

## Electron Microprobe Data

Ruff ID: **R050644**

Mineral: **Enstatite**

Locality: Morogoro, Tanzania

### Weight Percents

Analysis	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	Average	StDev
SiO <sub>2</sub>	58.58	58.47	58.73	58.81	58.42	58.48	58.66	58.68	58.59	58.71	58.58	58.23	58.27	58.56	58.56	0.17
TiO <sub>2</sub>	0.06	0.05	0.00	0.04	0.00	0.06	0.06	0.06	0.05	0.06	0.06	0.00	0.06	0.06	0.04	0.02
Al <sub>2</sub> O <sub>3</sub>	0.22	0.26	0.23	0.22	0.22	0.23	0.25	0.21	0.23	0.22	0.23	0.25	0.23	0.21	0.23	0.01
MgO	35.49	35.61	35.52	35.69	35.30	35.49	35.51	35.45	35.51	35.53	35.46	35.55	35.61	35.55	35.52	0.09
FeO	5.96	6.14	5.99	5.87	5.89	5.98	5.81	6.06	5.95	5.88	5.92	6.14	5.98	6.12	5.98	0.10
CaO	0.17	0.17	0.16	0.17	0.17	0.18	0.14	0.16	0.18	0.15	0.15	0.18	0.17	0.17	0.17	0.01
MnO	0.22	0.22	0.19	0.17	0.19	0.27	0.24	0.24	0.26	0.25	0.26	0.24	0.23	0.24	0.23	0.03
Totals	100.70	100.92	100.82	100.97	100.19	100.69	100.67	100.86	100.77	100.80	100.66	100.59	100.55	100.91	100.72	0.20

### Cation numbers normalized to 6 Oxygens

															ACN	StDev	NCN	CNISF*
Si	2.00	1.99	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.99	1.99	2.00	2.00	0.00	2.00	1.00
Al	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Mg	1.80	1.81	1.80	1.81	1.80	1.81	1.80	1.80	1.80	1.80	1.80	1.81	1.82	1.81	1.81	0.00	1.81	0.90
Ca	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00
Fe	0.17	0.18	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.18	0.17	0.17	0.17	0.00	0.17	0.10
Totals	4.00	4.00	3.99	3.99	4.00	4.00	3.99	4.00	4.00	3.99	4.00	4.00	4.00	4.00	4.00	0.00	4.00	2.00

Ideal Chemistry: (Mg,Fe)SiO<sub>3</sub>

Calculated Chemistry: (Mg<sub>0.90</sub>Fe<sub>0.10</sub>)SiO<sub>3</sub>

Trace amounts of Al, Ti, Ca, Mn

Instrument: Cameca SX50

Sample Voltage: 15 kV

Acceleration Current: 20 nA

Beam Size: Spot

Date of Analysis: 03/11/06

ACN: Average Number of Cations

NCN: Normalized Cation Numbers = ACN\*4/4.00

StDev: Standard Deviation

CNISF\*: Cation Numbers In Structural Formulae, based on 3 Oxygens normalized for each structural site and charge balanced

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)
TAP	Na	Ka	20	10	600	-600
TAP	F	Ka	20	10	800	-800
TAP	Al	Ka	20	10	600	-600
TAP	Si	Ka	20	10	600	-600
TAP	Mg	Ka	20	10	500	-500
PET	K	Ka	20	10	500	-500
PET	Ti	Ka	20	10	600	-600
PET	Ca	Ka	20	10	600	-600
LIF	Mn	Ka	20	10	500	-500
LIF	Fe	Ka	20	10	500	-250

Standards
albite-Cr
MgF2
kyanite
albite-Cr
diopside
kspar-OR1
rutile1
diopside
rhod-791
fayalite