3.7	98.3
8	74.7	0.3	12.2	1.8	0.1	0.4	1.8	2.2	3.7	97.3
9	74.9	0.2	12.3	1.3	0.1	0.4	1.7	2.1	3.5	96.6
10	74.8	0.2	12.1	1.8	0.1	0.4	1.9	2.2	3.6	97.2
11	70.2	0.3	11.3	2.0	0.2	0.4	1.9	2.1	3.1	91.4
12	73.4	0.3	11.9	1.0	0.2	0.4	1.8	2.4	3.2	94.5
13	68.6	0.3	10.9	0.7	0.1	0.3	1.6	2.4	2.6	87.5
14	72.3	0.3	11.6	1.9	0.2	0.3	1.9	2.2	3.2	93.9
15	75.8	0.4	12.4	1.9	0.2	0.4	1.9	2.4	3.6	98.9
16	75.6	0.4	12.4	1.9	0.2	0.5	1.9	2.3	3.6	98.8
Ave.	73.6	0.3	12.0	1.7	0.2	0.4	1.8	2.2	3.4	95.5
S.D.	2.0	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.3	2.9

## So-OT pfd-m (loc.14 Sawa)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.0	0.3	12.4	1.9	0.1	0.4	1.9	2.3	3.7	100.0
2	76.6	0.5	12.3	2.1	0.2	0.4	2.0	2.3	3.6	100.0
3	76.9	0.4	12.5	1.9	0.2	0.4	1.8	2.3	3.7	100.0
4	76.9	0.3	12.6	1.8	0.1	0.4	2.0	2.3	3.6	100.0
5	76.9	0.3	12.6	1.9	0.2	0.4	1.9	2.3	3.6	100.0
6	76.9	0.3	12.4	2.0	0.2	0.4	1.9	2.3	3.6	100.0
7	77.3	0.1	12.6	1.9	0.0	0.4	1.8	2.2	3.5	100.0
8	76.6	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.7	100.0
9	76.7	0.4	12.6	2.0	0.1	0.4	1.8	2.3	3.7	100.0
10	76.6	0.4	12.6	1.9	0.2	0.4	1.9	2.3	3.7	100.0
11	76.9	0.3	12.8	1.8	0.1	0.4	1.9	2.4	3.7	100.0
12	76.9	0.3	12.6	2.0	0.2	0.3	1.8	2.3	3.7	100.0
13	77.0	0.2	12.7	1.8	0.1	0.4	1.8	2.2	3.8	100.0
14	76.7	0.4	12.6	2.0	0.2	0.4	1.8	2.4	3.6	100.0
15	76.7	0.3	12.6	2.0	0.2	0.4	1.9	2.4	3.7	100.0
16	77.2	0.3	12.6	1.7	0.1	0.4	1.9	2.2	3.7	100.0
Ave.	76.9	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.7	100.0
S.D.	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.3	0.3	12.2	1.8	0.1	0.4	1.9	2.2	3.6	97.8
2	75.3	0.5	12.1	2.0	0.2	0.4	2.0	2.3	3.6	98.4
3	76.9	0.3	12.5	1.8	0.2	0.4	1.8	2.3	3.7	99.9
4	75.9	0.3	12.4	1.8	0.1	0.4	2.0	2.3	3.5	98.7
5	75.8	0.3	12.4	1.9	0.2	0.4	1.9	2.3	3.6	98.6
6	75.2	0.3	12.2	1.9	0.2	0.3	1.9	2.3	3.5	97.8
7	75.5	0.1	12.3	1.8	0.0	0.4	1.8	2.2	3.5	97.6
8	75.9	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.7	99.1
9	76.3	0.4	12.5	2.0	0.1	0.4	1.8	2.3	3.7	99.5
10	76.3	0.3	12.5	1.9	0.2	0.3	1.9	2.3	3.7	99.6
11	76.4	0.2	12.7	1.7	0.0	0.4	1.8	2.3	3.6	99.3
12	76.8	0.3	12.5	1.9	0.2	0.3	1.8	2.3	3.7	99.9
13	76.4	0.2	12.6	1.8	0.1	0.4	1.8	2.2	3.8	99.2
14	75.8	0.4	12.4	2.0	0.2	0.4	1.7	2.4	3.5	98.8
15	76.2	0.3	12.5	2.0	0.2	0.4	1.9	2.3	3.6	99.4
16	74.7	0.3	12.2	1.7	0.1	0.3	1.8	2.1	3.6	96.8
Ave.	75.9	0.3	12.4	1.9	0.1	0.4	1.8	2.3	3.6	98.8
S.D.	0.6	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.9

## So-OT pfd-lower (loc.4 Sawada)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.0	0.3	12.6	2.0	0.2	0.4	1.9	2.3	3.4	100.0
2	77.4	0.3	12.5	1.9	0.1	0.4	1.8	2.2	3.5	100.0
3	77.0	0.3	12.6	1.8	0.1	0.4	1.9	2.3	3.5	100.0
4	77.1	0.3	12.5	2.0	0.1	0.4	1.9	2.3	3.4	100.0
5	77.0	0.3	12.5	2.0	0.2	0.4	1.9	2.2	3.6	100.0
6	77.0	0.3	12.6	2.1	0.1	0.4	1.9	2.3	3.3	100.0
7	77.2	0.3	12.6	1.9	0.1	0.4	1.8	2.3	3.4	100.0
8	77.2	0.3	12.6	1.8	0.2	0.4	1.9	2.2	3.5	100.0
9	77.2	0.3	12.6	1.9	0.1	0.3	1.9	2.3	3.5	100.0
10	77.1	0.3	12.5	2.0	0.2	0.3	1.9	2.3	3.4	100.0
11	76.9	0.3	12.5	2.1	0.2	0.4	1.8	2.3	3.5	100.0
12	77.2	0.2	12.6	2.0	0.2	0.4	1.8	2.3	3.4	100.0
13	77.3	0.3	12.5	2.0	0.2	0.4	1.9	2.2	3.4	100.0
14	77.0	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.5	100.0
15	77.0	0.3	12.4	1.9	0.2	0.4	2.0	2.3	3.5	100.0
16	77.1	0.3	12.4	2.0	0.2	0.4	1.8	2.3	3.4	100.0
17	76.8	0.4	12.6	2.1	0.2	0.4	1.8	2.3	3.5	100.0
18	77.4	0.3	12.6	1.8	0.1	0.4	1.8	2.3	3.3	100.0
19	77.3	0.2	12.6	1.8	0.0	0.4	1.9	2.3	3.4	100.0
20	77.6	0.2	12.5	1.7	0.0	0.4	1.8	2.3	3.5	100.0
Ave.	77.1	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.4	100.0
S.D.	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.3	0.3	11.8	1.9	0.1	0.3	1.8	2.2	3.2	93.9
2	72.8	0.2	11.8	1.8	0.1	0.4	1.7	2.1	3.2	94.0
3	72.5	0.3	11.9	1.7	0.1	0.4	1.8	2.1	3.3	94.3
4	72.5	0.3	11.8	1.9	0.1	0.4	1.8	2.1	3.2	94.1
5	73.0	0.3	11.8	1.9	0.2	0.4	1.8	2.1	3.4	94.9
6	72.3	0.3	11.8	1.9	0.1	0.3	1.8	2.2	3.1	93.9
7	72.5	0.3	11.8	1.8	0.1	0.3	1.7	2.1	3.2	93.9
8	72.6	0.3	11.9	1.7	0.1	0.4	1.7	2.1	3.3	94.0
9	72.3	0.2	11.8	1.7	0.1	0.3	1.8	2.1	3.3	93.6
10	72.0	0.3	11.6	1.8	0.2	0.3	1.8	2.1	3.2	93.4
11	72.4	0.3	11.7	1.9	0.2	0.4	1.7	2.2	3.3	94.1
12	72.6	0.2	11.8	1.9	0.2	0.3	1.7	2.2	3.2	94.0
13	72.7	0.3	11.7	1.8	0.2	0.4	1.8	2.1	3.2	94.1
14	72.5	0.3	11.8	1.8	0.1	0.3	1.8	2.2	3.3	94.1
15	72.7	0.3	11.7	1.8	0.2	0.4	1.9	2.2	3.3	94.3
16	72.5	0.3	11.7	1.9	0.2	0.4	1.7	2.1	3.2	94.1
17	72.3	0.4	11.9	2.0	0.2	0.4	1.7	2.1	3.3	94.2
18	72.3	0.3	11.8	1.7	0.1	0.4	1.7	2.1	3.1	93.4
19	72.2	0.2	11.8	1.7	0.0	0.4	1.8	2.2	3.2	93.5
20	72.7	0.2	11.7	1.6	0.0	0.3	1.7	2.2	3.2	93.7
Ave.	72.5	0.3	11.8	1.8	0.1	0.4	1.8	2.1	3.2	94.0
S.D.	0.2	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.3

## So-OT pfd-lower (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.0	0.3	12.7	1.8	0.1	0.4	2.0	2.4	3.4	100.0
2	77.5	0.4	12.6	1.4	0.2	0.4	1.9	2.3	3.5	100.0
3	77.2	0.3	12.5	1.9	0.2	0.4	1.9	2.4	3.3	100.0
4	77.0	0.4	12.6	2.0	0.0	0.4	1.9	2.3	3.5	100.0
5	76.9	0.4	12.5	1.9	0.2	0.4	1.9	2.4	3.5	100.0
6	76.8	0.4	12.5	2.1	0.2	0.3	1.9	2.3	3.5	100.0
7	77.1	0.3	12.6	2.0	0.2	0.4	1.9	2.3	3.4	100.0
8	77.5	0.3	12.7	1.2	0.1	0.4	2.0	2.3	3.5	100.0
9	77.0	0.4	12.7	1.9	0.2	0.4	1.9	2.3	3.3	100.0
10	77.3	0.3	12.6	1.8	0.2	0.3	1.8	2.5	3.3	100.0
11	77.0	0.2	12.5	2.0	0.2	0.3	2.0	2.4	3.5	100.0
12	77.4	0.3	12.7	1.6	0.1	0.4	1.9	2.3	3.4	100.0
13	76.9	0.3	12.6	2.0	0.2	0.3	1.9	2.4	3.5	100.0
14	77.2	0.4	12.5	1.6	0.1	0.4	2.0	2.4	3.4	100.0
Ave.	77.1	0.3	12.6	1.8	0.1	0.4	1.9	2.3	3.4	100.0
S.D.	0.2	0.0	0.1	0.3	0.1	0.0	0.1	0.0	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.4	0.3	12.4	1.8	0.1	0.4	1.9	2.3	3.3	97.8
2	76.1	0.3	12.4	1.3	0.2	0.3	1.9	2.3	3.4	98.1
3	75.7	0.3	12.2	1.8	0.2	0.4	1.8	2.3	3.3	98.1
4	75.6	0.4	12.3	2.0	0.0	0.4	1.8	2.3	3.4	98.2
5	75.8	0.3	12.4	1.9	0.2	0.4	1.8	2.4	3.4	98.6
6	75.1	0.4	12.2	2.1	0.2	0.3	1.9	2.3	3.4	97.8
7	75.4	0.3	12.3	1.9	0.1	0.4	1.9	2.2	3.3	97.9
8	75.9	0.3	12.4	1.2	0.1	0.4	1.9	2.3	3.4	98.0
9	75.5	0.4	12.4	1.8	0.2	0.4	1.8	2.3	3.2	98.2
10	75.8	0.3	12.4	1.7	0.2	0.3	1.7	2.4	3.3	98.2
11	77.0	0.2	12.5	2.0	0.2	0.3	2.0	2.4	3.5	100.0
12	76.4	0.3	12.5	1.6	0.1	0.4	1.9	2.2	3.3	98.7
13	74.8	0.3	12.2	1.9	0.2	0.3	1.8	2.3	3.4	97.3
14	75.6	0.4	12.2	1.6	0.1	0.4	1.9	2.3	3.4	97.9
Ave.	75.7	0.3	12.3	1.8	0.1	0.4	1.9	2.3	3.4	98.2
S.D.	0.5	0.0	0.1	0.3	0.1	0.0	0.1	0.1	0.1	0.6

## So-OT surge (loc.4 Tsurugaike)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.2	0.2	12.7	1.7	0.1	0.4	1.8	2.3	3.7	100.0
2	77.1	0.4	12.5	2.0	0.1	0.4	1.9	2.2	3.6	100.0
3	76.5	0.4	12.6	2.1	0.1	0.4	1.9	2.2	3.8	100.0
4	76.7	0.3	12.7	1.9	0.1	0.4	1.8	2.2	3.9	100.0
5	76.5	0.4	12.5	2.0	0.2	0.4	2.0	2.1	3.9	100.0
6	76.8	0.3	12.7	1.8	0.1	0.4	1.9	2.3	3.7	100.0
7	76.7	0.4	12.6	2.0	0.2	0.3	1.9	2.1	3.9	100.0
8	76.6	0.3	12.5	2.1	0.2	0.4	1.9	2.3	3.8	100.0
9	76.6	0.4	12.6	1.9	0.2	0.4	1.9	2.2	3.8	100.0
10	77.1	0.3	12.6	1.9	0.0	0.4	1.8	2.1	3.8	100.0
11	76.8	0.3	12.6	1.9	0.2	0.4	1.9	2.3	3.6	100.0
12	77.0	0.3	12.6	1.9	0.1	0.4	1.9	2.2	3.8	100.0
13	76.8	0.3	12.5	2.0	0.2	0.4	1.9	2.2	3.8	100.0
14	76.5	0.4	12.6	2.1	0.2	0.4	1.9	2.3	3.7	100.0
15	76.8	0.4	12.5	1.9	0.2	0.4	1.9	2.2	3.9	100.0
16	76.7	0.4	12.5	2.0	0.2	0.4	1.8	2.2	3.9	100.0
17	76.5	0.4	12.7	2.0	0.1	0.4	1.9	2.3	3.7	100.0
18	77.0	0.3	12.6	2.0	0.1	0.4	1.9	2.1	3.7	100.0
19	76.5	0.4	12.5	2.0	0.2	0.5	1.9	2.2	3.9	100.0
20	76.6	0.4	12.7	2.0	0.1	0.4	2.0	2.2	3.7	100.0
Ave.	76.7	0.3	12.6	2.0	0.1	0.4	1.9	2.2	3.8	100.0
S.D.	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.7	0.2	12.1	1.6	0.0	0.4	1.7	2.2	3.6	95.5
2	73.0	0.3	11.8	1.9	0.1	0.3	1.8	2.1	3.4	94.8
3	75.9	0.4	12.5	2.0	0.1	0.4	1.9	2.2	3.8	99.3
4	75.0	0.3	12.4	1.9	0.1	0.4	1.8	2.1	3.8	97.8
5	74.5	0.4	12.2	1.9	0.2	0.4	1.9	2.1	3.8	97.4
6	76.3	0.3	12.6	1.8	0.1	0.4	1.9	2.3	3.7	99.3
7	75.8	0.4	12.4	2.0	0.1	0.3	1.8	2.1	3.8	98.9
8	76.2	0.3	12.4	2.0	0.2	0.4	1.9	2.3	3.8	99.5
9	75.3	0.4	12.4	1.9	0.2	0.4	1.9	2.1	3.7	98.3
10	74.6	0.3	12.2	1.8	0.0	0.4	1.8	2.1	3.7	96.8
11	76.4	0.3	12.5	1.9	0.2	0.4	1.9	2.3	3.6	99.6
12	76.0	0.3	12.4	1.8	0.1	0.4	1.9	2.1	3.8	98.8
13	75.2	0.3	12.2	2.0	0.2	0.4	1.9	2.1	3.7	98.0
14	76.2	0.4	12.5	2.1	0.2	0.4	1.9	2.3	3.7	99.6
15	75.9	0.4	12.4	1.9	0.2	0.3	1.8	2.1	3.8	98.9
16	75.6	0.3	12.3	2.0	0.2	0.4	1.8	2.2	3.8	98.6
17	73.5	0.4	12.2	2.0	0.1	0.4	1.8	2.2	3.6	96.1
18	73.2	0.2	12.0	1.9	0.1	0.4	1.8	2.0	3.5	95.1
19	74.4	0.3	12.2	2.0	0.2	0.4	1.9	2.1	3.8	97.3
20	73.6	0.4	12.2	1.9	0.1	0.4	1.9	2.1	3.6	96.2
Ave.	75.0	0.3	12.3	1.9	0.1	0.4	1.8	2.2	3.7	97.8
S.D.	1.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	1.6

## So-OT pfa (loc.7 Amasake)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.8	0.4	12.5	2.0	0.2	0.3	1.8	2.3	3.6	100.0
2	77.0	0.2	12.6	2.2	0.1	0.3	1.8	2.2	3.6	100.0
3	76.7	0.4	12.7	2.2	0.1	0.3	1.9	2.3	3.4	100.0
4	77.2	0.2	12.7	2.1	0.0	0.4	1.6	2.3	3.6	100.0
5	77.1	0.3	12.3	2.1	0.3	0.3	1.7	2.4	3.4	100.0
6	77.3	0.3	12.4	2.2	0.1	0.3	1.9	2.2	3.3	100.0
7	77.4	0.3	12.6	1.9	0.0	0.3	1.7	2.2	3.6	100.0
8	77.2	0.2	12.6	2.0	0.0	0.5	1.8	2.3	3.5	100.0
9	77.5	0.3	12.5	2.0	0.0	0.4	1.8	2.3	3.4	100.0
10	76.9	0.2	12.5	2.2	0.1	0.4	1.8	2.3	3.5	100.0
11	77.3	0.2	12.5	2.0	0.1	0.3	1.9	2.3	3.5	100.0
12	77.5	0.3	12.6	2.0	0.0	0.3	1.8	2.2	3.4	100.0
13	77.2	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.6	100.0
14	77.2	0.2	12.6	2.0	0.1	0.3	1.8	2.2	3.5	100.0
15	76.7	0.4	12.4	2.0	0.2	0.4	1.9	2.4	3.7	100.0
16	77.3	0.3	12.6	2.0	0.0	0.4	1.8	2.3	3.5	100.0
Ave.	77.1	0.3	12.5	2.0	0.1	0.4	1.8	2.3	3.5	100.0
S.D.	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.8	0.4	11.9	1.9	0.2	0.3	1.7	2.2	3.4	94.7
2	72.8	0.2	11.9	2.1	0.1	0.3	1.7	2.1	3.4	94.6
3	71.9	0.4	11.9	2.0	0.1	0.3	1.8	2.2	3.2	93.8
4	73.3	0.2	12.1	2.0	0.0	0.4	1.5	2.1	3.4	95.0
5	72.3	0.3	11.6	2.0	0.2	0.3	1.6	2.2	3.2	93.8
6	71.7	0.3	11.5	2.0	0.1	0.3	1.7	2.1	3.1	92.7
7	73.2	0.2	11.9	1.8	0.0	0.3	1.6	2.1	3.4	94.6
8	71.8	0.2	11.7	1.9	0.0	0.4	1.7	2.1	3.3	93.1
9	71.9	0.3	11.6	1.8	0.0	0.3	1.6	2.1	3.2	92.9
10	72.2	0.2	11.7	2.1	0.1	0.4	1.7	2.2	3.3	93.8
11	72.1	0.2	11.7	1.8	0.1	0.3	1.7	2.1	3.2	93.3
12	71.9	0.2	11.6	1.9	0.0	0.3	1.6	2.1	3.1	92.8
13	71.2	0.3	11.5	1.8	0.1	0.3	1.7	2.1	3.3	92.3
14	71.8	0.2	11.7	1.9	0.1	0.3	1.7	2.0	3.3	93.0
15	73.0	0.4	11.8	1.9	0.2	0.4	1.8	2.2	3.5	95.2
16	71.9	0.3	11.7	1.8	0.0	0.4	1.6	2.1	3.2	93.1
Ave.	72.2	0.3	11.7	1.9	0.1	0.3	1.7	2.1	3.3	93.7
S.D.	0.6	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.9

## So-OT pfa (loc.7 Kohata)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.2	0.2	12.5	2.0	0.1	0.4	1.8	2.3	3.5	100.0
2	77.5	0.2	12.5	1.9	0.0	0.4	1.8	2.2	3.5	100.0
3	77.0	0.3	12.5	2.1	0.1	0.4	1.9	2.3	3.5	100.0
4	77.5	0.2	12.4	1.9	0.0	0.3	1.9	2.3	3.5	100.0
5	77.2	0.1	12.7	2.0	0.1	0.4	1.8	2.3	3.5	100.0
6	76.9	0.3	12.7	2.0	0.1	0.4	1.9	2.4	3.5	100.0
7	77.0	0.3	12.4	2.1	0.3	0.3	1.9	2.3	3.5	100.0
8	77.5	0.1	12.6	2.0	0.1	0.3	1.8	2.3	3.4	100.0
9	76.9	0.4	12.5	2.0	0.3	0.3	1.9	2.4	3.5	100.0
10	77.2	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.4	100.0
11	77.2	0.2	12.6	2.0	0.1	0.4	1.8	2.3	3.5	100.0
12	76.7	0.3	12.6	2.2	0.2	0.4	1.9	2.3	3.5	100.0
13	77.9	0.1	12.6	1.8	0.0	0.3	1.7	2.2	3.3	100.0
14	77.6	0.3	12.4	2.0	0.1	0.3	1.8	2.3	3.4	100.0
15	77.4	0.3	12.5	2.0	0.1	0.3	1.7	2.3	3.4	100.0
16	77.6	0.1	12.6	1.9	0.0	0.4	1.8	2.2	3.4	100.0
Ave.	77.3	0.2	12.5	2.0	0.1	0.3	1.8	2.3	3.5	100.0
S.D.	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.2	0.2	11.7	1.8	0.1	0.3	1.7	2.1	3.3	93.5
2	71.6	0.2	11.6	1.8	0.0	0.3	1.7	2.0	3.2	92.4
3	70.9	0.3	11.5	1.9	0.1	0.3	1.7	2.1	3.2	92.1
4	71.6	0.2	11.5	1.7	0.0	0.3	1.7	2.1	3.2	92.4
5	70.8	0.1	11.6	1.9	0.0	0.3	1.6	2.1	3.2	91.7
6	71.6	0.3	11.8	1.9	0.1	0.4	1.8	2.2	3.3	93.1
7	71.5	0.3	11.5	1.9	0.3	0.3	1.7	2.2	3.2	93.0
8	71.6	0.1	11.6	1.8	0.1	0.3	1.6	2.1	3.1	92.4
9	71.6	0.3	11.6	1.8	0.3	0.3	1.8	2.2	3.2	93.1
10	71.8	0.3	11.6	1.8	0.1	0.3	1.7	2.1	3.2	93.0
11	71.5	0.2	11.6	1.9	0.1	0.3	1.6	2.1	3.2	92.7
12	71.8	0.3	11.7	2.0	0.2	0.4	1.8	2.1	3.3	93.6
13	71.3	0.1	11.6	1.6	0.0	0.3	1.6	2.0	3.0	91.5
14	71.2	0.2	11.4	1.8	0.0	0.3	1.6	2.1	3.1	91.8
15	71.5	0.2	11.6	1.9	0.0	0.3	1.6	2.1	3.2	92.4
16	71.5	0.1	11.6	1.7	0.0	0.4	1.7	2.1	3.1	92.1
Ave.	71.5	0.2	11.6	1.8	0.1	0.3	1.7	2.1	3.2	92.5
S.D.	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.6

## So-OT pfa (loc.3 Yatsuyamada)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.2	0.3	12.6	1.8	0.2	0.4	1.9	2.3	3.4	100.0
2	77.0	0.4	12.6	2.0	0.1	0.4	1.9	2.3	3.3	100.0
3	77.3	0.3	12.5	1.8	0.1	0.4	1.9	2.4	3.3	100.0
4	77.2	0.4	12.6	2.1	0.2	0.4	1.9	2.3	3.1	100.0
5	77.2	0.4	12.5	2.0	0.1	0.3	1.8	2.4	3.4	100.0
6	77.2	0.3	12.5	2.0	0.2	0.4	1.8	2.3	3.3	100.0
7	77.0	0.4	12.6	2.0	0.2	0.4	1.9	2.3	3.4	100.0
8	77.1	0.3	12.7	1.9	0.1	0.4	1.8	2.4	3.3	100.0
9	77.0	0.5	12.5	1.9	0.2	0.4	1.9	2.4	3.4	100.0
10	77.3	0.3	12.4	2.1	0.1	0.4	1.9	2.3	3.4	100.0
11	77.3	0.3	12.6	2.0	0.1	0.4	1.8	2.3	3.3	100.0
12	77.1	0.3	12.5	2.2	0.1	0.4	1.9	2.3	3.3	100.0
13	77.6	0.2	12.6	1.8	0.0	0.4	1.9	2.3	3.2	100.0
14	76.8	0.4	12.7	2.1	0.2	0.4	1.9	2.3	3.4	100.0
15	77.1	0.3	12.4	2.1	0.1	0.4	1.9	2.3	3.4	100.0
16	77.5	0.3	12.5	1.7	0.2	0.3	2.0	2.3	3.3	100.0
17	77.4	0.3	12.5	2.0	0.1	0.3	1.9	2.3	3.2	100.0
18	77.0	0.4	12.5	2.0	0.2	0.4	1.9	2.3	3.4	100.0
19	76.9	0.4	12.6	2.0	0.2	0.4	1.9	2.4	3.3	100.0
20	77.3	0.4	12.4	1.9	0.2	0.3	1.9	2.3	3.4	100.0
Ave.	77.2	0.3	12.5	2.0	0.1	0.4	1.9	2.3	3.3	100.0
S.D.	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	71.8	0.3	11.7	1.7	0.2	0.3	1.7	2.1	3.2	93.1
2	71.4	0.4	11.7	1.9	0.1	0.4	1.8	2.1	3.1	92.8
3	71.7	0.3	11.6	1.7	0.1	0.3	1.8	2.2	3.1	92.8
4	72.2	0.4	11.8	1.9	0.2	0.4	1.8	2.1	2.9	93.6
5	71.4	0.3	11.6	1.8	0.1	0.3	1.7	2.2	3.1	92.5
6	71.6	0.3	11.6	1.9	0.1	0.4	1.7	2.2	3.1	92.7
7	72.1	0.4	11.8	1.9	0.1	0.4	1.7	2.1	3.1	93.6
8	71.8	0.3	11.8	1.8	0.1	0.4	1.7	2.2	3.0	93.2
9	71.9	0.4	11.6	1.8	0.2	0.3	1.8	2.2	3.1	93.4
10	72.2	0.2	11.6	1.9	0.1	0.4	1.7	2.2	3.2	93.4
11	71.4	0.2	11.6	1.9	0.1	0.4	1.7	2.1	3.0	92.4
12	71.2	0.3	11.5	2.0	0.1	0.3	1.8	2.1	3.0	92.3
13	71.8	0.2	11.6	1.6	0.0	0.3	1.8	2.2	3.0	92.5
14	71.8	0.4	11.8	1.9	0.2	0.4	1.7	2.1	3.2	93.5
15	72.1	0.3	11.6	1.9	0.1	0.3	1.8	2.2	3.2	93.5
16	71.8	0.3	11.6	1.5	0.1	0.3	1.8	2.1	3.1	92.7
17	71.9	0.2	11.6	1.9	0.1	0.3	1.8	2.1	3.0	92.9
18	72.3	0.3	11.7	1.9	0.2	0.4	1.8	2.1	3.2	93.8
19	71.6	0.4	11.7	1.9	0.1	0.3	1.8	2.2	3.1	93.0
20	72.1	0.4	11.5	1.7	0.2	0.3	1.7	2.1	3.2	93.2
Ave.	71.8	0.3	11.7	1.8	0.1	0.3	1.7	2.1	3.1	93.0
S.D.	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.4

## So-OT pfa (loc.4 Sawada)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.2	0.3	12.6	1.8	0.1	0.4	1.9	2.3	3.4	100.0
2	77.0	0.3	12.6	2.0	0.1	0.4	1.8	2.3	3.5	100.0
3	77.1	0.3	12.4	1.9	0.1	0.3	1.9	2.2	3.8	100.0
4	76.9	0.3	12.5	2.0	0.1	0.4	2.0	2.3	3.4	100.0
5	77.4	0.3	12.6	1.8	0.2	0.3	1.8	2.2	3.4	100.0
6	77.4	0.2	12.7	2.0	0.0	0.4	1.7	2.3	3.4	100.0
7	77.0	0.3	12.6	2.0	0.1	0.3	1.9	2.3	3.5	100.0
8	76.9	0.3	12.5	2.1	0.2	0.4	1.9	2.4	3.4	100.0
9	77.1	0.3	12.5	1.9	0.1	0.4	1.9	2.4	3.5	100.0
10	76.9	0.4	12.5	2.0	0.2	0.4	1.9	2.3	3.4	100.0
11	77.1	0.3	12.5	1.9	0.1	0.4	1.8	2.4	3.5	100.0
12	76.9	0.3	12.7	2.0	0.2	0.4	1.9	2.3	3.4	100.0
13	77.0	0.3	12.5	2.1	0.1	0.4	1.8	2.3	3.4	100.0
14	77.1	0.3	12.6	1.9	0.1	0.4	1.8	2.3	3.4	100.0
15	77.2	0.4	12.5	2.0	0.1	0.3	1.9	2.3	3.4	100.0
16	77.6	0.4	12.3	1.9	0.1	0.4	1.8	2.2	3.4	100.0
17	78.0	0.3	12.0	1.9	0.1	0.4	1.7	2.3	3.4	100.0
18	76.6	0.3	12.6	2.1	0.2	0.4	1.9	2.3	3.5	100.0
19	77.4	0.3	12.5	1.9	0.1	0.4	1.8	2.2	3.5	100.0
20	76.9	0.4	12.6	2.0	0.1	0.4	1.9	2.4	3.4	100.0
Ave.	77.1	0.3	12.5	2.0	0.1	0.4	1.9	2.3	3.5	100.0
S.D.	0.3	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.2	0.3	11.7	1.7	0.1	0.4	1.8	2.2	3.1	93.5
2	72.8	0.3	11.9	1.9	0.1	0.4	1.7	2.2	3.3	94.6
3	75.1	0.3	12.1	1.9	0.0	0.3	1.8	2.1	3.7	97.4
4	72.3	0.3	11.8	1.9	0.1	0.4	1.9	2.2	3.2	93.9
5	72.0	0.2	11.7	1.7	0.2	0.3	1.7	2.1	3.2	93.1
6	72.1	0.2	11.8	1.8	0.0	0.4	1.6	2.1	3.2	93.2
7	72.7	0.3	11.9	1.9	0.1	0.3	1.8	2.2	3.3	94.5
8	72.2	0.3	11.7	2.0	0.1	0.4	1.8	2.2	3.2	93.8
9	73.0	0.3	11.9	1.8	0.1	0.4	1.8	2.2	3.3	94.7
10	72.5	0.4	11.8	1.9	0.2	0.3	1.8	2.2	3.2	94.3
11	72.8	0.3	11.8	1.8	0.1	0.3	1.7	2.2	3.3	94.3
12	72.3	0.3	11.9	1.9	0.2	0.4	1.7	2.2	3.2	93.9
13	72.6	0.3	11.8	2.0	0.1	0.4	1.7	2.2	3.2	94.3
14	72.6	0.3	11.9	1.8	0.0	0.3	1.7	2.2	3.2	94.1
15	72.8	0.3	11.8	1.8	0.1	0.3	1.8	2.2	3.2	94.3
16	73.1	0.3	11.6	1.7	0.1	0.4	1.7	2.1	3.2	94.1
17	73.4	0.3	11.3	1.8	0.1	0.4	1.6	2.2	3.2	94.2
18	72.3	0.3	11.9	2.0	0.2	0.4	1.8	2.2	3.3	94.5
19	72.7	0.3	11.8	1.7	0.1	0.4	1.7	2.0	3.3	93.9
20	72.6	0.4	11.9	1.9	0.1	0.4	1.8	2.2	3.2	94.4
Ave.	72.7	0.3	11.8	1.8	0.1	0.4	1.7	2.2	3.3	94.3
S.D.	0.7	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.9

## So-OT pfa (loc.5 Yokoana)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.4	0.3	12.7	2.0	0.1	0.4	1.8	2.4	3.2	100.0
2	77.3	0.3	12.5	2.0	0.1	0.3	1.8	2.4	3.2	100.0
3	77.3	0.3	12.6	2.0	0.1	0.4	1.8	2.3	3.2	100.0
4	77.4	0.3	12.5	1.9	0.1	0.4	1.8	2.2	3.4	100.0
5	77.2	0.3	12.6	2.0	0.2	0.4	1.9	2.2	3.2	100.0
6	77.2	0.4	12.5	1.9	0.1	0.4	1.9	2.4	3.2	100.0
7	77.3	0.3	12.5	1.9	0.2	0.4	2.0	2.3	3.3	100.0
8	77.5	0.3	12.5	1.9	0.0	0.4	1.9	2.4	3.2	100.0
9	77.0	0.4	12.6	2.0	0.2	0.4	1.9	2.2	3.4	100.0
10	77.4	0.4	12.5	1.8	0.1	0.4	1.9	2.3	3.2	100.0
11	77.2	0.3	12.6	1.9	0.1	0.4	1.9	2.3	3.3	100.0
12	77.3	0.4	12.4	2.1	0.2	0.4	1.8	2.4	3.2	100.0
13	77.1	0.3	12.7	2.1	0.1	0.4	1.9	2.2	3.4	100.0
14	77.2	0.3	12.6	1.7	0.2	0.4	1.9	2.3	3.4	100.0
15	77.0	0.3	12.6	1.9	0.1	0.4	2.0	2.3	3.4	100.0
16	77.5	0.4	12.5	2.0	0.1	0.3	1.8	2.2	3.2	100.0
17	77.2	0.3	12.4	2.0	0.2	0.3	2.0	2.3	3.3	100.0
18	77.2	0.4	12.6	2.0	0.1	0.4	1.8	2.2	3.2	100.0
19	77.4	0.2	12.5	1.9	0.2	0.4	1.8	2.3	3.4	100.0
20	77.2	0.4	12.6	2.0	0.1	0.4	1.9	2.3	3.1	100.0
Ave.	77.3	0.3	12.5	1.9	0.1	0.4	1.9	2.3	3.3	100.0
S.D.	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	71.9	0.3	11.8	1.8	0.0	0.4	1.7	2.2	2.9	92.9
2	71.4	0.3	11.5	1.9	0.1	0.3	1.7	2.2	3.0	92.3
3	71.5	0.3	11.7	1.8	0.1	0.4	1.7	2.1	2.9	92.5
4	71.8	0.3	11.6	1.7	0.1	0.4	1.7	2.1	3.1	92.7
5	71.6	0.3	11.7	1.9	0.1	0.4	1.7	2.1	3.0	92.8
6	71.7	0.3	11.6	1.8	0.1	0.4	1.8	2.2	3.0	92.8
7	71.9	0.3	11.6	1.7	0.1	0.4	1.8	2.1	3.1	93.0
8	71.5	0.3	11.5	1.7	0.0	0.4	1.7	2.2	2.9	92.3
9	72.8	0.3	11.9	1.9	0.2	0.4	1.8	2.1	3.2	94.6
10	71.8	0.3	11.6	1.6	0.1	0.4	1.7	2.1	3.0	92.7
11	71.6	0.3	11.7	1.8	0.1	0.4	1.7	2.1	3.1	92.7
12	71.5	0.4	11.5	1.9	0.2	0.3	1.7	2.2	2.9	92.6
13	72.1	0.3	11.8	1.9	0.1	0.3	1.7	2.1	3.1	93.5
14	72.2	0.3	11.8	1.6	0.2	0.4	1.7	2.2	3.2	93.5
15	72.8	0.3	11.9	1.8	0.1	0.4	1.8	2.2	3.3	94.5
16	71.6	0.3	11.5	1.8	0.1	0.3	1.7	2.1	3.0	92.4
17	71.6	0.3	11.5	1.8	0.1	0.3	1.8	2.1	3.1	92.7
18	72.3	0.3	11.8	1.9	0.1	0.4	1.7	2.1	3.0	93.7
19	72.0	0.2	11.6	1.8	0.2	0.4	1.7	2.1	3.1	93.0
20	71.3	0.4	11.6	1.8	0.1	0.3	1.8	2.2	2.9	92.3
Ave.	71.8	0.3	11.7	1.8	0.1	0.4	1.7	2.1	3.0	93.0
S.D.	0.4	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.7

## So-TN d (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.2	0.4	12.0	2.3	0.1	0.3	1.9	2.6	3.1	100.0
2	77.7	0.3	12.1	2.4	0.1	0.3	1.8	2.5	2.8	100.0
3	77.2	0.4	12.1	2.4	0.2	0.4	1.8	2.6	2.9	100.0
4	77.6	0.3	12.1	2.4	0.2	0.3	1.8	2.6	2.8	100.0
5	77.7	0.4	12.1	2.3	0.1	0.3	1.8	2.5	2.7	100.0
6	77.4	0.5	12.2	2.4	0.2	0.4	2.0	2.5	2.6	100.0
7	77.7	0.3	12.2	2.3	0.1	0.3	1.9	2.5	2.6	100.0
8	77.2	0.4	12.3	2.3	0.2	0.3	1.9	2.5	3.0	100.0
9	77.7	0.4	12.1	2.2	0.1	0.3	1.8	2.6	2.9	100.0
10	77.8	0.3	12.2	2.3	0.1	0.4	1.7	2.5	2.8	100.0
11	77.0	0.5	12.2	2.5	0.2	0.4	1.8	2.5	2.9	100.0
12	77.7	0.3	12.1	2.2	0.1	0.4	1.8	2.6	2.8	100.0
13	76.9	0.4	12.1	2.4	0.2	0.3	1.8	2.5	3.3	100.0
14	77.4	0.2	12.6	2.1	0.0	0.4	1.8	2.5	3.0	100.0
15	77.1	0.4	11.8	2.3	0.2	0.4	1.7	2.7	3.3	100.0
Ave.	77.4	0.4	12.2	2.3	0.1	0.3	1.8	2.5	2.9	100.0
S.D.	0.3	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.8	0.4	11.5	2.2	0.1	0.3	1.8	2.5	3.0	95.6
2	73.9	0.3	11.5	2.3	0.1	0.3	1.7	2.4	2.6	95.1
3	74.4	0.4	11.7	2.4	0.2	0.3	1.7	2.5	2.8	96.4
4	74.7	0.3	11.6	2.3	0.2	0.3	1.8	2.5	2.6	96.2
5	75.2	0.4	11.7	2.2	0.1	0.3	1.8	2.4	2.6	96.7
6	74.6	0.5	11.7	2.3	0.2	0.4	1.9	2.4	2.5	96.4
7	73.1	0.3	11.5	2.2	0.1	0.3	1.8	2.4	2.4	94.1
8	74.6	0.3	11.9	2.2	0.2	0.3	1.8	2.4	2.9	96.7
9	75.8	0.4	11.8	2.1	0.1	0.3	1.7	2.5	2.8	97.5
10	75.9	0.3	11.9	2.2	0.1	0.3	1.6	2.4	2.7	97.5
11	74.7	0.5	11.9	2.4	0.2	0.3	1.8	2.4	2.8	97.1
12	75.1	0.3	11.7	2.1	0.1	0.4	1.7	2.5	2.7	96.6
13	74.4	0.4	11.7	2.3	0.2	0.3	1.7	2.5	3.2	96.7
14	70.9	0.2	11.5	2.0	0.0	0.4	1.6	2.3	2.7	91.5
15	75.1	0.4	11.5	2.2	0.2	0.4	1.7	2.7	3.2	97.4
Ave.	74.4	0.4	11.7	2.2	0.1	0.3	1.7	2.4	2.8	96.1
S.D.	1.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	1.6

## So-TN c (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.6	0.4	12.1	2.6	0.2	0.3	1.9	2.7	3.4	100.0
2	76.4	0.4	12.1	2.7	0.2	0.3	1.9	2.7	3.3	100.0
3	76.3	0.5	12.1	2.5	0.2	0.4	1.9	2.7	3.3	100.0
4	77.1	0.3	12.1	2.4	0.1	0.4	1.7	2.6	3.4	100.0
5	76.9	0.4	12.2	2.5	0.2	0.3	1.7	2.6	3.3	100.0
6	76.6	0.4	12.2	2.6	0.2	0.3	1.9	2.8	3.1	100.0
7	76.3	0.5	12.2	2.6	0.2	0.4	1.9	2.7	3.3	100.0
8	76.2	0.4	12.1	2.7	0.3	0.4	1.9	2.9	3.3	100.0
9	76.6	0.5	12.2	2.4	0.1	0.4	1.8	2.7	3.3	100.0
10	76.5	0.4	12.2	2.6	0.2	0.3	1.8	2.7	3.3	100.0
11	76.4	0.4	12.0	2.7	0.2	0.3	1.9	2.7	3.3	100.0
12	76.6	0.4	12.0	2.5	0.2	0.4	1.8	2.8	3.3	100.0
13	76.7	0.4	11.9	2.9	0.2	0.3	1.8	2.7	3.2	100.0
14	76.4	0.5	12.0	2.8	0.2	0.3	1.7	2.8	3.4	100.0
15	76.3	0.4	12.2	2.7	0.2	0.3	2.0	2.7	3.2	100.0
16	76.3	0.4	12.1	2.8	0.1	0.3	1.9	2.7	3.4	100.0
Ave.	76.5	0.4	12.1	2.6	0.2	0.3	1.8	2.7	3.3	100.0
S.D.	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.0	0.4	12.0	2.6	0.2	0.3	1.8	2.6	3.4	99.3
2	74.3	0.4	11.8	2.6	0.2	0.3	1.8	2.6	3.2	97.2
3	74.2	0.5	11.8	2.5	0.2	0.4	1.9	2.6	3.2	97.3
4	74.4	0.3	11.7	2.3	0.1	0.4	1.7	2.5	3.3	96.5
5	74.2	0.4	11.7	2.4	0.1	0.3	1.6	2.5	3.2	96.6
6	74.6	0.4	11.8	2.6	0.2	0.3	1.8	2.7	3.0	97.4
7	74.6	0.5	11.9	2.5	0.2	0.4	1.8	2.6	3.2	97.8
8	74.7	0.4	11.8	2.6	0.2	0.4	1.9	2.8	3.2	98.0
9	74.0	0.4	11.8	2.3	0.1	0.4	1.7	2.6	3.2	96.6
10	73.9	0.3	11.8	2.6	0.2	0.3	1.8	2.6	3.2	96.6
11	74.0	0.4	11.6	2.6	0.2	0.3	1.9	2.6	3.2	96.8
12	74.3	0.4	11.7	2.5	0.2	0.3	1.8	2.7	3.2	97.0
13	74.8	0.4	11.6	2.8	0.2	0.3	1.8	2.6	3.2	97.6
14	74.6	0.5	11.7	2.7	0.2	0.3	1.6	2.8	3.3	97.7
15	74.3	0.4	11.9	2.7	0.2	0.3	1.9	2.6	3.1	97.5
16	73.6	0.4	11.6	2.7	0.1	0.3	1.8	2.6	3.2	96.4
Ave.	74.4	0.4	11.8	2.6	0.2	0.3	1.8	2.6	3.2	97.3
S.D.	0.5	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.8

## So-TN b (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.9	0.4	12.0	2.4	0.2	0.4	1.8	2.6	3.2	100.0
2	76.9	0.4	12.0	2.3	0.2	0.3	1.9	2.9	3.2	100.0
3	76.8	0.4	12.1	2.4	0.2	0.4	1.9	2.7	3.4	100.0
4	76.6	0.4	12.2	2.4	0.3	0.4	1.9	2.7	3.2	100.0
5	76.9	0.3	12.1	2.3	0.2	0.3	1.8	2.7	3.5	100.0
6	76.8	0.4	12.0	2.3	0.2	0.3	1.9	2.7	3.4	100.0
7	77.2	0.3	12.1	2.3	0.1	0.3	1.8	2.7	3.2	100.0
8	77.1	0.4	12.1	2.3	0.2	0.3	1.9	2.6	3.2	100.0
9	76.7	0.4	12.0	2.5	0.2	0.3	1.9	2.6	3.4	100.0
10	77.0	0.5	12.0	2.4	0.1	0.3	1.8	2.7	3.3	100.0
11	76.8	0.3	12.0	2.6	0.2	0.4	1.9	2.6	3.2	100.0
12	76.9	0.4	12.1	2.3	0.1	0.3	1.9	2.6	3.4	100.0
13	77.1	0.4	11.9	2.4	0.2	0.3	1.8	2.6	3.1	100.0
14	77.4	0.3	12.0	2.3	0.1	0.3	1.8	2.6	3.2	100.0
15	77.1	0.4	12.0	2.4	0.2	0.3	1.7	2.7	3.3	100.0
16	76.8	0.5	12.0	2.5	0.2	0.4	1.8	2.6	3.3	100.0
Ave.	76.9	0.4	12.0	2.4	0.2	0.3	1.8	2.7	3.3	100.0
S.D.	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	74.0	0.4	11.6	2.3	0.2	0.4	1.8	2.5	3.1	96.3
2	73.9	0.4	11.6	2.2	0.2	0.3	1.8	2.8	3.1	96.1
3	73.5	0.3	11.6	2.3	0.2	0.3	1.8	2.6	3.2	95.8
4	73.9	0.4	11.7	2.3	0.3	0.4	1.9	2.6	3.1	96.5
5	73.5	0.3	11.5	2.2	0.1	0.3	1.7	2.5	3.3	95.6
6	73.7	0.4	11.6	2.2	0.1	0.3	1.8	2.6	3.2	96.0
7	73.4	0.3	11.5	2.2	0.1	0.3	1.7	2.5	3.1	95.0
8	73.0	0.4	11.4	2.2	0.2	0.3	1.8	2.4	3.0	94.7
9	73.5	0.4	11.5	2.4	0.2	0.3	1.8	2.5	3.2	95.8
10	74.0	0.4	11.5	2.3	0.1	0.3	1.8	2.6	3.2	96.2
11	74.7	0.3	11.6	2.6	0.2	0.4	1.8	2.5	3.1	97.2
12	74.5	0.4	11.7	2.2	0.1	0.3	1.8	2.5	3.2	96.8
13	74.5	0.4	11.5	2.3	0.2	0.3	1.8	2.5	3.0	96.6
14	75.0	0.3	11.7	2.2	0.1	0.3	1.7	2.6	3.1	96.9
15	74.7	0.3	11.6	2.3	0.1	0.3	1.7	2.6	3.2	97.0
16	74.6	0.5	11.6	2.4	0.2	0.3	1.8	2.6	3.2	97.2
Ave.	74.0	0.4	11.6	2.3	0.1	0.3	1.8	2.6	3.2	96.2
S.D.	0.6	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.8

## So-TN b (loc.8 Katamata)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.3	0.5	12.1	2.7	0.2	0.3	2.1	2.7	3.3	100.0
2	76.5	0.4	12.0	2.8	0.1	0.4	1.9	2.6	3.2	100.0
3	76.3	0.4	12.1	2.9	0.2	0.4	1.9	2.7	3.2	100.0
4	76.9	0.3	12.1	2.7	0.1	0.3	1.8	2.5	3.3	100.0
5	76.6	0.5	12.0	2.8	0.2	0.3	1.9	2.7	3.1	100.0
6	76.3	0.5	12.1	2.7	0.2	0.4	1.9	2.8	3.2	100.0
7	76.4	0.5	12.1	2.6	0.2	0.4	1.9	2.8	3.2	100.0
8	76.8	0.4	12.0	2.7	0.2	0.3	2.0	2.7	3.0	100.0
9	76.8	0.4	12.1	2.5	0.2	0.3	1.9	2.6	3.2	100.0
10	76.8	0.5	12.0	2.6	0.2	0.3	1.8	2.7	3.1	100.0
11	76.6	0.4	12.0	2.7	0.1	0.3	1.9	2.7	3.3	100.0
12	76.8	0.4	12.0	2.7	0.2	0.4	1.8	2.7	3.1	100.0
13	76.4	0.5	12.2	2.7	0.2	0.3	1.8	2.6	3.2	100.0
14	76.5	0.3	12.2	2.6	0.2	0.3	2.0	2.7	3.3	100.0
15	76.6	0.4	12.2	2.6	0.2	0.4	1.9	2.7	3.3	100.0
16	76.7	0.4	12.2	2.5	0.1	0.3	1.8	2.6	3.4	100.0
Ave.	76.6	0.4	12.1	2.7	0.2	0.3	1.9	2.7	3.2	100.0
S.D.	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.9	0.5	11.7	2.6	0.2	0.3	2.0	2.6	3.2	96.9
2	74.1	0.4	11.7	2.7	0.1	0.3	1.9	2.5	3.1	96.9
3	73.7	0.4	11.6	2.8	0.2	0.3	1.8	2.6	3.1	96.5
4	73.7	0.3	11.6	2.5	0.1	0.3	1.8	2.4	3.2	95.9
5	73.9	0.5	11.6	2.7	0.2	0.3	1.8	2.6	3.0	96.5
6	73.7	0.5	11.6	2.6	0.2	0.3	1.9	2.7	3.1	96.6
7	73.8	0.5	11.7	2.5	0.2	0.4	1.8	2.7	3.1	96.7
8	74.2	0.4	11.6	2.6	0.2	0.3	1.9	2.6	2.9	96.7
9	74.2	0.4	11.7	2.4	0.2	0.3	1.8	2.5	3.1	96.7
10	74.1	0.5	11.6	2.5	0.2	0.3	1.7	2.6	3.0	96.5
11	74.2	0.4	11.6	2.6	0.1	0.3	1.9	2.6	3.2	96.9
12	74.1	0.4	11.6	2.6	0.2	0.4	1.7	2.6	3.0	96.5
13	73.3	0.5	11.7	2.6	0.2	0.3	1.7	2.5	3.1	95.9
14	74.2	0.3	11.8	2.5	0.1	0.3	1.9	2.6	3.2	96.9
15	74.9	0.3	11.9	2.5	0.2	0.4	1.8	2.6	3.2	97.7
16	72.7	0.4	11.5	2.3	0.1	0.3	1.7	2.5	3.2	94.8
Ave.	73.9	0.4	11.7	2.6	0.2	0.3	1.8	2.6	3.1	96.5
S.D.	0.5	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.6

## So-TN b (loc.9 Shiota)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.9	0.4	12.2	2.3	0.2	0.3	1.8	2.7	3.2	100.0
2	76.9	0.4	12.1	2.4	0.2	0.3	1.8	2.7	3.2	100.0
3	76.7	0.4	12.2	2.5	0.1	0.4	1.9	2.6	3.2	100.0
4	76.6	0.5	12.1	2.5	0.2	0.4	1.9	2.7	3.3	100.0
5	77.1	0.4	12.2	1.7	0.2	0.4	1.8	2.7	3.3	100.0
6	77.0	0.3	12.1	2.4	0.2	0.3	1.7	2.7	3.3	100.0
7	76.8	0.4	12.1	2.4	0.1	0.4	1.8	2.7	3.4	100.0
8	77.4	0.2	12.1	2.1	0.0	0.3	1.9	2.6	3.4	100.0
9	74.8	0.5	12.8	2.8	0.3	0.4	2.3	2.6	3.4	100.0
10	76.8	0.4	12.1	2.4	0.1	0.3	1.8	2.6	3.4	100.0
11	76.9	0.3	12.1	2.3	0.1	0.3	1.8	2.7	3.5	100.0
12	77.0	0.4	12.0	2.3	0.1	0.3	1.8	2.8	3.3	100.0
13	77.4	0.2	12.0	2.3	0.1	0.3	1.9	2.7	3.2	100.0
14	76.8	0.5	12.0	2.4	0.1	0.3	1.9	2.8	3.3	100.0
15	77.0	0.3	12.1	2.4	0.1	0.3	1.9	2.6	3.3	100.0
16	76.9	0.3	12.0	2.3	0.1	0.3	1.9	2.8	3.4	100.0
Ave.	76.8	0.4	12.1	2.4	0.1	0.3	1.9	2.7	3.3	100.0
S.D.	0.6	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.6	0.3	11.5	2.2	0.2	0.3	1.7	2.6	3.0	94.5
2	72.5	0.4	11.4	2.3	0.2	0.3	1.7	2.5	3.0	94.4
3	73.8	0.4	11.7	2.4	0.1	0.4	1.8	2.5	3.1	96.1
4	73.3	0.5	11.5	2.4	0.2	0.4	1.8	2.5	3.2	95.8
5	74.5	0.4	11.8	1.7	0.2	0.4	1.8	2.6	3.2	96.6
6	73.4	0.3	11.5	2.3	0.2	0.3	1.6	2.6	3.1	95.4
7	75.0	0.4	11.8	2.3	0.1	0.4	1.8	2.6	3.3	97.7
8	73.5	0.2	11.5	2.0	0.0	0.3	1.8	2.5	3.2	95.0
9	72.3	0.5	12.4	2.7	0.3	0.4	2.2	2.5	3.3	96.6
10	73.6	0.4	11.6	2.3	0.1	0.3	1.7	2.5	3.3	95.8
11	73.5	0.3	11.6	2.2	0.1	0.3	1.7	2.6	3.3	95.6
12	73.3	0.4	11.4	2.2	0.1	0.3	1.7	2.6	3.2	95.3
13	73.1	0.2	11.3	2.2	0.0	0.3	1.8	2.5	3.0	94.4
14	72.6	0.4	11.3	2.2	0.1	0.2	1.8	2.7	3.1	94.5
15	73.6	0.3	11.5	2.2	0.1	0.3	1.8	2.5	3.1	95.5
16	73.0	0.2	11.4	2.2	0.1	0.3	1.8	2.6	3.2	94.9
Ave.	73.4	0.4	11.6	2.2	0.1	0.3	1.8	2.6	3.2	95.5
S.D.	0.7	0.1	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.9

## So-TN b (loc.11 Tanohara)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.3	0.5	12.0	2.6	0.3	0.3	1.9	2.7	3.4	100.0
2	76.0	0.4	12.2	2.7	0.1	0.4	2.0	2.9	3.2	100.0
3	76.3	0.4	12.2	2.7	0.1	0.4	2.0	2.7	3.3	100.0
4	76.4	0.4	12.1	2.7	0.3	0.3	1.8	2.7	3.4	100.0
5	76.5	0.4	12.1	2.6	0.1	0.4	1.9	2.8	3.2	100.0
6	76.7	0.4	12.0	2.7	0.1	0.3	1.8	2.6	3.3	100.0
7	76.8	0.4	12.1	2.6	0.2	0.3	1.9	2.7	3.2	100.0
8	77.0	0.4	12.1	2.3	0.0	0.4	1.8	2.8	3.3	100.0
9	76.3	0.4	12.3	2.7	0.0	0.4	2.0	2.6	3.4	100.0
10	76.7	0.4	12.1	2.6	0.1	0.3	1.9	2.7	3.3	100.0
11	76.5	0.4	12.0	2.6	0.3	0.3	1.8	2.7	3.4	100.0
12	76.6	0.4	12.1	2.5	0.1	0.3	1.8	2.7	3.4	100.0
13	77.3	0.4	12.1	2.6	0.1	0.4	1.7	2.7	2.8	100.0
14	76.6	0.4	11.9	2.6	0.1	0.3	1.9	2.7	3.4	100.0
15	76.0	0.5	12.2	2.7	0.3	0.4	1.9	2.6	3.4	100.0
16	76.4	0.4	12.2	2.5	0.1	0.4	2.0	2.7	3.4	100.0
Ave.	76.5	0.4	12.1	2.6	0.1	0.3	1.9	2.7	3.3	100.0
S.D.	0.3	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.9	0.5	11.5	2.5	0.3	0.3	1.8	2.6	3.3	95.6
2	72.0	0.4	11.6	2.6	0.1	0.4	1.9	2.7	3.0	94.7
3	72.4	0.4	11.6	2.6	0.1	0.4	1.9	2.5	3.1	94.9
4	72.5	0.3	11.5	2.6	0.2	0.3	1.7	2.6	3.2	94.8
5	72.2	0.4	11.5	2.5	0.1	0.3	1.8	2.6	3.0	94.5
6	72.0	0.4	11.3	2.5	0.1	0.3	1.7	2.5	3.1	93.8
7	72.2	0.3	11.3	2.4	0.2	0.3	1.7	2.5	3.0	94.1
8	73.0	0.4	11.4	2.2	0.0	0.3	1.7	2.6	3.1	94.8
9	72.1	0.4	11.6	2.6	0.0	0.3	1.9	2.4	3.2	94.6
10	72.7	0.4	11.4	2.4	0.1	0.3	1.8	2.5	3.1	94.8
11	72.7	0.4	11.4	2.5	0.2	0.3	1.7	2.6	3.2	95.0
12	72.7	0.4	11.5	2.4	0.1	0.3	1.7	2.6	3.2	94.8
13	72.9	0.4	11.4	2.4	0.1	0.4	1.6	2.5	2.6	94.4
14	72.8	0.4	11.3	2.5	0.1	0.3	1.8	2.6	3.3	95.0
15	74.4	0.5	11.9	2.7	0.3	0.4	1.8	2.6	3.3	97.9
16	72.9	0.3	11.6	2.4	0.1	0.3	1.9	2.6	3.3	95.4
Ave.	72.6	0.4	11.5	2.5	0.1	0.3	1.8	2.6	3.1	94.9
S.D.	0.6	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.9

## So-TN a (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	78.1	0.3	12.8	0.9	0.1	0.3	1.5	2.5	3.5	100.0
2	77.2	0.3	12.5	1.8	0.0	0.4	1.8	2.5	3.6	100.0
3	77.6	0.3	12.7	1.4	0.1	0.4	1.9	2.5	3.2	100.0
4	78.0	0.4	12.6	0.8	0.2	0.3	1.9	2.6	3.2	100.0
5	77.7	0.3	12.7	1.0	0.2	0.3	1.8	2.5	3.4	100.0
6	77.9	0.2	12.6	1.7	0.0	0.3	1.7	2.3	3.4	100.0
7	77.2	0.4	12.5	1.6	0.3	0.3	2.0	2.4	3.3	100.0
8	74.0	0.3	14.7	1.6	0.1	0.2	3.4	1.8	4.0	100.0
9	77.0	0.4	12.6	1.8	0.2	0.4	2.0	2.4	3.2	100.0
10	77.2	0.4	12.5	1.8	0.1	0.4	1.8	2.3	3.4	100.0
11	77.8	0.4	12.5	1.5	0.1	0.3	2.0	2.2	3.3	100.0
12	77.0	0.4	12.5	1.8	0.1	0.4	1.9	2.5	3.4	100.0
13	77.3	0.4	12.5	1.5	0.3	0.4	2.0	2.4	3.3	100.0
Ave.	77.2	0.3	12.7	1.5	0.1	0.3	2.0	2.4	3.4	100.0
S.D.	1.0	0.1	0.6	0.4	0.1	0.1	0.4	0.2	0.2	
Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.2	0.3	12.4	0.9	0.1	0.3	1.4	2.5	3.4	97.5
2	76.9	0.2	12.5	1.8	0.0	0.4	1.8	2.5	3.6	99.7
3	76.1	0.3	12.4	1.4	0.1	0.4	1.8	2.4	3.1	98.1
4	72.3	0.4	11.7	0.8	0.2	0.3	1.7	2.4	3.0	92.8
5	75.8	0.3	12.4	1.0	0.2	0.3	1.8	2.5	3.3	97.5
6	73.8	0.2	11.9	1.6	0.0	0.3	1.6	2.2	3.2	94.8
7	75.4	0.4	12.2	1.6	0.3	0.3	2.0	2.4	3.2	97.7
8	72.8	0.3	14.5	1.5	0.0	0.2	3.3	1.7	3.9	98.4
9	75.1	0.4	12.3	1.8	0.2	0.4	2.0	2.3	3.2	97.6
10	75.5	0.4	12.2	1.8	0.1	0.4	1.8	2.3	3.4	97.8
11	75.7	0.4	12.2	1.5	0.1	0.3	1.9	2.1	3.2	97.4
12	74.0	0.4	12.0	1.7	0.1	0.4	1.8	2.4	3.3	96.1
13	75.8	0.3	12.2	1.5	0.3	0.3	2.0	2.3	3.3	98.1
Ave.	75.0	0.3	12.4	1.4	0.1	0.3	1.9	2.3	3.3	97.2
S.D.	1.4	0.1	0.7	0.4	0.1	0.1	0.4	0.2	0.2	1.7

## So-KT (loc.17 Shiota minami)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.5	0.3	12.7	2.2	0.1	0.5	2.3	2.1	3.4	100.0
2	76.5	0.3	12.9	1.9	0.0	0.5	2.3	2.2	3.4	100.0
3	76.5	0.3	12.8	1.9	0.2	0.5	2.4	1.7	3.8	100.0
4	76.8	0.2	12.8	2.0	0.1	0.4	2.3	1.9	3.5	100.0
5	77.4	0.2	12.6	1.9	0.0	0.4	2.2	1.7	3.7	100.0
6	76.6	0.2	12.7	2.0	0.1	0.5	2.3	2.1	3.4	100.0
7	76.5	0.4	12.8	2.1	0.1	0.4	2.3	1.8	3.7	100.0
8	77.9	0.2	12.2	2.0	0.1	0.4	2.0	1.9	3.4	100.0
9	77.4	0.2	12.6	1.9	0.0	0.4	2.1	1.9	3.5	100.0
10	76.0	0.2	13.3	2.0	0.0	0.5	2.6	2.1	3.3	100.0
11	76.5	0.3	12.9	2.0	0.1	0.5	2.4	1.6	3.8	100.0
12	77.2	0.2	12.7	1.8	0.0	0.4	2.2	1.9	3.4	100.0
13	78.0	0.2	12.1	1.8	0.0	0.4	1.9	2.6	3.0	100.0
14	76.6	0.2	12.8	1.9	0.0	0.4	2.3	2.8	3.0	100.0
15	77.1	0.3	12.4	1.9	0.1	0.4	2.1	2.5	3.2	100.0
16	76.8	0.2	12.8	1.9	0.1	0.5	2.2	1.9	3.5	100.0
Ave.	76.9	0.3	12.7	1.9	0.1	0.4	2.2	2.0	3.4	100.0
S.D.	0.6	0.1	0.3	0.1	0.1	0.1	0.2	0.3	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.8	0.3	12.2	2.1	0.1	0.5	2.2	2.0	3.2	96.4
2	74.2	0.3	12.5	1.9	0.0	0.5	2.3	2.1	3.3	97.1
3	74.3	0.3	12.4	1.9	0.2	0.5	2.3	1.6	3.6	97.1
4	73.8	0.2	12.3	2.0	0.0	0.4	2.2	1.8	3.4	96.1
5	74.5	0.2	12.1	1.8	0.0	0.4	2.1	1.6	3.6	96.2
6	73.9	0.2	12.3	2.0	0.1	0.5	2.3	2.0	3.3	96.4
7	73.4	0.4	12.2	2.0	0.1	0.4	2.2	1.7	3.6	96.0
8	74.7	0.2	11.7	1.9	0.1	0.3	1.9	1.8	3.3	96.0
9	74.1	0.2	12.1	1.8	0.0	0.4	2.0	1.8	3.3	95.7
10	73.6	0.2	12.9	1.9	0.0	0.5	2.5	2.0	3.2	96.9
11	73.6	0.3	12.4	1.9	0.1	0.5	2.3	1.6	3.6	96.2
12	73.7	0.1	12.2	1.7	0.0	0.4	2.1	1.9	3.3	95.4
13	74.7	0.2	11.6	1.7	0.0	0.4	1.8	2.4	2.9	95.7
14	74.8	0.2	12.5	1.8	0.0	0.4	2.2	2.7	2.9	97.6
15	74.7	0.3	12.0	1.8	0.1	0.4	2.1	2.4	3.1	96.9
16	73.8	0.2	12.3	1.9	0.1	0.5	2.2	1.9	3.3	96.1
Ave.	74.1	0.2	12.2	1.9	0.1	0.4	2.2	2.0	3.3	96.3
S.D.	0.5	0.1	0.3	0.1	0.1	0.1	0.2	0.3	0.2	0.6

## So-KT (loc.9 Shioita)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.3	0.4	12.6	1.7	0.1	0.3	2.2	1.7	3.8	100.0
2	76.5	0.4	12.8	1.9	0.1	0.5	2.5	1.9	3.5	100.0
3	76.6	0.4	12.9	1.9	0.3	0.4	2.4	1.8	3.5	100.0
4	77.4	0.3	12.7	1.7	0.1	0.4	2.1	1.8	3.5	100.0
5	76.8	0.3	12.7	1.9	0.1	0.5	2.3	2.0	3.4	100.0
6	76.3	0.4	12.7	2.1	0.2	0.5	2.4	2.1	3.3	100.0
7	76.6	0.3	12.8	1.9	0.1	0.5	2.4	1.7	3.7	100.0
8	76.4	0.4	12.7	2.1	0.2	0.5	2.4	1.9	3.5	100.0
9	77.0	0.4	12.6	1.8	0.1	0.4	2.3	1.7	3.8	100.0
10	76.9	0.3	12.6	2.0	0.2	0.4	2.4	1.9	3.5	100.0
11	77.6	0.3	12.6	1.6	0.1	0.4	2.2	2.1	3.1	100.0
12	76.9	0.3	12.8	1.9	0.1	0.4	2.4	1.8	3.5	100.0
13	76.6	0.3	12.9	1.9	0.2	0.5	2.3	1.7	3.6	100.0
14	76.9	0.3	12.8	1.9	0.1	0.5	2.3	2.1	3.3	100.0
15	76.9	0.4	12.7	1.8	0.2	0.5	2.5	1.7	3.5	100.0
Ave.	76.8	0.3	12.7	1.9	0.1	0.4	2.3	1.9	3.5	100.0
S.D.	0.4	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	75.9	0.4	12.3	1.7	0.1	0.3	2.1	1.7	3.7	98.2
2	75.0	0.4	12.6	1.8	0.1	0.5	2.4	1.9	3.5	98.2
3	75.6	0.3	12.7	1.8	0.3	0.4	2.3	1.8	3.4	98.7
4	76.4	0.3	12.5	1.7	0.1	0.4	2.1	1.8	3.5	98.8
5	75.6	0.3	12.5	1.8	0.1	0.5	2.3	1.9	3.3	98.5
6	74.4	0.4	12.4	2.0	0.2	0.4	2.4	2.1	3.2	97.5
7	70.9	0.3	11.8	1.7	0.1	0.5	2.2	1.6	3.4	92.6
8	75.4	0.4	12.6	2.0	0.1	0.5	2.3	1.9	3.5	98.7
9	76.2	0.3	12.4	1.8	0.1	0.4	2.2	1.7	3.7	99.0
10	74.7	0.3	12.3	1.9	0.1	0.3	2.3	1.8	3.4	97.1
11	75.8	0.3	12.3	1.6	0.1	0.4	2.2	2.1	3.1	97.8
12	74.8	0.3	12.4	1.8	0.1	0.4	2.3	1.8	3.4	97.2
13	74.7	0.3	12.6	1.9	0.2	0.5	2.3	1.7	3.5	97.5
14	73.8	0.2	12.3	1.8	0.1	0.5	2.2	2.0	3.1	96.0
15	72.3	0.3	11.9	1.7	0.2	0.4	2.3	1.6	3.3	94.1
Ave.	74.8	0.3	12.4	1.8	0.1	0.4	2.3	1.8	3.4	97.3
S.D.	1.5	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	1.8

## So-KT (loc.8 Katamata)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.3	0.3	12.5	1.9	0.0	0.4	2.3	1.7	3.7	100.0
2	76.2	0.4	12.7	2.1	0.2	0.4	2.5	1.8	3.6	100.0
3	76.3	0.3	12.8	2.0	0.2	0.5	2.3	1.8	3.7	100.0
4	76.6	0.2	13.0	1.9	0.0	0.5	2.3	1.7	3.9	100.0
5	77.6	0.2	12.5	1.8	0.1	0.3	2.2	1.7	3.7	100.0
6	77.4	0.2	12.6	1.9	0.2	0.4	2.1	1.6	3.6	100.0
7	76.4	0.4	12.7	2.1	0.2	0.5	2.3	1.9	3.7	100.0
8	76.4	0.3	12.8	2.1	0.1	0.5	2.3	1.7	3.8	100.0
9	76.6	0.3	12.8	2.1	0.1	0.4	2.4	1.7	3.7	100.0
10	76.9	0.4	12.4	2.0	0.2	0.4	2.3	1.8	3.6	100.0
11	77.4	0.3	12.5	2.0	0.0	0.4	2.1	1.7	3.6	100.0
12	77.1	0.2	12.6	1.9	0.1	0.4	2.2	1.7	3.8	100.0
13	77.5	0.2	12.6	1.8	0.0	0.4	2.1	1.7	3.8	100.0
14	76.2	0.3	12.9	2.1	0.1	0.5	2.4	1.8	3.8	100.0
15	76.9	0.3	12.5	2.1	0.2	0.4	2.4	1.8	3.4	100.0
16	76.6	0.4	12.5	2.1	0.2	0.4	2.5	1.8	3.4	100.0
Ave.	76.8	0.3	12.7	2.0	0.1	0.4	2.3	1.7	3.7	100.0
S.D.	0.5	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.8	0.3	11.9	1.8	0.0	0.4	2.2	1.6	3.5	95.5
2	72.4	0.4	12.1	2.0	0.2	0.4	2.3	1.7	3.4	95.0
3	75.0	0.3	12.6	2.0	0.2	0.5	2.3	1.8	3.6	98.2
4	75.8	0.2	12.8	1.8	0.0	0.5	2.3	1.7	3.9	98.9
5	74.4	0.2	12.0	1.7	0.1	0.3	2.1	1.7	3.6	96.0
6	73.1	0.2	11.9	1.8	0.1	0.4	2.0	1.5	3.4	94.5
7	73.6	0.3	12.2	2.0	0.2	0.5	2.2	1.8	3.5	96.3
8	73.9	0.3	12.4	2.0	0.1	0.4	2.2	1.7	3.7	96.7
9	73.7	0.3	12.3	2.0	0.1	0.4	2.3	1.6	3.5	96.2
10	73.7	0.4	11.9	1.9	0.2	0.4	2.2	1.7	3.5	95.8
11	72.9	0.2	11.8	1.9	0.0	0.4	2.0	1.6	3.4	94.2
12	74.5	0.2	12.2	1.9	0.1	0.4	2.1	1.6	3.6	96.7
13	74.8	0.1	12.2	1.7	0.0	0.4	2.0	1.6	3.6	96.5
14	75.1	0.3	12.7	2.1	0.1	0.5	2.4	1.7	3.8	98.6
15	70.3	0.3	11.4	1.9	0.2	0.4	2.2	1.6	3.1	91.4
16	71.5	0.4	11.7	2.0	0.2	0.4	2.3	1.7	3.2	93.4
Ave.	73.6	0.3	12.1	1.9	0.1	0.4	2.2	1.7	3.5	95.9
S.D.	1.4	0.1	0.4	0.1	0.1	0.0	0.1	0.1	0.2	1.9

A<sub>4</sub>Pm (loc. 9 Shiota)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	78.4	0.1	12.2	1.0	0.1	0.2	0.9	4.5	2.8	100.0
2	78.3	0.0	12.3	0.9	0.0	0.2	0.8	4.7	2.9	100.0
3	77.7	0.1	12.2	1.2	0.1	0.2	0.9	4.8	2.8	100.0
4	78.3	0.1	12.2	0.8	0.0	0.1	0.8	5.0	2.7	100.0
5	77.6	0.1	12.2	1.0	0.1	0.3	0.8	5.1	2.8	100.0
6	77.8	0.1	12.2	1.0	0.1	0.2	0.8	5.0	2.9	100.0
7	77.7	0.1	12.3	1.0	0.1	0.2	0.8	5.1	2.8	100.0
8	78.3	0.1	12.3	0.9	0.1	0.1	0.8	4.8	2.4	100.0
9	78.3	0.1	12.3	0.9	0.0	0.2	0.8	4.7	2.7	100.0
10	77.2	0.4	12.7	1.9	0.2	0.4	1.9	2.3	3.1	100.0
11	77.6	0.2	12.2	1.1	0.2	0.2	0.9	5.0	2.7	100.0
12	78.0	0.2	12.2	1.0	0.0	0.2	0.9	4.8	2.8	100.0
13	78.0	0.1	12.3	0.9	0.0	0.2	0.9	4.8	2.9	100.0
14	78.3	0.1	12.2	0.9	0.0	0.2	0.7	4.8	2.8	100.0
15	78.0	0.1	12.3	0.8	0.1	0.2	0.8	4.6	3.0	100.0
16	78.1	0.1	12.1	1.1	0.1	0.2	0.8	4.7	2.8	100.0
Ave.	78.0	0.1	12.3	1.0	0.1	0.2	0.9	4.7	2.8	100.0
S.D.	0.4	0.1	0.1	0.3	0.1	0.1	0.3	0.7	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.1	0.1	11.2	0.9	0.0	0.2	0.8	4.1	2.5	92.0
2	73.5	0.0	11.5	0.8	0.0	0.2	0.7	4.4	2.7	93.8
3	73.1	0.1	11.5	1.1	0.1	0.2	0.8	4.5	2.7	94.1
4	73.8	0.1	11.5	0.8	0.0	0.1	0.7	4.7	2.6	94.2
5	71.6	0.1	11.3	0.9	0.1	0.2	0.7	4.7	2.5	92.3
6	73.9	0.1	11.6	0.9	0.1	0.2	0.8	4.7	2.7	95.1
7	73.6	0.1	11.6	0.9	0.1	0.2	0.7	4.9	2.6	94.7
8	73.4	0.1	11.5	0.9	0.1	0.1	0.8	4.5	2.3	93.7
9	72.9	0.1	11.4	0.8	0.0	0.2	0.7	4.4	2.5	93.0
10	74.4	0.4	12.2	1.8	0.2	0.3	1.8	2.2	3.0	96.4
11	73.5	0.2	11.5	1.1	0.2	0.2	0.8	4.8	2.6	94.8
12	73.2	0.2	11.5	0.9	0.0	0.2	0.8	4.5	2.6	93.9
13	74.0	0.1	11.7	0.8	0.0	0.1	0.8	4.6	2.7	94.9
14	73.5	0.0	11.4	0.9	0.0	0.2	0.7	4.5	2.6	93.9
15	73.5	0.1	11.6	0.8	0.1	0.2	0.8	4.3	2.8	94.2
16	73.4	0.1	11.4	1.0	0.1	0.2	0.8	4.4	2.6	94.0
Ave.	73.3	0.1	11.5	1.0	0.1	0.2	0.8	4.4	2.6	94.1
S.D.	0.7	0.1	0.2	0.3	0.1	0.1	0.3	0.6	0.2	1.1

A<sub>4</sub>Pm (loc.7 Katamata nishi)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	76.3	0.2	12.8	1.6	0.2	0.2	1.0	4.1	3.6	100.0
2	76.7	0.1	12.8	1.4	0.1	0.2	0.9	4.1	3.7	100.0
3	78.3	0.0	12.3	0.9	0.0	0.2	0.7	4.8	2.8	100.0
4	77.5	0.1	12.5	1.1	0.0	0.3	0.8	5.0	2.7	100.0
5	77.9	0.0	12.3	1.0	0.1	0.2	0.7	4.9	2.9	100.0
6	77.8	0.1	12.4	1.1	0.0	0.2	0.8	5.0	2.8	100.0
7	77.9	0.2	12.3	0.9	0.1	0.1	0.9	4.7	3.0	100.0
8	77.7	0.2	12.2	1.0	0.1	0.2	0.8	4.8	3.0	100.0
9	77.8	0.1	12.3	1.1	0.0	0.2	0.8	4.9	2.9	100.0
10	76.6	0.2	12.9	1.3	0.0	0.2	1.0	4.0	3.7	100.0
11	77.3	0.2	12.3	1.1	0.2	0.2	0.8	5.1	2.8	100.0
12	76.5	0.1	12.9	1.7	0.1	0.2	0.9	4.0	3.8	100.0
13	78.5	0.0	12.2	0.8	0.0	0.2	0.7	4.8	2.8	100.0
14	77.9	0.1	12.4	0.9	0.0	0.2	0.9	4.8	2.8	100.0
15	77.1	0.3	13.1	1.5	0.1	0.5	1.8	1.9	3.8	100.0
16	77.6	0.1	12.3	1.1	0.2	0.1	0.9	5.1	2.7	100.0
Ave.	77.5	0.1	12.5	1.2	0.1	0.2	0.9	4.5	3.1	100.0
S.D.	0.6	0.1	0.3	0.3	0.1	0.1	0.3	0.8	0.4	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	72.7	0.2	12.2	1.5	0.2	0.2	0.9	3.9	3.5	95.3
2	73.0	0.1	12.2	1.3	0.1	0.2	0.9	3.9	3.5	95.2
3	73.7	0.0	11.6	0.9	0.0	0.2	0.7	4.5	2.6	94.2
4	72.8	0.1	11.8	1.1	0.0	0.3	0.8	4.7	2.5	93.9
5	74.4	0.0	11.7	0.9	0.1	0.2	0.7	4.7	2.7	95.5
6	74.8	0.1	11.9	1.0	0.0	0.2	0.7	4.8	2.7	96.2
7	74.0	0.2	11.7	0.9	0.1	0.1	0.8	4.4	2.8	95.0
8	74.7	0.2	11.8	0.9	0.1	0.2	0.8	4.6	2.9	96.1
9	74.3	0.1	11.7	1.0	0.0	0.2	0.8	4.6	2.7	95.4
10	72.4	0.2	12.2	1.2	0.0	0.2	0.9	3.8	3.5	94.5
11	74.4	0.2	11.8	1.0	0.2	0.2	0.8	4.9	2.7	96.2
12	72.8	0.1	12.2	1.6	0.1	0.2	0.9	3.8	3.6	95.2
13	74.3	0.0	11.6	0.8	0.0	0.2	0.7	4.5	2.7	94.7
14	74.0	0.1	11.8	0.9	0.0	0.2	0.8	4.6	2.7	95.1
15	72.8	0.3	12.4	1.4	0.1	0.4	1.7	1.8	3.6	94.3
16	74.8	0.1	11.9	1.0	0.1	0.1	0.8	4.9	2.6	96.4
Ave.	73.7	0.1	11.9	1.1	0.1	0.2	0.9	4.3	3.0	95.2
S.D.	0.9	0.1	0.3	0.2	0.1	0.1	0.2	0.8	0.4	0.8

B<sub>2</sub> (Foot of the Mt. Yatsugatake)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.7	0.1	12.2	1.1	0.1	0.2	0.9	5.0	2.7	100.0
2	77.6	0.1	12.3	1.1	0.0	0.2	0.8	5.2	2.5	100.0
3	77.6	0.1	12.2	1.2	0.1	0.1	0.8	5.2	2.6	100.0
4	77.7	0.0	12.3	1.1	0.1	0.2	0.9	5.0	2.8	100.0
5	77.8	0.1	12.2	1.1	0.1	0.2	0.8	4.9	2.8	100.0
6	77.7	0.2	12.1	1.1	0.2	0.2	0.8	5.0	2.9	100.0
7	77.4	0.2	12.1	1.4	0.1	0.1	0.8	5.3	2.6	100.0
8	77.8	0.1	12.3	1.0	0.0	0.2	0.7	5.1	2.9	100.0
9	78.1	0.1	12.1	1.0	0.1	0.2	0.8	4.9	2.8	100.0
10	77.2	0.2	12.3	1.1	0.1	0.2	0.9	5.3	2.7	100.0
11	77.6	0.1	12.3	1.2	0.1	0.2	0.9	4.9	2.7	100.0
12	77.5	0.2	12.2	1.3	0.2	0.2	0.8	5.0	2.7	100.0
13	77.3	0.2	12.3	1.2	0.3	0.2	0.9	4.8	2.9	100.0
14	77.7	0.1	12.1	1.1	0.1	0.2	0.9	5.1	2.8	100.0
15	76.9	0.2	12.3	1.3	0.1	0.3	0.8	5.7	2.4	100.0
16	77.7	0.2	12.2	1.1	0.1	0.2	0.8	4.9	2.9	100.0
Ave.	77.6	0.1	12.2	1.2	0.1	0.2	0.8	5.1	2.7	100.0
S.D.	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	73.9	0.1	11.6	1.1	0.1	0.2	0.8	4.8	2.6	95.1
2	73.2	0.1	11.6	1.1	0.0	0.2	0.7	4.9	2.4	94.2
3	73.2	0.1	11.5	1.1	0.1	0.1	0.7	4.9	2.5	94.3
4	73.7	0.0	11.6	1.0	0.0	0.2	0.9	4.7	2.7	94.8
5	74.2	0.1	11.6	1.1	0.1	0.2	0.8	4.7	2.7	95.5
6	74.3	0.2	11.6	1.1	0.2	0.2	0.8	4.7	2.7	95.7
7	73.9	0.2	11.6	1.3	0.1	0.1	0.8	5.0	2.5	95.6
8	73.7	0.0	11.6	1.0	0.0	0.2	0.7	4.8	2.7	94.8
9	74.3	0.0	11.5	0.9	0.1	0.2	0.8	4.6	2.7	95.1
10	74.0	0.2	11.8	1.1	0.1	0.2	0.9	5.1	2.6	95.8
11	73.6	0.1	11.7	1.1	0.1	0.2	0.8	4.7	2.6	94.9
12	74.7	0.2	11.8	1.2	0.2	0.2	0.8	4.8	2.6	96.4
13	74.0	0.2	11.7	1.1	0.3	0.1	0.8	4.6	2.8	95.7
14	73.7	0.1	11.5	1.1	0.1	0.2	0.8	4.8	2.6	94.9
15	73.1	0.2	11.7	1.2	0.1	0.3	0.8	5.4	2.3	95.2
16	73.9	0.2	11.6	1.0	0.1	0.2	0.8	4.7	2.8	95.1
Ave.	73.8	0.1	11.6	1.1	0.1	0.2	0.8	4.8	2.6	95.2
S.D.	0.4	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.6

## BT72 (loc.11 Tanohara)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.5	0.3	12.6	1.4	0.1	0.4	1.4	2.9	3.4	100.0
2	77.2	0.4	12.6	1.4	0.2	0.4	1.4	3.0	3.5	100.0
3	77.2	0.4	12.5	1.5	0.1	0.4	1.5	3.0	3.5	100.0
4	77.3	0.4	12.4	1.4	0.1	0.3	1.5	3.0	3.5	100.0
5	77.6	0.2	12.7	1.2	0.0	0.4	1.3	3.0	3.5	100.0
6	76.8	0.4	12.6	1.4	0.2	0.4	1.4	3.1	3.6	100.0
7	77.8	0.3	12.6	1.1	0.0	0.3	1.5	3.0	3.4	100.0
8	77.3	0.4	12.5	1.5	0.2	0.3	1.5	2.9	3.4	100.0
9	77.6	0.4	12.6	1.2	0.0	0.4	1.4	2.9	3.6	100.0
10	77.6	0.2	12.5	1.3	0.1	0.3	1.4	3.0	3.5	100.0
11	77.7	0.3	12.7	1.3	0.0	0.4	1.4	2.9	3.4	100.0
12	77.7	0.3	12.6	1.4	0.1	0.3	1.3	2.9	3.4	100.0
13	77.1	0.3	12.7	1.4	0.2	0.4	1.4	3.0	3.4	100.0
14	77.3	0.3	12.7	1.5	0.1	0.4	1.4	3.0	3.3	100.0
15	77.5	0.3	12.6	1.3	0.1	0.4	1.4	2.9	3.5	100.0
16	77.3	0.3	12.6	1.4	0.2	0.4	1.4	2.9	3.5	100.0
Ave.	77.4	0.3	12.6	1.4	0.1	0.4	1.4	3.0	3.5	100.0
S.D.	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	74.5	0.3	12.1	1.4	0.1	0.4	1.3	2.8	3.3	96.1
2	74.7	0.4	12.2	1.3	0.1	0.4	1.4	2.9	3.4	96.8
3	74.8	0.4	12.2	1.4	0.1	0.3	1.4	2.9	3.4	97.0
4	74.9	0.4	12.0	1.4	0.1	0.3	1.5	2.9	3.4	96.9
5	74.4	0.2	12.2	1.2	0.0	0.4	1.2	2.8	3.4	95.9
6	75.5	0.4	12.4	1.4	0.2	0.4	1.4	3.1	3.6	98.4
7	74.6	0.3	12.1	1.1	0.0	0.3	1.4	2.8	3.3	95.9
8	74.4	0.4	12.0	1.5	0.2	0.3	1.4	2.8	3.3	96.3
9	74.5	0.4	12.1	1.1	0.0	0.4	1.4	2.8	3.4	96.0
10	74.7	0.2	12.1	1.3	0.1	0.3	1.4	2.9	3.4	96.2
11	74.5	0.3	12.2	1.3	0.0	0.4	1.3	2.8	3.2	95.9
12	74.0	0.3	12.0	1.3	0.1	0.3	1.3	2.7	3.3	95.2
13	74.7	0.3	12.3	1.4	0.2	0.4	1.3	2.9	3.3	96.8
14	74.1	0.3	12.2	1.4	0.1	0.4	1.4	2.8	3.2	95.9
15	75.1	0.3	12.2	1.2	0.1	0.4	1.3	2.8	3.4	97.0
16	75.1	0.3	12.2	1.3	0.2	0.4	1.4	2.8	3.4	97.1
Ave.	74.7	0.3	12.1	1.3	0.1	0.4	1.3	2.9	3.3	96.5
S.D.	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.7

## Hikage-7 (Nakanojo)

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	77.0	0.4	12.5	1.6	0.1	0.4	1.4	3.1	3.5	100.0
2	77.3	0.3	12.6	1.4	0.1	0.4	1.3	3.1	3.6	100.0
3	77.2	0.3	12.6	1.5	0.1	0.3	1.4	3.0	3.6	100.0
4	77.3	0.3	12.6	1.5	0.1	0.3	1.4	3.1	3.5	100.0
5	77.5	0.3	12.5	1.4	0.1	0.3	1.4	3.0	3.5	100.0
6	77.3	0.3	12.6	1.4	0.0	0.4	1.4	3.0	3.6	100.0
7	77.6	0.2	12.6	1.3	0.0	0.4	1.4	3.0	3.6	100.0
8	76.4	0.5	12.6	1.8	0.2	0.4	1.7	2.9	3.5	100.0
9	77.3	0.3	12.6	1.3	0.1	0.4	1.4	3.1	3.6	100.0
10	77.5	0.2	12.7	1.3	0.0	0.4	1.3	3.0	3.6	100.0
11	77.0	0.4	12.7	1.5	0.1	0.4	1.5	3.1	3.5	100.0
12	77.3	0.3	12.6	1.5	0.1	0.3	1.4	3.0	3.5	100.0
13	77.7	0.3	12.6	1.2	0.0	0.4	1.3	2.9	3.6	100.0
14	77.1	0.3	12.6	1.5	0.0	0.4	1.4	3.1	3.6	100.0
15	77.0	0.4	12.5	1.4	0.2	0.3	1.4	3.1	3.7	100.0
16	77.0	0.4	12.6	1.5	0.1	0.3	1.4	3.1	3.7	100.0
17	77.6	0.2	12.6	1.4	0.0	0.4	1.3	2.9	3.6	100.0
18	77.4	0.2	12.7	1.3	0.0	0.4	1.4	3.0	3.6	100.0
19	77.6	0.3	12.7	1.3	0.1	0.4	1.3	3.0	3.5	100.0
20	77.5	0.3	12.5	1.5	0.1	0.3	1.4	2.9	3.6	100.0
21	76.9	0.5	12.6	1.5	0.1	0.4	1.5	3.0	3.5	100.0
Ave.	77.2	0.3	12.6	1.4	0.1	0.4	1.4	3.0	3.6	100.0
S.D.	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	

Point No.	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MnO	MgO	CaO	K <sub>2</sub> O	Na <sub>2</sub> O	Total
1	71.2	0.4	11.6	1.5	0.1	0.3	1.3	2.9	3.3	92.6
2	71.6	0.3	11.7	1.3	0.1	0.3	1.2	2.9	3.3	92.6
3	71.7	0.3	11.7	1.4	0.1	0.3	1.3	2.8	3.4	92.9
4	71.4	0.3	11.6	1.4	0.1	0.3	1.3	2.8	3.3	92.4
5	71.7	0.3	11.6	1.3	0.1	0.3	1.3	2.7	3.3	92.6
6	72.2	0.3	11.8	1.3	0.0	0.4	1.3	2.8	3.4	93.3
7	72.1	0.2	11.7	1.2	0.0	0.3	1.3	2.7	3.3	92.9
8	70.3	0.5	11.6	1.7	0.2	0.3	1.5	2.7	3.2	92.0
9	72.2	0.3	11.8	1.2	0.1	0.3	1.3	2.9	3.4	93.4
10	71.5	0.2	11.7	1.2	0.0	0.4	1.2	2.7	3.3	92.2
11	71.3	0.3	11.7	1.4	0.1	0.4	1.4	2.9	3.2	92.6
12	71.7	0.3	11.7	1.4	0.1	0.3	1.3	2.7	3.3	92.9
13	72.2	0.2	11.7	1.1	0.0	0.3	1.2	2.7	3.3	92.9
14	72.2	0.3	11.8	1.4	0.0	0.4	1.3	2.9	3.4	93.7
15	71.6	0.4	11.7	1.3	0.2	0.3	1.3	2.8	3.4	93.0
16	71.9	0.4	11.7	1.4	0.1	0.3	1.3	2.9	3.5	93.4
17	71.2	0.2	11.6	1.3	0.0	0.3	1.1	2.7	3.3	91.9
18	72.6	0.2	11.9	1.2	0.0	0.3	1.3	2.8	3.4	93.8
19	70.9	0.2	11.6	1.2	0.1	0.3	1.2	2.7	3.2	91.4
20	72.1	0.2	11.7	1.4	0.1	0.3	1.3	2.7	3.3	93.1
21	71.7	0.4	11.7	1.4	0.1	0.3	1.4	2.8	3.3	93.2
Ave.	71.7	0.3	11.7	1.3	0.1	0.3	1.3	2.8	3.3	92.8
S.D.	0.5	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.6