

## Electron Microprobe Data

Rruff ID: **R060080** Mineral: **Sillimanite**

Locality: Pein Pyit, Mogok, Burma

### Weight Percents

Analysis	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	Average	StDev
SiO <sub>2</sub>	36.58	36.28	36.95	36.30	36.95	36.34	36.62	36.80	36.45	36.87	37.11	36.70	36.77	37.05	37.02	37.11	36.59	36.86	36.62	36.57	36.73	0.265
Al <sub>2</sub> O <sub>3</sub>	62.77	63.25	63.08	62.96	62.94	62.93	63.52	63.31	62.95	63.39	63.29	63.24	63.16	63.38	63.34	63.24	63.17	63.05	62.65	62.79	63.12	0.233
Fe <sub>2</sub> O <sub>3</sub>	0.18	0.23	0.24	0.18	0.27	0.20	0.27	0.27	0.27	0.27	0.23	0.25	0.20	0.25	0.27	0.23	0.23	0.25	0.19	0.28	0.24	0.033
Total	99.53	99.76	100.27	99.44	100.16	99.47	100.40	100.38	99.68	100.53	100.63	100.19	100.13	100.67	100.64	100.59	99.99	100.16	99.45	99.64	100.09	0.437

### Cation Numbers on the Basis of 5 Oxygens

																					ACN	StDev	NCN	
Si	0.99	0.98	0.99	0.99	1.00	0.99	0.98	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.00	0.99
Al	2.01	2.02	2.00	2.01	2.00	2.01	2.01	2.01	2.01	2.01	2.00	2.01	2.01	2.00	2.00	2.00	2.01	2.00	2.00	2.00	2.00	2.01	0.01	2.01
Fe <sup>3+</sup>	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Cations	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	3.00

Ideal Chemistry: Al<sub>2</sub>SiO<sub>5</sub>

Calculated Chemistry: Al<sub>2.00</sub>(Si<sub>0.99</sub>Fe<sup>3+</sup><sub>0.01</sub>)O<sub>5</sub>

trace amounts of Ti and Mg

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\*3/3.001

StDev: Standard Deviation

### Microprobe Calibration Data

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	Al	Ka	20	10	600	-600	Kyanite
TAP	Si	Ka	20	10	600	-600	Kyanite
TAP	Mg	Ka	20	10	500	-500	Diopside
PET	Ti	Ka	20	10	600	-600	Rutile1
PET	Cr	Ka	20	10	600	-600	Chrome-s
LIF	Fe	Ka	20	10	500	-250	Fayalite