

Electron Microprobe Data

Ruff ID: **R040181** Mineral: **Olivenite**
Locality: Majuba Hill, Pershing County, Nevada, USA

Weight Percents

Analysis	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	Average	StDev
P ₂ O ₅	2.42	2.39	2.64	2.65	3.23	2.41	2.74	2.60	2.53	3.08	2.67	0.28
CuO	55.29	54.55	55.83	55.83	55.68	55.70	56.59	55.31	55.46	55.68	55.59	0.52
As ₂ O ₅	37.91	38.27	38.57	38.72	37.10	38.44	38.23	38.40	38.91	38.13	38.27	0.50
Totals	95.62	95.21	97.04	97.20	96.01	96.55	97.56	96.31	96.90	96.89	96.53	0.74
H ₂ O*	4.38	4.79	2.96	2.80	3.99	3.45	2.44	3.69	3.10	3.11	3.47	0.74

* = calculated values

Cation numbers normalized for 4 Oxygens and 1 (OH)

											ACN	StDev	NCN	CNISF**
As ⁵⁺	0.93	0.93	0.92	0.93	0.90	0.93	0.91	0.93	0.93	0.91	0.92	0.01	0.93	0.90
P ⁵⁺	0.10	0.10	0.10	0.10	0.13	0.09	0.11	0.10	0.10	0.12	0.10	0.01	0.11	0.10
Cu	1.95	1.92	1.93	1.93	1.94	1.94	1.95	1.93	1.92	1.92	1.93	0.01	1.96	0.98
Cation	2.97	2.96	2.96	2.96	2.97	2.97	2.97	2.96	2.95	2.96	2.96	0.01	3.00	

Ideal Chemistry: Cu₂(AsO₄)(OH)

Calculated Chemistry: (Cu_{0.98}?_{0.02})₂(As_{0.9}P_{0.1}O₄)(OH)_{0.92}

Microprobe Calibration Data

	Xtal	El	Line	Pk(s)	Bkg(s)	Bkg(+)	Bkg(-)	Standards
Instrument: Cameca SX50	TAP	P	Ka	20	10	600	-600	apatite-s
Sample Voltage: 15 kV	TAP	As	Ka	20	10	600	-600	as
Acceleration Current: 20 nA	LIF	Cu	Ka	20	10	500	-500	cu

Instrument: Cameca SX50
Sample Voltage: 15 kV
Acceleration Current: 20 nA
Beam Size: 10 microns
Date of Analysis: 06/03/2006

ACN: Average Number of Cations

NCN: Normalized Cation Numbers = ACN*8/8.04

StDev: Standard Deviation

CNISF**: Cation numbers in structural formulae, charge balanced