

Electron Microprobe Data

Rruff ID: **R050516**

Mineral: **Arfvedsonite**

Locality: Red Wine complex, Labrador, Newfoundland, Canada

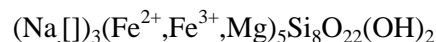
Weight Percents

Analysis	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Average	StDev
SiO ₂	49.96	49.80	49.64	49.64	49.69	49.62	49.81	49.66	49.53	49.77	49.77	49.96	49.82	49.74	49.53	49.80	49.73	0.12
TiO ₂	0.79	0.76	0.54	0.61	0.62	0.66	0.56	0.61	0.65	0.74	0.78	0.82	0.73	0.73	0.61	0.57	0.67	0.09
Al ₂ O ₃	1.85	1.77	1.55	1.53	1.60	1.54	1.71	1.69	1.71	1.67	1.78	1.66	1.83	1.73	1.64	1.83	1.69	0.10
CaO	1.25	1.26	0.64	0.64	0.66	0.69	0.63	0.63	0.60	1.14	1.12	0.98	0.79	0.78	0.64	0.62	0.82	0.24
MgO	0.37	0.38	0.37	0.37	0.37	0.37	0.36	0.37	0.34	0.37	0.35	0.38	0.37	0.37	0.39	0.37	0.37	0.01
MnO	0.74	0.80	0.88	0.76	0.81	0.84	0.78	0.82	0.87	0.85	0.85	0.76	0.77	0.84	0.81	0.83	0.81	0.04
FeO	32.39	32.39	33.35	33.63	33.29	32.87	33.02	33.60	33.29	32.99	32.43	32.95	32.75	32.62	32.97	32.92	32.97	0.38
Na ₂ O	7.30	7.25	7.20	7.41	7.33	7.28	7.25	7.25	7.26	7.31	7.37	7.21	7.40	7.33	7.23	7.13	7.28	0.07
K ₂ O	3.45	3.48	3.66	3.68	3.73	3.74	3.71	3.74	3.71	3.47	3.41	3.56	3.68	3.67	3.79	3.75	3.64	0.12
Totals	98.11	97.91	97.81	98.28	98.09	97.61	97.82	98.38	97.96	98.31	97.87	98.27	98.15	97.81	97.61	97.83	97.99	0.24

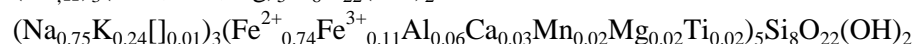
Cation numbers normalized to 23 Oxygens

																	ACN	StDev	CNISF*	
Si	8.03	8.04	8.04	8.02	8.04	8.05	8.07	8.03	8.03	8.02	8.03	8.04	8.04	8.05	8.05	8.06	Si	8.04	0.01	8.00
Ti	0.10	0.09	0.07	0.07	0.08	0.08	0.07	0.08	0.08	0.09	0.10	0.10	0.09	0.09	0.08	0.07	Ti	0.08	0.01	0.02
Al	0.35	0.34	0.30	0.29	0.30	0.30	0.33	0.32	0.33	0.32	0.34	0.31	0.35	0.33	0.31	0.35	Al	0.32	0.02	0.06
Fe ³⁺	0.55	0.57	0.64	0.64	0.62	0.62	0.61	0.60	0.60	0.59	0.57	0.59	0.56	0.58	0.61	0.58	Fe ³⁺	0.60	0.03	0.11
Fe ²⁺	3.80	3.80	3.88	3.91	3.88	3.84	3.87	3.94	3.92	3.85	3.81	3.85	3.86	3.84	3.87	3.87	Fe ²⁺	3.86	0.04	0.74
Ca	0.22	0.22	0.11	0.11	0.12	0.12	0.11	0.11	0.11	0.20	0.19	0.17	0.14	0.14	0.11	0.11	Ca	0.14	0.04	0.03
Mg	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.09	0.08	0.09	0.09	0.09	0.09	0.09	Mg	0.09	0.00	0.02
Mn	0.10	0.11	0.12	0.11	0.11	0.12	0.11	0.11	0.12	0.12	0.12	0.10	0.11	0.12	0.11	0.11	Mn	0.11	0.01	0.02
Na	2.28	2.27	2.26	2.32	2.30	2.29	2.27	2.27	2.28	2.28	2.31	2.25	2.32	2.30	2.28	2.24	Na	2.28	0.02	0.75
K	0.71	0.72	0.76	0.76	0.77	0.77	0.77	0.77	0.77	0.71	0.70	0.73	0.76	0.76	0.79	0.77	K	0.75	0.03	0.24
Totals	16.22	16.24	16.25	16.31	16.31	16.28	16.27	16.32	16.30	16.28	16.25	16.23	16.30	16.29	16.30	16.26		16.27	0.03	

Ideal Chemistry:



Calculated Chemistry:



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

StDev: Standard Deviation

CNISF*: Cation Numbers In Structural Formulae

normalized for each structural site and charge balanced

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	Na	Ka	20	10	600	-600	albite-Cr
TAP	F	Ka	20	10	800	-800	MgF2
TAP	Al	Ka	20	10	600	-600	kyanite
TAP	Si	Ka	20	10	600	-600	albite-Cr
TAP	Mg	Ka	20	10	500	-500	diopside
PET	K	Ka	20	10	500	-500	kspar-OR1
PET	Ti	Ka	20	10	600	-600	rutile1
PET	Ca	Ka	20	10	600	-600	diopside
LIF	Mn	Ka	20	10	500	-500	rhod-791
LIF	Fe	Ka	20	10	500	-250	fayalite