

## ATC ASSOCIATES INC. - TEM ANALYSIS

LAB GROUP #: 5515 - 09/17/01

Lab Sample No. 59047

Filter Type MCE 25 mm

Operator RP

Client Spl. No. 036

Filter Area 385 mm<sup>2</sup>

Instrument I.D. BM 10 CRX

Grid I.D. 406 SLIV

Disk No. \_\_\_\_\_

Screen Magnification 16,400X

(GO) Area 0.01124 mm<sup>2</sup>

Comments \_\_\_\_\_

Acc. Voltage 80 kV

No. GO to be Analyzed 0

(0.000 Struct. Corspd. to 70 s/mm<sup>2</sup>)

| GO. | Structure No. | Structure Type |   |   |   | Length            |       | I.D. of Structure |           |         |           | N or ✓ | EDS (Nonasb. Elements) |
|-----|---------------|----------------|---|---|---|-------------------|-------|-------------------|-----------|---------|-----------|--------|------------------------|
|     |               | F              | B | C | M | ≥0.5 um<br>< 5 um | ≥ 5um | Chrys.            | Amphibole | Nonasb. | Ambig./ND |        |                        |
| 1   | X1            | NSD            |   |   |   |                   |       |                   |           |         |           |        |                        |
| 2   | Q4            | "              |   |   |   |                   |       |                   |           |         |           |        |                        |
| 3   | J4            | "              |   |   |   |                   |       |                   |           |         |           |        |                        |
| 4   | H9            | "              |   |   |   |                   |       |                   |           |         |           |        |                        |
| 5   | P4            | 1              |   |   |   | ✓                 | ✓     | ✓                 |           |         |           |        |                        |
| 6   | P7            | NSD            |   |   |   |                   |       |                   |           |         |           |        |                        |
| 7   | I8            | 4              |   |   |   |                   |       |                   |           |         |           |        |                        |
| 8   | K7            | 2              |   |   |   | ✓                 | ✓     | ✓                 |           |         |           |        |                        |
| 9   | ZZ            | 3              |   |   |   | ✓                 | ✓     | ✓                 |           |         |           |        |                        |
| 10  | TZ            | 4              |   |   |   | ✓                 | ✓     | ✓                 |           |         |           |        |                        |
|     |               | 5              |   |   |   | ✓                 | ✓     | ✓                 |           |         |           |        |                        |

Photo No. (from 1 in 5 asbestos-containing samples) Identify all structures using EDS Check diffraction for asbestos structures up to 70s/mm<sup>2</sup> (1st 4) Store all unrepeat spectra

Struct. = &gt; 0.5um &amp; &gt; 5:1 Aspect Ratio

N= Not Observed (EDS spectrum or diffraction pattern)

✓ = Positive diffraction pattern properties conforming to laboratory identification criteria observed.

For chrysotile: 0.72nm spacing for (020) reflections, 0.53nm spacing for the layer line repeat, streaking of (110) and (130) reflections.

For amphiboles: 0.53nm layer line repeat, and approx. 3.5 ratio of non-twinned layer line spot spacing to layer line repeat distance (0.53nm).

✓ = EDS spectrum conforming to laboratory identification criteria observed.

F= Single Fiber (1-3 intersections = 1-3 fibers)

B= Bundle (&gt;3 fibers &lt;1 fiber diameter apart)

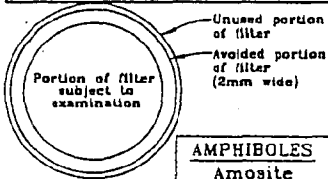
C= Cluster (&gt;3 intersections)

M= Matrix

NSD= No Structures Detected

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Grid acceptance:  
 <50% undissolved filter, overlapped or folded  
 <10% particulate coverage >50% coverage  
 at least 20 unfolded or overlapped grid squares  
 <5% holes or opaque areas



Stopping Rules:  
 >50 s/G.O. or in 1st 4 G.O.

AMPHIBOLES  
 Amosite  
 Crocidolite  
 Anthophyllite  
 Tremolite  
 Actinolite

## Totals

|                | F | B | C | M | ≥ 5um |
|----------------|---|---|---|---|-------|
| Chrysotile     |   |   |   | 5 | 1     |
| Amphibole      |   |   |   |   |       |
| Ambiguous      |   |   |   |   |       |
| Non-asbestos   |   |   |   |   |       |
| Non-identified |   |   |   |   |       |