

Electron Microprobe Data

Rruff ID: **R050435** Mineral: **Enargite**

Locality: Longfellow mine, Red Mountain Pass, Ouray, Colorado, USA

Weight Percents

Analysis	#22	#23	#25	#26	#27	#28	#29	#30	#31	#32	#33	#34	#35	#36	#37	#38	#39	#40	Average	StDev
As	18.29	18.37	18.46	18.24	18.25	18.20	18.26	18.17	18.33	18.17	18.26	18.17	18.40	18.28	18.24	18.23	18.16	18.32	18.27	0.08
Cu	48.62	48.64	48.51	48.56	48.46	48.74	48.77	48.38	48.41	48.33	48.40	48.70	48.54	48.65	48.64	48.65	48.40	48.11	48.53	0.17
S	33.02	32.79	32.92	32.85	32.93	33.06	32.92	33.09	32.91	32.95	33.01	33.05	32.94	32.97	33.06	32.88	32.92	32.70	32.94	0.10
Sb	0.62	0.55	0.55	0.52	0.57	0.55	0.56	0.52	0.56	0.61	0.57	0.59	0.57	0.57	0.54	0.62	0.97	0.84	0.60	0.12
Totals	100.55	100.35	100.44	100.17	100.21	100.55	100.51	100.16	100.21	100.06	100.24	100.51	100.45	100.47	100.48	100.38	100.45	99.97	100.34	0.18

Cation numbers normalized to 4 S

																			ACN	StDev	NCN*
As	0.95	0.96	0.96	0.95	0.95	0.94	0.95	0.94	0.95	0.94	0.95	0.94	0.96	0.95	0.94	0.95	0.95	0.96	0.95	0.01	0.98
Cu	2.97	2.99	2.97	2.98	2.97	2.98	2.99	2.95	2.97	2.96	2.96	2.97	2.97	2.98	2.97	2.99	2.97	2.97	2.97	0.01	3.00
Sb	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.00	0.02
Totals	3.94	3.97	3.95	3.95	3.94	3.94	3.96	3.91	3.94	3.92	3.93	3.93	3.95	3.95	3.93	3.96	3.94	3.96	3.94	0.01	4.00

Ideal Chemistry: Cu_3AsS_4

Calculated Chemistry: $\text{Cu}_3(\text{As}_{0.98}\text{Sb}_{0.02})\text{S}_4$

Instrument: Cameca SX50

Sample Voltage: 15 kV

Acceleration Current: 20 nA

Beam Size: Spot

Date of Analysis: 01/13/2006

ACN: Average Number of Cations

NCN*: Normalized Cation Numbers = ACN*4/3.94, balanced for each structural site

StDev: Standard Deviation

Mineral calibration data

Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
TAP	As	La	20	10	500	-500	enargite
TAP	Zn	La	20	10	500	-400	ZnS
LIF	Cu	Ka	20	10	500	-500	chalcopy
LIF	Fe	Ka	20	10	500	-500	chalcopy
PET	S	Ka	20	10	500	-250	chalcopy
PET	Sb	La	20	10	500	-200	stib2
PET	Pb	Ma	20	10	300	-500	galena2