

Electron Microprobe Data

Rruff ID: **R050158**

Mineral: **Ferropyrosmalite**

Locality: **Burguillos del Cerro, Badajos, Spain**

Weight Percents

Analysis	#82	#84	#85	#86	#90	#91	#92	#93	#94	#95	#96	#97	#99	Average	StDev
SiO ₂	33.35	34.25	34.39	33.85	33.14	34.08	33.80	34.32	34.55	33.94	34.23	34.23	34.10	34.02	0.40
MgO	0.41	0.39	0.41	0.40	0.62	0.49	0.50	0.55	0.51	0.58	0.51	0.64	0.54	0.50	0.08
CaO	0.17	0.17	0.17	0.18	0.12	0.10	0.09	0.13	0.10	0.13	0.10	0.12	0.13	0.13	0.03
MnO	3.91	3.93	3.98	3.88	3.03	3.04	3.02	3.21	2.92	3.22	3.11	3.14	3.03	3.34	0.41
FeO	47.19	48.05	47.86	47.45	47.28	48.37	47.94	48.07	47.91	47.54	47.99	48.08	48.13	47.84	0.36
Cl	4.53	4.60	4.36	4.35	3.98	4.41	4.60	3.82	3.65	4.61	4.37	4.19	4.16	4.28	0.31
Totals	89.56	91.39	91.17	90.11	88.17	90.49	89.95	90.10	89.64	90.02	90.31	90.40	90.09	90.11	0.78
H ₂ O*	10.44	8.61	8.83	9.89	11.83	9.51	10.05	9.90	10.36	9.98	9.69	9.60	9.91	9.89	0.78

*= calculated values

Cation numbers normalized to 20 Oxygens

	ACN	StDev	NCN	CNISF*													
Si	6.33	6.35	6.35	6.34	6.30	6.35	6.37	6.33	6.36	6.38	6.38	6.35	6.35	6.35	0.02	6.14	6.00
Mg	0.12	0.11	0.11	0.11	0.18	0.14	0.14	0.15	0.14	0.16	0.14	0.18	0.15	0.14	0.02	0.14	0.02
Mn	0.63	0.62	0.62	0.62	0.49	0.48	0.48	0.50	0.46	0.51	0.49	0.49	0.48	0.53	0.07	0.51	0.06
Fe	7.49	7.45	7.39	7.44	7.52	7.54	7.56	7.42	7.38	7.47	7.48	7.46	7.50	7.47	0.05	7.22	0.92
Totals	14.57	14.53	14.48	14.51	14.48	14.51	14.55	14.40	14.34	14.53	14.48	14.47	14.48	14.49	0.06	14.00	
Cl	1.88	1.87	1.76	1.78	1.65	1.80	1.90	1.54	1.47	1.90	1.78	1.70	1.69	1.75	0.13	1.69	0.17

Ideal Chemistry: (Fe²⁺,Mn²⁺)₈Si₆O₁₅(OH,Cl)₁₀

Calculated Chemistry: (Fe²⁺_{0.92}Mn²⁺_{0.06}Mg_{0.02})₈Si₆O₁₅(OH_{0.83}Cl_{0.17})₁₀

Trace amounts of Ca

Instrument: Cameca SX50

Sample Voltage: 15 kV

Acceleration Current: 20 nA

Beam Size: 10 microns

Date of Analysis: 09/21/2005

ACN: Average Number of Cations

NCN: Normalized Cation Numbers: =ACN*14/14.49

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	Si	Ka	20	10	600	-600	albite-Cr
	TAP	Al	Ka	20	10	600	-600	albite-Cr
	TAP	F	Ka	20	10	600	-700	MgF2
	TAP	Na	Ka	20	10	600	-600	albite-Cr
	TAP	Mg	Ka	20	10	600	-600	diopside
	PET	Cl	Ka	20	10	500	-500	sodalite
	PET	K	Ka	20	10	600	-600	kspar-OR1
	PET	Ca	Ka	20	10	600	-600	diopside
	PET	Ti	Ka	20	10	300	-300	rutile1
	LIF	Mn	Ka	20	10	500	-500	rhod-791
	LIF	Fe	Ka	20	10	500	-500	fayalite