





## ATC ASSOCIATES INC - NEW YORK BULK ASBESTOS ANALYSIS SHEET

104 East 25th Street, 10th Floor - New York, NY 10010 - Phone (212) 353-8200, FAX (212) 353-3589 or 8706

RELEV ININT

ELAP 10878

Microscope DLP 20.1

Client / Project DDC / LIBERTY MUTUAL, WTC-EMERGENCY SOUTH PROJECTION

Analysis Date 03/20/02 Analyst Y. Renge

Project No. 15-21698-001Batch No. 20166

| Field No.                                                                                                                                                                                                                                                                                                                                                                                                                                           | Stereoscopic Exam                                                                                                                                                                                       | PLM Optical Properties                                                                                                                                               | Asbestos Results PLM %                                               | Other Fibrous %                                                      | Non Fibrous %                                                                                             | Gravimetric (HOB) Results %                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1 Field No. <u>01</u>                                                                                                                                                                                                                                                                                                                                                                                                                               | Color <u>Grey</u> Texture <u>FR</u><br>Homogeneity <u>Y</u><br># of Layers <u>1</u> Asbestos <input checked="" type="checkbox"/><br>Color of Layer <u>    </u> Detected Yes No<br>Comments: <u>    </u> | Morphology <u>S</u> Extinction <u>67</u><br>RI <u>1.660</u> RI <u>1.665</u><br>OS Color <u>BLU</u> Color, Pico <u>CE</u><br>Biref <u>L</u> Sign <u>+</u>             | Chrysotile <u>10</u><br>Amphibole <u>67</u><br>Other <u>    </u>     | Cellulose <u>23</u><br>Fiberglass <u>    </u><br>Other <u>    </u>   | Mineral Filler <u>    </u><br>Organic Binders <u>    </u><br>Vermiculite <u>    </u><br>Other <u>    </u> | Organic <u>    </u><br>Residues <u>    </u><br>Carbonate <u>    </u><br>Other <u>    </u><br>Asbestos <u>    </u> |
| POINT COUNT RESULTS AND PERCENTAGE<br>Method: <input checked="" type="checkbox"/> 100x <input type="checkbox"/> 200x <input type="checkbox"/> 400x <input type="checkbox"/> 600x <input type="checkbox"/> 800x <input type="checkbox"/> 1000x<br>READING OPTION: <input checked="" type="checkbox"/> PLM <input type="checkbox"/> PLM+IR <input type="checkbox"/> PLM+IR+EDS <input type="checkbox"/> PLM+IR+EDS+XRF<br>First 4 pages. Asbestos = 0 |                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                      |                                                                      |                                                                                                           |                                                                                                                   |
| 2 Field No. <u>02</u>                                                                                                                                                                                                                                                                                                                                                                                                                               | Color <u>    </u> Texture <u>    </u><br>Homogeneity <u>    </u><br># of Layers <u>    </u> Asbestos <input type="checkbox"/><br>Color of Layer <u>    </u> Detected Yes No<br>Comments: <u>See 01</u>  | Morphology <u>    </u> Extinction <u>    </u><br>RI <u>    </u> RI <u>    </u><br>OS Color <u>    </u> Color, Pico <u>    </u><br>Biref <u>    </u> Sign <u>    </u> | Chrysotile <u>    </u><br>Amphibole <u>    </u><br>Other <u>    </u> | Cellulose <u>    </u><br>Fiberglass <u>    </u><br>Other <u>    </u> | Mineral Filler <u>    </u><br>Organic Binders <u>    </u><br>Vermiculite <u>    </u><br>Other <u>    </u> | Organic <u>    </u><br>Residues <u>    </u><br>Carbonate <u>    </u><br>Other <u>    </u><br>Asbestos <u>    </u> |
| POINT COUNT RESULTS AND PERCENTAGE<br>Method: <input type="checkbox"/> 100x <input type="checkbox"/> 200x <input type="checkbox"/> 400x <input type="checkbox"/> 600x <input type="checkbox"/> 800x <input type="checkbox"/> 1000x<br>READING OPTION: <input type="checkbox"/> PLM <input type="checkbox"/> PLM+IR <input type="checkbox"/> PLM+IR+EDS <input type="checkbox"/> PLM+IR+EDS+XRF<br>First 4 pages. Asbestos = 0                       |                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                      |                                                                      |                                                                                                           |                                                                                                                   |
| 3 Field No. <u>03</u>                                                                                                                                                                                                                                                                                                                                                                                                                               | Color <u>    </u> Texture <u>    </u><br>Homogeneity <u>    </u><br># of Layers <u>    </u> Asbestos <input type="checkbox"/><br>Color of Layer <u>    </u> Detected Yes No<br>Comments: <u>See 01</u>  | Morphology <u>    </u> Extinction <u>    </u><br>RI <u>    </u> RI <u>    </u><br>OS Color <u>    </u> Color, Pico <u>    </u><br>Biref <u>    </u> Sign <u>    </u> | Chrysotile <u>    </u><br>Amphibole <u>    </u><br>Other <u>    </u> | Cellulose <u>    </u><br>Fiberglass <u>    </u><br>Other <u>    </u> | Mineral Filler <u>    </u><br>Organic Binders <u>    </u><br>Vermiculite <u>    </u><br>Other <u>    </u> | Organic <u>    </u><br>Residues <u>    </u><br>Carbonate <u>    </u><br>Other <u>    </u><br>Asbestos <u>    </u> |
| POINT COUNT RESULTS AND PERCENTAGE<br>Method: <input type="checkbox"/> 100x <input type="checkbox"/> 200x <input type="checkbox"/> 400x <input type="checkbox"/> 600x <input type="checkbox"/> 800x <input type="checkbox"/> 1000x<br>READING OPTION: <input type="checkbox"/> PLM <input type="checkbox"/> PLM+IR <input type="checkbox"/> PLM+IR+EDS <input type="checkbox"/> PLM+IR+EDS+XRF<br>First 4 pages. Asbestos = 0                       |                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                      |                                                                      |                                                                                                           |                                                                                                                   |
| 4 Field No. <u>04</u>                                                                                                                                                                                                                                                                                                                                                                                                                               | Color <u>Blue</u> Texture <u>FR</u><br>Homogeneity <u>Y</u><br># of Layers <u>1</u> Asbestos <input checked="" type="checkbox"/><br>Color of Layer <u>    </u> Detected Yes No<br>Comments: <u>    </u> | Morphology <u>    </u> Extinction <u>    </u><br>RI <u>    </u> RI <u>    </u><br>OS Color <u>    </u> Color, Pico <u>    </u><br>Biref <u>    </u> Sign <u>    </u> | Chrysotile <u>    </u><br>Amphibole <u>    </u><br>Other <u>    </u> | Cellulose <u>40</u><br>Fiberglass <u>    </u><br>Other <u>    </u>   | Mineral Filler <u>60</u><br>Organic Binders <u>    </u><br>Vermiculite <u>    </u><br>Other <u>    </u>   | Organic <u>    </u><br>Residues <u>    </u><br>Carbonate <u>    </u><br>Other <u>    </u><br>Asbestos <u>    </u> |
| POINT COUNT RESULTS AND PERCENTAGE<br>Method: <input type="checkbox"/> 100x <input type="checkbox"/> 200x <input type="checkbox"/> 400x <input type="checkbox"/> 600x <input type="checkbox"/> 800x <input type="checkbox"/> 1000x<br>READING OPTION: <input type="checkbox"/> PLM <input type="checkbox"/> PLM+IR <input type="checkbox"/> PLM+IR+EDS <input type="checkbox"/> PLM+IR+EDS+XRF<br>First 4 pages. Asbestos = 0                       |                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                      |                                                                      |                                                                                                           |                                                                                                                   |

03/20/2002 15:21

2123460932

AIC GRUNDY LERU

PAGE 01/03

CITY\_21MC100\_002961411