

Electron Microprobe Data

Rruff ID: **R050018** Mineral: **Chalcopyrite**
Locality: Sudbury, Ontario, Canada

Weight Percents

| Analysis | #61 | #62 | #63 | #64 | #66 | #67 | #68 | #69 | #70 | #71 | #72 | #74 | #75 | #76 | #77 | Average | StDev |
|----------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|---------|-------|
| Fe | 30.67 | 30.58 | 30.60 | 30.78 | 30.93 | 30.01 | 30.52 | 30.22 | 30.32 | 30.28 | 30.58 | 30.71 | 30.47 | 30.30 | 30.66 | 30.51 | 0.24 |
| Cu | 34.04 | 34.35 | 34.71 | 34.92 | 34.77 | 34.32 | 33.91 | 34.84 | 34.26 | 34.20 | 33.55 | 34.16 | 34.69 | 34.22 | 34.60 | 34.37 | 0.38 |
| S | 35.26 | 35.13 | 34.97 | 35.21 | 35.10 | 34.72 | 35.08 | 34.92 | 35.09 | 35.23 | 34.93 | 35.14 | 35.01 | 35.23 | 35.06 | 35.07 | 0.15 |
| Totals | 99.97 | 100.06 | 100.28 | 100.91 | 100.80 | 99.05 | 99.51 | 99.98 | 99.67 | 99.71 | 99.06 | 100.01 | 100.17 | 99.75 | 100.32 | 99.95 | 0.53 |

Cation numbers normalized to 2 S

| | | | | | | | | | | | | | | | | ACN | StDev | NCN |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Fe | 1.00 | 1.00 | 1.01 | 1.00 | 1.01 | 0.99 | 1.00 | 0.99 | 0.99 | 0.99 | 1.01 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 |
| Cu | 0.97 | 0.99 | 1.00 | 1.00 | 1.00 | 1.00 | 0.98 | 1.01 | 0.99 | 0.98 | 0.97 | 0.98 | 1.00 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 |
| Totals | 1.98 | 1.99 | 2.01 | 2.01 | 2.02 | 2.00 | 1.98 | 2.01 | 1.98 | 1.98 | 1.98 | 1.99 | 2.01 | 1.97 | 2.01 | 2.00 | 0.02 | 2.00 |

Ideal Chemistry: CuFeS₂
 Calculated Chemistry: CuFeS₂
 Trace amounts of Ni

Instrument: Cameca SX50
 Sample Voltage: 15 kV
 Acceleration Current: 20 nA
 Beam Size: Spot
 Date of Analysis: 06/22/2005

ACN: Average Number of Cations
 NCN: Normalized Cation Numbers = ACN*2.00/2.00
 StDev: Standard Deviation

Microprobe Calibration Data

| Xtal | El | Line | Pk(s) | Bkg(s) | Bkg(+) | Bkg(-) | Standards |
|------|----|------|-------|--------|--------|--------|------------|
| TAP | Si | Ka | 20 | 10 | 100 | -200 | kspars-OR1 |
| TAP | As | La | 20 | 10 | 350 | -500 | enargite |
| LIF | Fe | Ka | 20 | 10 | 300 | -250 | chalcopy |
| LIF | Cu | Ka | 20 | 10 | 500 | -500 | chalcopy |
| PET | S | Ka | 20 | 10 | 250 | -250 | chalcopy |
| PET | Sb | La | 20 | 10 | 250 | -300 | stib2 |
| PET | Pb | Ma | 20 | 10 | 0 | -500 | galena2 |
| PET | Ag | La | 20 | 10 | 300 | -400 | AgBiS2 |
| LIF | Co | Ka | 20 | 10 | 300 | -250 | co |
| LIF | Ni | Ka | 20 | 10 | 300 | -250 | pentInd |
| LIF | Zn | Ka | 20 | 10 | 500 | -500 | ZnS |