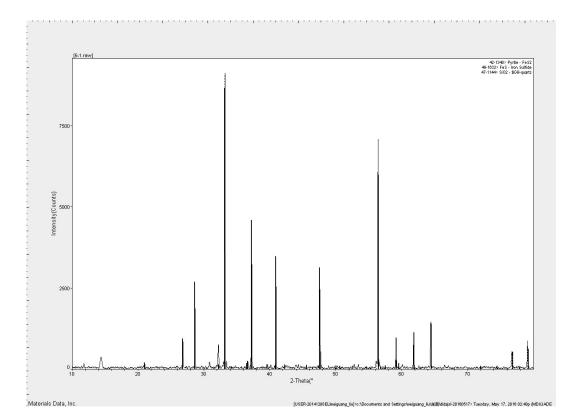
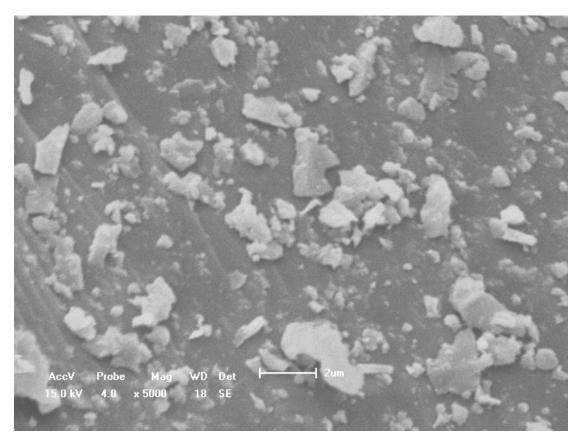
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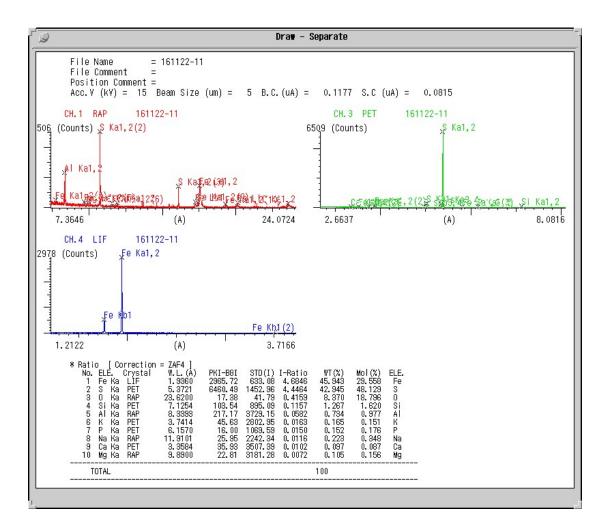
## **Supporting Information**

| [6-1 | .raw]         |             |          |            |            |           |         |                     | Peak Search Repor |
|------|---------------|-------------|----------|------------|------------|-----------|---------|---------------------|-------------------|
| SCA  | N: 10.0/79.   | 9983/0.01   | 995/35   | .53(sec),  | Cu(40kV    | ,40mA), I | (max)=9 | 9123, 05-17-09 09:4 | 43                |
| PEA  | K: 17-pts/P   | arabolic Fi | Iter, Th | hreshold   | -3.0, Cuto | off=1.5%, | BG=3/1  | .0, Peak-Top=Sum    | mit               |
| NOT  | TE: Intensity | = Counts    | 2T(0)    | =0.0(°), \ | Vaveleng   | th to Com | pute d- | Spacing = 1.54056   | A(Cu/K-alpha1)    |
| #    | 2-Theta       | d(A)        | BG       | Height     | 1%         | Area      | 1%      | FWHM                |                   |
| 1    | 20.453        | 4.3386      | 16       | 54         | 0.6        | 1483      | 2.8     | 0.466               |                   |
| 2    | 25.964        | 3.4289      | 13       | 73         | 0.8        | 959       | 1.8     | 0.223               |                   |
| 3    | 28.657        | 3.1124      | 11       | 1848       | 20.3       | 11635     | 22.2    | 0.107               |                   |
| 4    | 33.188        | 2.6972      | 23       | 9100       | 100.0      | 52453     | 100.0   | 0.098               |                   |
| 5    | 37.219        | 2.4138      | 15       | 3606       | 39.6       | 20614     | 39.3    | 0.097               |                   |
| 6    | 38.935        | 2.3113      | 18       | 51         | 0.6        | 827       | 1.6     | 0.275               |                   |
| 7    | 40.909        | 2.2042      | 65       | 3048       | 33.5       | 16615     | 31.7    | 0.092               |                   |
| 8    | 47.034        | 1.9304      | 30       | 34         | 0.4        | 1126      | 2.1     | 0.562               |                   |
| 9    | 47.572        | 1.9099      | 8        | 2612       | 28.7       | 15847     | 30.2    | 0.103               |                   |
| 10   | 50.230        | 1.8148      | 17       | 74         | 0.8        | 1292      | 2.5     | 0.296               |                   |
| 11   | 56.133        | 1.6372      | 14       | 224        | 2.5        | 4954      | 9.4     | 0.375               |                   |
| 12   | 56.412        | 1.6297      | 8        | 7083       | 77.8       | 44372     | 84.6    | 0.106               |                   |
| 13   | 59.146        | 1.5607      | 13       | 669        | 7.4        | 4682      | 8.9     | 0.119               |                   |
| 14   | 61.818        | 1.4996      | 11       | 1008       | 11.1       | 6601      | 12.6    | 0.111               |                   |
| 15   | 64.413        | 1.4452      | 23       | 1426       | 15.7       | 9875      | 18.8    | 0.117               |                   |
| 16   | 76.725        | 1.2411      | 11       | 528        | 5.8        | 5112      | 9.7     | 0.164               |                   |
| 17   | 79.082        | 1.2099      | 7        | 856        | 9.4        | 7018      | 13.4    | 0.139               |                   |

## S1: X-ray diffraction characterization of pyrite



S2: Scanning electron micrograph of the pyrite



S3: Electron probe microanalysis report of pyrite