

RJ Lee Group, Inc.

PLAINTIFF'S EXHIBIT

CEL-1383

101504

10366 Battlevue Parkway • Manassas, VA 22110
703/368-7880 • FAX 703/368-7761

LABORATORY REPORT

ROCHE ANALYTICS LABORATORY
2505 SOUTH 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: JANUARY 7, 1994
SAMPLE RECEIPT DATE: JANUARY 5, 1994
RJ LEE GRP. JOB NUMBER: ATW-401029
CLIENT JOB NUMBER: HOECHST CELANESE
PURCHASE ORDER NUMBER: 3086-VAY00

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

METHOD: TRANSMISSION ELECTRON MICROSCOPY (TEM) WITH SELECTED AREA ELECTRON DIFFRACTION AND ENERGY DISPERSIVE X-RAY ANALYSIS
EPA LEVEL II (YAMATE, ET AL., 1984)

SAMPLE INFORMATION

RJ LEE SAMPLE #	CLIENT SAMPLE #	SAMPLE LOCATION, DATE, AND/OR DESCRIPTION	AIR VOLUME (LITERS)	CASSETTE DIAMETER (MM)	COWL LENGTH (MM)	CONDUCTIVE COWL
2127723	003-JRF-1	AREA SAMPLE: SHOWER ROOM	1200	25	50	YES
2127724	003-JRF-2	AREA SAMPLE: BREAK ROOM	1200	25	50	YES
2127725	003-JRF-3	AREA SAMPLE: OFFICE AREA	1200	25	50	YES
2127726	003-JRF-4	FIELD BLANK	0	25	50	YES
2127727	003-JRF-5	FIELD BLANK	0	25	50	YES

Monica M. McCery
SAMPLE PREPARER

Monica M. McCery
TEM OPERATOR-ANALYST

Thomas V. Dagenhart 1-7-94
THOMAS DAGENHART, M.S. DATE
LABORATORY MANAGER
NVLAP SIGNATORY

NVLAP Accreditation No. 1208-3, AIHA Accreditation No. 453
PLEASE SEE ESSENTIAL NOTES ON PAGE 3 OF REPORT.

PAGE 1 OF 3

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Chopra-Lee, Inc., Grand Island, NY

RJ Lee Group, Inc.

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LABORATORY REPORT

ROCHE ANALYTICS LABORATORY
2505 SOUTH 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TONNIE GREEN

REPORT DATE: JANUARY 7, 1994
SAMPLE RECEIPT DATE: JANUARY 5, 1994
RJ LEE GRP. JOB NUMBER: ATW-401029
CLIENT JOB NUMBER: WOECHST CELANESE
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EPA LEVEL II (YAMATE, ET AL., 1984)

ANALYTICAL INFORMATION

AREA OF GRID OPENING: 0.00718 SQ MM TEM ACCELERATING POTENTIAL: 100 KV TEM: PHILIPS CM12
DETECTION LIMIT (FIBERS PER ANALYSIS): 1 ENERGY DISPERSIVE X-RAY ANALYZER EDAX 9800 PLUS

RJ LEE SAMPLE #	ANALYTICAL SENSITIVITY (STRUCT/CC)	GRID OPENINGS SCANNED	DILU- TION FACTOR	AREA ANALYZED (SQ MM)	ASBESTOS STRUCTURES DETECTED WITH ASPECT RATIO > 3 : 1, SORTED BY LENGTH			ASBESTOS STRUCTURE DENSITY (STR/MM^2)	ASBESTOS STRUCTURE CONCENTRATION (STR/CC)	TYPE(S) OF ASBESTOS STRUCTURE DETECTED
					< 5.0 UM	>= 5.0 UM	TOTAL			
2127723	0.004	10	1.0	0.0718	0	0	0	< 13.93	< 0.004	NONE DETECTED
2127724	0.004	10	1.0	0.0718	0	0	0	< 13.93	< 0.004	NONE DETECTED
2127725	0.004	10	1.0	0.0718	0	0	0	< 13.93	< 0.004	NONE DETECTED
2127726	NOT APPLICABLE	0	1.0	0.0000	0	0	0	NOT ANAL.	NOT APPL.	NOT ANALYZED
2127727	NOT APPLICABLE	0	1.0	0.0000	0	0	0	NOT ANAL.	NOT APPL.	NOT ANALYZED

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ESSENTIAL NOTES AND DISCLAIMERS

1. THE ASBESTOS MINERALS SOUGHT IN EACH SAMPLE INCLUDE CHRYSOTILE (CLINOCHRYSOTILE, ORTHOCHRYSOTILE & PARACHRYSOTILE), AMOSITE (GRUNERITE & CUMMINGTONITE), CROCIDOLITE (RIEBECKITE), ANTHOPHYLLITE (ANTHOPHYLLITE & MAGNESIO-ANTHOPHYLLITE), TREMOLITE AND ACTINOLITE. NAMES GIVEN IN PARENTHESES INDICATE THE PROPER MINERALOGICAL TERM FOR ASBESTOS VARIETIES KNOWN BY AN IMPRECISE NAME. DEFINITIONS USED FOR THE AMPHIBOLES ARE THOSE OF THE INTERNATIONAL MINERALOGICAL ASSOCIATION, 1978.
2. ASBESTOS STRUCTURES INCLUDED IN THE STRUCTURE CONCENTRATION AND STRUCTURE DENSITY INCLUDE FIBERS, BUNDLES, CLUSTERS AND MATRICES. SEE DEFINITIONS IN EPA'S LEVEL II TEM METHOD.
3. THE NUMBER OF STRUCTURES USED IN CALCULATING DETECTION LIMITS MAY VARY DEPENDING UPON THE CLEANLINESS OF FIELD AND SEALED BLANKS AND THE CLEANLINESS OF LABORATORY BLANKS CONTEMPORANEOUS WITH THESE SAMPLES.
4. AIRBORNE MASS CONCENTRATIONS OF ASBESTOS IN NANOGRAMS PER CUBIC METER CAN BE PROVIDED AS NEEDED FOR THESE SAMPLES. THIS STREAMLINED REPORT ONLY INCLUDES STRUCTURE CONCENTRATIONS.
5. SAMPLES WITH A DILUTION FACTOR OTHER THAN 1 HAVE BEEN SUBJECTED TO LOW-TEMPERATURE PLASMA ASHING AND AQUEOUS REDEPOSITION DUE TO PARTICULATE OVERLOAD ON THE ORIGINAL FILTER SURFACE. COMPLEX ASBESTOS STRUCTURES CONSISTING OF MULTIPLE FIBERS MAY HAVE DISAGGREGATED DURING SAMPLE PREPARATION; CONSEQUENTLY ASBESTOS STRUCTURE COUNTS MAY BE BIASED HIGH.
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LABORATORY REPORT

ROCHE ANALYTICS LABORATORY
2505 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: JUNE 10, 1993
SAMPLE RECEIPT DATE: JUNE 8, 1993
RJ LEE GRP. JOB NUMBER: ATW-306071
CLIENT JOB NUMBER: HOECHST CELANESE: SALISBURY
PURCHASE ORDER NUMBER: 25391194

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

METHOD: TRANSMISSION ELECTRON MICROSCOPY (TEM) WITH SELECTED AREA ELECTRON DIFFRACTION AND ENERGY DISPERSIVE X-RAY ANALYSIS
EPA LEVEL II (YAMATE, ET AL., 1984)

ANALYTICAL INFORMATION

AREA OF GRID OPENING: 0.00715 SQ MM TEM ACCELERATING POTENTIAL: 100 KV TEM: PHILIPS CM12
DETECTION LIMIT (FIBERS PER ANALYSIS): 1 ENERGY DISPERSIVE X-RAY ANALYZER EDAX 9800 PLUS

RJ LEE SAMPLE #	ANALYTICAL SENSITIVITY (STRUCT/CC)	GRID OPENINGS SCANNED	DILU- TION FACTOR	AREA ANALYZED (SQ MM)	ASBESTOS STRUCTURES DETECTED WITH ASPECT RATIO > 3 : 1, SORTED BY LENGTH			ASBESTOS STRUCTURE DENSITY (STR/MM^2)	ASBESTOS STRUCTURE CONCENTRATION (STR/CC)	TYPE(S) OF ASBESTOS STRUCTURE DETECTED
					< 5.0 UM	>= 5.0 UM	TOTAL			
2106726	0.0045	10	1.0	0.0715	0	0	0	< 13.99	< 0.004	NONE DETECTED
2106727	0.0045	10	1.0	0.0715	0	1	1	13.99	0.004	AMOSITE
2106728	NOT APPLICABLE	0	1.0	0.0000	0	0	0	NOT ANAL.	NOT APPL.	NOT ANALYZED

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REPORT DATE: JUNE 10, 1993
SAMPLE RECEIPT DATE: JUNE 8, 1993
RJ LEE GRP. JOB NUMBER: ATW-306071
CLIENT JOB NUMBER: XXXXXXXXXX
PURCHASE ORDER NUMBER: 25391194

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EPA LEVEL II (YAMATE, ET AL., 1984)

SAMPLE INFORMATION

RJ LEE SAMPLE #	CLIENT SAMPLE #	SAMPLE LOCATION, DATE, AND/OR DESCRIPTION	AIR VOLUME (LITERS)	CASSETTE DIAMETER (MM)	COAL LENGTH (MM)	CONDUCTIVE COAL
2106726	158-JFCF-1	SOS SHOP: SHOWER AREA	1200	25	50	YES
2106727	158-JFCF-2	SOS SHOP: BREAK AREA	1200	25	50	YES
2106728	158-JFCF-3	FIELD BLANK	0	25	50	YES

J. Williams
SAMPLE PREPARER

Marice M. McCloy
TEM OPERATOR-ANALYST

Thomas U. Dagenhart 6-10-93
THOMAS DAGENHART, M.S. DATE
LABORATORY MANAGER
NVLAP SIGNATORY

NVLAP Accreditation No. 1208-3, AIHA Accreditation No. 453
PLEASE SEE ESSENTIAL NOTES ON PAGE 3 OF REPORT.

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CLIENT JOB NUMBER: NOECHST CELANESE: SALISBURY
PURCHASE ORDER NUMBER: 25391194

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ROCHE ANALYTICS LABORATORY
2505 S. 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: NOVEMBER 6, 1992
SAMPLE RECEIPT DATE: NOVEMBER 5, 1992
RJ LEE GRP. JOB NUMBER: ATW-211016
CLIENT JOB NUMBER: HOECHST CELANESE
PURCHASE ORDER NUMBER: 3086-VAYOO

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

METHOD: TRANSMISSION ELECTRON MICROSCOPY (TEM) WITH SELECTED AREA ELECTRON DIFFRACTION AND ENERGY DISPERSIVE X-RAY ANALYSIS
EPA LEVEL II (YAMATE, ET AL., 1984)

SAMPLE INFORMATION

RJ LEE SAMPLE #	CLIENT SAMPLE #	SAMPLE LOCATION, DATE, AND/OR DESCRIPTION	AIR VOLUME (LITERS)	CASSETTE DIAMETER (MM)	COWL LENGTH (MM)	CONDUCTIVE COWL
2096589	307-JRF-5	S.O.S. BREAK AREA	1200	25	50	YES
2096590	307-JRF-6	S.O.S. SHOWER AREA	1200	25	50	YES
2096591	307-JRF-7	FIELD BLANK	0	25	50	YES
2096592	307-JRF-8	FIELD BLANK	0	25	50	YES

Monica M. McClell
SAMPLE PREPARER

Monica M. McClell
TEM OPERATOR-ANALYST

Thomas V. Dagenhart 11-6-92
THOMAS DAGENHART, M.S. DATE
LABORATORY MANAGER
NVLAP SIGNATORY

NVLAP Accreditation No. 1208-3, AIHA Accreditation No. 453
PLEASE SEE ESSENTIAL NOTES ON PAGE 3 OF REPORT.

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EPA LEVEL II (YAMATE, ET AL., 1984)

ANALYTICAL INFORMATION

AREA OF GRID OPENING: 0.00683 SQ MM
DETECTION LIMIT (FIBERS PER ANALYSIS): 1

TEM ACCELERATING POTENTIAL: 100 KV TEM: PHILIPS CM12
ENERGY DISPERSIVE X-RAY ANALYZER EDAX 9800 PLUS

RJ LEE SAMPLE #	ANALYTICAL SENSITIVITY (STRUCT/CC)	GRID OPENINGS SCANNED	DILU- TION FACTOR	AREA ANALYZED (SQ MM)	ASBESTOS STRUCTURES DETECTED WITH ASPECT RATIO > 3 : 1, SORTED BY LENGTH			ASBESTOS STRUCTURE DENSITY (STR/MM^2)	ASBESTOS STRUCTURE CONCENTRATION (STR/CC)	TYPE(S) OF ASBESTOS STRUCTURE DETECTED
					< 5.0 UM	>= 5.0 UM	TOTAL			
2096589	0.0047	10	1.0	0.0683	0	0	0	< 14.64	< 0.005	NONE DETECTED
2096590	0.0047	10	1.0	0.0683	0	0	0	< 14.64	< 0.005	NONE DETECTED
2096591	NOT APPLICABLE	0	1.0	0.0000	0	0	0	NOT ANAL.	NOT APPL.	NOT ANALYZED
2096592	NOT APPLICABLE	0	1.0	0.0000	0	0	0	NOT ANAL.	NOT APPL.	NOT ANALYZED

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MAY 29, 1992

TOMMIE GREEN
ROCHE ANALYTICS LABORATORY
2506 SOUTH 17TH STREET
WILMINGTON, NORTH CAROLINA 28401

RE: RJ Lee Job No. ATW-205112

DEAR TOMMIE GREEN:

Enclosed are the analytical results obtained by transmission electron microscopy (TEM) for the above referenced job. The analysis was performed by standard EPA methods. Please note the comments on page 3 of the report.

The attached report presents the pertinent information used to calculate airborne fiber concentrations. The concentrations do not represent blank-corrected values. We have relied on air volumes supplied by your staff in calculating airborne fiber concentrations.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions and no responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples from this job, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee may be assessed for the return of any samples.

If you have any questions on this report or if we can be of further assistance, please do not hesitate to call us. We appreciate the opportunity to provide you with these analytical services.

Sincerely yours,



Thomas V. Dagenhart, M.S.
Lab Manager

Enclosures

RJ Lee Group, Inc.

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WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: MAY 29, 1992
SAMPLE RECEIPT DATE: MAY 29, 1992
RJ LEE GRP. JOB NUMBER: AFW-200112
CLIENT JOB NUMBER: MONROE DELAWARE
PURCHASE ORDER NUMBER: WRITTEN AUTHORIZATION

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

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EPA LEVEL II (YAMATE, ET AL., 1984)

SAMPLE INFORMATION

RJ LEE SAMPLE #	CLIENT SAMPLE #	SAMPLE LOCATION, DATE, AND/OR DESCRIPTION	AIR VOLUME (LITERS)	CASSETTE DIAMETER (MM)	CONUL LENGTH (MM)	INDUCTIVE CONUL
2087771	1468SJ(1B)	BREAK ROOM AREA	1500	25	500	YES
2087772	1468SJ(2B)	SHOWER ROOM AREA	1500	25	500	YES

Labell J. Loney
SAMPLE PREPARER

Monica M. McCleary
TEM OPERATOR-ANALYST

Thomas V. Caporaso 529-92
THOMAS DAUFMANETT, M.S.
LABORATORY MANAGER
NVLAP SIGNATORY

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2506 SOUTH 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: MAY 27, 1992
SAMPLE RECEIPT DATE: MAY 28, 1992
RJ LEE GRP. JOB NUMBER: ATW-2008172
CLIENT JOB NUMBER: W00EDY851 JELLAHSEE
PURCHASE ORDER NUMBER: W00EDY851 AUTHORIZATION

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

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ANALYTICAL INFORMATION

AREA OF GRID OPENING: 0.00676 SQ MM
DETECTION LIMIT (FIBERS PER ANALYSIS): 1

TEM ACCELERATING POTENTIAL: 100 KV TEM: PHILIPS CM12
ENERGY DISPERSIVE X-RAY ANALYZER: EDAX P800 PLUS

RJ LEE SAMPLE #	ANALYTICAL SENSITIVITY (STRUCT/CC)	GRID OPENINGS SCANNED	DILU- TION FACTOR	AREA ANALYZED (SQ MM)	ASBESTOS STRUCTURES DETECTED WITH ASPECT RATIO > 3 : 1, SORTED BY LENGTH			ASBESTOS STRUCTURE DENSITY (STR/MM ²)	ASBESTOS STRUCTURE CONCENTRATION (STR/CC)	TYPES OF ASBESTOS STRUCTURE DETECTED
					< 5.0 UM	>= 5.0 UM	TOTAL			
2087771	0.0038	10	1.0	0.0676	0	0	0	< 14.799	< 0.0004	NONE DETECTED
2087772	0.0038	10	1.0	0.0676	0	0	0	< 14.799	< 0.0004	NONE DETECTED

RJ LeeGroup, Inc.

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LABORATORY REPORT

ROCHE ANALYTICS LABORATORY
2506 SOUTH 17TH STREET
WILMINGTON, NORTH CAROLINA 28401
919-452-0789
ATTN: TOMMIE GREEN

REPORT DATE: MAY 29, 1992
SAMPLE RECEIPT DATE: MAY 29, 1992
RJ LEE GRP. JOB NUMBER: ATW-205112
CLIENT JOB NUMBER: HOECHST CELANESE
PURCHASE ORDER NUMBER: WRITTEN AUTHORIZATION

ANALYSIS: AIRBORNE ASBESTOS ON MIXED CELLULOSE ESTER FILTERS

METHOD: TRANSMISSION ELECTRON MICROSCOPY (TEM) WITH SELECTED AREA ELECTRON DIFFRACTION AND ENERGY DISPERSIVE X-RAY ANALYSIS
EPA LEVEL II (YAMATE, ET AL., 1984)

ESSENTIAL NOTES AND DISCLAIMERS

1. THE ASBESTOS MINERALS SOUGHT IN EACH SAMPLE INCLUDE CHRYSOTILE (CLINOCHRYSOTILE, ORTHOCHRYSOTILE & PARACHRYSOTILE), AMOSITE (GRUNERITE & CUMMINGTONITE), CROCIDOLITE (RIEBECKITE), ANTHOPHYLLITE (ANTHOPHYLLITE & MAGNESIO-ANTHOPHYLLITE), TREMOLITE AND ACTINOLITE. NAMES GIVEN IN PARENTHESES INDICATE THE PROPER MINERALOGICAL TERM FOR ASBESTOS VARIETIES KNOWN BY AN IMPRECISE NAME. DEFINITIONS USED FOR THE AMPHIBOLES ARE THOSE OF THE INTERNATIONAL MINERALOGICAL ASSOCIATION, 1978.
2. ASBESTOS STRUCTURES INCLUDED IN THE STRUCTURE CONCENTRATION AND STRUCTURE DENSITY INCLUDE FIBERS, BUNDLES, CLUSTERS AND MATRICES. SEE DEFINITIONS IN EPA'S LEVEL II TEM METHOD.
3. THE NUMBER OF STRUCTURES USED IN CALCULATING DETECTION LIMITS MAY VARY DEPENDING UPON THE CLEANLINESS OF FIELD AND SEALED BLANKS AND THE CLEANLINESS OF LABORATORY BLANKS CONTEMPORANEOUS WITH THESE SAMPLES.
4. AIRBORNE MASS CONCENTRATIONS OF ASBESTOS IN NANOGRAMS PER CUBIC METER CAN BE PROVIDED AS NEEDED FOR THESE SAMPLES. THIS STREAMLINED REPORT ONLY INCLUDES STRUCTURE CONCENTRATIONS.
5. SAMPLES WITH A DILUTION FACTOR OTHER THAN 1 HAVE BEEN SUBJECTED TO LOW-TEMPERATURE PLASMA ASHING AND AQUEOUS REDEPOSITION DUE TO PARTICULATE OVERLOAD ON THE ORIGINAL FILTER SURFACE. COMPLEX ASBESTOS STRUCTURES CONSISTING OF MULTIPLE FIBERS MAY HAVE DISAGGREGATED DURING SAMPLE PREPARATION; CONSEQUENTLY ASBESTOS STRUCTURE COUNTS MAY BE BIASED HIGH.
6. TEM COEFFICIENTS OF VARIANCE RANGE FROM APPROXIMATELY 0.5 AT LOW FIBER CONCENTRATIONS TO 0.1 AT HIGH FIBER CONCENTRATIONS.
7. THIS TEST REPORT ONLY RELATES TO THE ITEMS TESTED.
8. THIS REPORT IS NOT VALID UNLESS IT BEARS THE NAME OF A NVLAP-APPROVED SIGNATORY.
9. ANY REPRODUCTION OF THIS DOCUMENT MUST INCLUDE THE ENTIRE DOCUMENT IN ORDER FOR THE REPORT TO BE VALID.
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