Electron Microprobe Data

Rruff ID: **R050590** Mineral: **Väyrynenite**

Locality: Shengus, Pakistan

Weight Percents

Analysis	#2	#3	#4	#6	#8	#9	#10	#12	#14	#16	#18	#19	#20	Average	StDev
F	0.62	0.79	0.64	0.61	0.51	0.71	0.64	0.68	0.66	0.59	0.70	0.69	0.66	0.65	0.06
SiO2	0.03	0.04	0.05	0.05	0.04	0.03	0.04	0.03	0.05	0.04	0.05	0.05	0.05	0.04	0.01
CaO	0.13	0.14	0.12	0.12	0.13	0.12	0.13	0.14	0.09	0.13	0.14	0.13	0.14	0.13	0.01
P2O5	40.21	40.06	40.52	40.09	40.18	40.59	40.03	40.58	40.36	40.16	40.33	40.56	40.27	40.30	0.20
MnO	38.09	38.66	38.50	38.73	38.73	38.83	39.14	37.87	38.11	38.05	38.93	38.32	38.90	38.53	0.39
FeO	2.10	1.99	1.84	1.75	1.57	1.71	1.69	2.14	2.01	1.92	1.68	1.62	1.72	1.83	0.18
BeO*	18.81	18.29	18.27	18.61	18.81	17.96	18.31	18.52	18.69	19.07	18.13	18.62	18.25	18.49	0.30
Totals	100.00	99.97	99.94	99.97	99.98	99.95	99.97	99.97	99.98	99.96	99.96	99.98	99.98	99.97	0.01

* = calculated values

Cation normalized to 4 Oxygens and 1 (OH)

														ACN	StDev	NCN	CNISF*
P	0.94	0.95	0.95	0.94	0.94	0.96	0.94	0.95	0.95	0.94	0.95	0.95	0.95	0.95	0.01	0.91	1.00
Mn	0.89	0.91	0.90	0.91	0.91	0.92	0.92	0.89	0.89	0.89	0.92	0.90	0.92	0.90	0.01	0.87	0.91
Fe	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.00	0.04	0.04
Be	1.25	1.23	1.22	1.24	1.25	1.20	1.22	1.23	1.24	1.26	1.21	1.24	1.22	1.23	0.02	1.18	1.00
Totals	3.13	3.13	3.11	3.13	3.13	3.11	3.13	3.12	3.13	3.13	3.12	3.12	3.12	3.12	0.01	3.00	
F	0.09	0.12	0.10	0.09	0.08	0.11	0.10	0.10	0.10	0.09	0.11	0.11	0.10	0.10	0.01	0.10	

Ideal Chemistry: $Mn^{2+}Be(PO_4)(OH)$

Calculated Chemistry: $(Mn^{2+}_{0.91}Fe^{2+}_{0.04}[]_{0.05})Be(PO_4)(OH_{0.90}F_{0.10})$

Trace amounts of Fe and Ti

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*11/11.01
StDev: Standard Deviation
CNISF*: Cation Numbers In Structural Formulae, normalized for each strucural 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	Si	Ka	20	10	600	-600	albite-Cr
PET	Ca	Ka	20	10	500	-500	apatite-s
PET	P	Ka	20	10	600	-600	apatite-s
LIF	Mn	Ka	20	10	500	-500	rhod-791
LIF	Fe	Ka	20	10	500	-250	fayalite