

Electron Microprobe Data

Rruff ID: **R050017**

Mineral: **Heulandite-Ca**

Locality: Poona, Maharashtra State, India

Weight Percents

Analysis	#101	#102	#104	#105	#109	#111	#113	#114	#115	#116	#118	#119	#120	Average	StDev
SiO ₂	63.39	62.74	62.81	62.89	61.15	60.94	60.98	60.98	61.33	61.11	60.87	61.87	61.27	61.72	0.91
Al ₂ O ₃	15.85	15.73	15.74	15.81	15.26	15.34	15.50	15.21	15.44	15.52	15.59	15.40	15.30	15.51	0.22
CaO	7.32	7.29	7.38	7.39	7.05	7.00	6.98	6.79	6.94	7.06	6.98	7.27	7.26	7.13	0.19
Na ₂ O	1.20	1.04	1.15	0.95	1.19	1.27	1.25	1.20	1.14	1.25	1.11	1.12	1.14	1.15	0.09
K ₂ O	0.16	0.20	0.14	0.19	0.19	0.21	0.19	0.20	0.19	0.18	0.20	0.12	0.19	0.18	0.03
Totals	87.92	87.00	87.22	87.23	84.84	84.76	84.90	84.38	85.04	85.12	84.75	85.78	85.16	85.70	1.20
H ₂ O*	12.08	13.00	12.78	12.77	15.16	15.24	15.10	15.62	14.96	14.88	15.25	14.22	14.84	14.30	1.20

Cation numbers normalized to 72 Oxygens

Si	27.87	27.84	27.78	27.83	27.80	27.78	27.74	27.87	27.85	27.84	27.73	27.85	27.78	27.81	0.05	28.08	0.77
Al	8.21	8.23	8.20	8.25	8.18	8.24	8.31	8.19	8.26	8.34	8.37	8.17	8.18	8.24	0.06	8.32	0.23
Ca	3.45	3.47	3.50	3.50	3.43	3.42	3.40	3.33	3.38	3.45	3.41	3.51	3.53	3.44	0.06	3.48	0.70
Na	1.02	0.90	0.98	0.82	1.05	1.12	1.10	1.07	1.00	1.11	0.98	0.98	1.00	1.01	0.08	1.02	0.22
K	0.09	0.11	0.08	0.11	0.11	0.12	0.11	0.12	0.11	0.11	0.11	0.07	0.11	0.10	0.02	0.11	0.02
Totals	40.64	40.54	40.54	40.50	40.57	40.69	40.66	40.58	40.60	40.83	40.60	40.57	40.59	40.61	0.09	41.00	

minor amounts of Ti, Mg, Mn, Sr, F, Cl

Ideal Chemistry: (Ca,Na,K)₅(Si,Al)₃₆O₇₂·24H₂O

Calculated Chemistry: (Ca_{0.70}Na_{0.22}K_{0.02}□_{0.06})₅(Si_{0.77}Al_{0.23})₃₆O₇₂·24H₂O

Instrument: Cameca SX50

Sample Voltage: 15 kV

Acceleration Current: 5 nA

Beam Size: 20 microns

Date of Analysis: 03/02/2005

ACN: Average Number of Cations

NCN: Normalized Cation Numbers =ACN*41/40.61/1.00

StDev: Standard Deviation

CNISF*: Cation Numbers in Structural Formulae, charge balanced

Microprobe Calibration Data

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	Na	Ka	20	10	600	-600	albite-Cr
TAP	Si	Ka	20	10	600	-600	diopside
TAP	F	Ka	20	10	600	-600	MgF2
TAP	Mg	Ka	20	10	600	-600	diopside
TAP	Al	Ka	20	10	600	-600	anor-s
PET	K	Ka	20	10	600	-600	kspar-OR1
PET	Ca	Ka	20	10	600	-600	wollast
PET	Cl	Ka	20	10	600	-600	scap-s
PET	Sr	La	20	10	600	-600	srcarb1
LIF	Fe	Ka	20	10	500	-500	fayalite
LIF	Mn	Ka	20	10	500	-500	rhod-791
LIF	Ti	Ka	20	10	500	-500	rutile1