Electron Microprobe Data

Rruff ID: **R050657** Mineral: **Gearksutite**
Locality: Jamestown, Colorado, USA

Weight Percents

Analysis	#2	#3	#5	#7	#8	#10	#11	#12	#14	#15	#16	#18	#19	#20	Average	StDev
F	25.55	24.99	25.35	25.52	25.16	25.52	25.96	26.61	26.30	25.63	25.23	25.60	26.00	25.76	25.66	0.44
Al_2O_3	30.65	29.63	29.68	30.67	29.64	31.12	32.00	32.71	31.61	31.54	30.38	31.33	31.05	30.79	30.91	0.91
CaO	29.62	30.00	30.06	30.43	30.42	30.07	29.97	30.00	30.31	30.03	30.05	30.09	30.18	30.11	30.10	0.20
SrO	0.63	0.47	0.39	0.26	0.38	0.41	0.61	0.61	0.63	0.39	0.78	0.66	0.44	0.53	0.51	0.14
Total	86.45	85.09	85.48	86.88	85.60	87.12	88.54	89.93	88.85	87.59	86.44	87.68	87.67	87.19	87.18	1.35
H_2O*	13.55	14.91	14.52	13.12	14.40	12.88	11.46	10.07	11.15	12.41	13.56	12.32	12.33	12.81	12.82	1.35

* = calculated values

Cation numbers normalized to 4 F

															ACN	StDev	NCN	CNISF**
Al	1.04	1.02	1.01	1.04	1.02	1.05	1.06	1.06	1.04	1.06	1.04	1.06	1.03	1.03	1.04	0.02	1.06	1.00
Ca	0.91	0.94	0.93	0.94	0.95	0.92	0.91	0.88	0.90	0.92	0.93	0.92	0.91	0.92	0.92	0.02	0.93	0.98
Sr	0.01	0.01	0.01	0.00	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	0.02
Total	1.96	1.97	1.95	1.98	1.97	1.98	1.98	1.96	1.95	1.99	1.99	1.99	1.95	1.96	1.97	0.02	2.00	2.00

Ideal Chemistry: $CaAlF_4(OH)\cdot H_2O$
Calculated Chemistry: $(Ca_{0.98}Sr_{0.02})Al_{1.00}F_{4.00}(OH)\cdot H_2O$

Instrument: Cameca SX50
Sample Voltage: 15 kV
Acceleration Current: 20 nA
Beam Size: Spot
Date of Analysis: 06/03/2006

Microprobe Calibration Data

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	F	Ka	20	10	800	-800	MgF_2
TAP	Al	Ka	20	10	300	-500	spinel
TAP	Sr	La	20	10	300	-400	$SrTiO_3$
PET	Ca	Ka	20	10	500	-350	wollast

ACN: Average Number of Cations
NCN: Normalized Cation Numbers =ACN*1.00/1.00
StDev: Standard Deviation
CNISF: Cation Number in Structural Formulae
** = normalized for each structural site and charge balanced