PLAINTIFF'S EXHIBIT

CON-87

COMPLETE REMOVAL
1970 VINTAGE CONGOLEUM
VINYL ASBESTOS TILE
RESIDENTIAL BATHROOM

June 27, 2002
BYI Project #1941A-7237

Boelter & Yates
environmental engineers and scientists

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EXECUTIVE SUMMARY

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Objectives

The purpose of the test was to determine the concentration of fibers in the air while completely removing 1970 vintage Congoleum vinyl asbestos tile (VAT) from a residential bathroom.

Background

The test was performed in a residential bathroom where original 1970's vintage Congoleum VATs were existing. The original bathroom tiles have been in use since the time of installation. One week earlier of the date of this test, about one half (½) of the original tiles had been removed and replaced with a new old stock (N.O.S.) 1970's vintage Congoleum vinyl asbestos tile. The residence, located at 225 Fremont Avenue in Seaside Heights, New Jersey, was that of Mr. Don Golemme.[1]

The test was conducted in an actual residence and therefore is representative of actual conditions. The test was conducted to represent the activities of a worker who would be completely removing flooring materials utilizing pre-1970's techniques. Sampling was performed to reflect the entire term of the activities required to completely remove the floor tile.

The test was performed on May 29, 2002 by Mr. Scott Wynder , a professional flooring installer of Dunes Floor Covering in Chesterton, Indiana, and Mr. Fred Boelter, serving as a helper. This report presents the results of the test described herein.

Sample Results

All samples measured concentrations of total fibers in air which were well below the current U.S. Department of Labor Occupational Safety and Health Administration (USDOL-OSHA) 8-hr Time Weighted Average (TWA) Permissible Exposure Limit (PEL) of 0.1 fiber per cubic centimeter (f/cc). Subsequent definitive analysis determined there were no asbestos fibers present in any area or personal sample. Sample results are presented in the accompanying tables.

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[1] Mr. Golemme is employed by the Congoleum Corporation of Mercerville, New Jersey.

METHODOLOGY

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PCM Sampling Procedure

Samples were collected and analyzed by Phase Contrast Microscopy (PCM) following NIOSH Method 7400. Air was drawn through a 25mm, conductive cowl cassette with an 0.8 micron mixed cellulose ester (MCE) filter for collecting airborne particulate. The cassette was connected to a dedicated Gilian servo-drive pump. The pump was used to maintain a flow rate of two (2) liters per minute (lpm) for both personal and area room air samples.

A Brooks rotameter was used to calibrate the pumps prior to and post sample collection. The rotameter was calibrated against a primary standard.

The samples were sealed, labeled and shipped to the laboratory for analysis. Samples were signed, placed in an overnight shipping container, sealed, tracked by Airborne, and arrived at the laboratory by next day air.

"Personal" Samples

Personal samples were collected by attaching the cassette in the breathing zone of the individual performing the work for the duration of the test. The sampling pump was worn on the individual's belt.

Homogeneous Sampling Area

The residence was composed of a number of rooms. While the removal activities were actually being performed in the bathroom, the adjacent kitchen was the necessary access point to the bathroom. Consequently, the kitchen (130ft^2) and bathroom (about 45ft^2) were considered one homogeneous sampling area (HSA) of about 175ft^2. The total volume of this homogeneous sampling area (HSA) was approximately 1,400ft^3. Access to other parts of the residence were prohibited by the closing of doors and windows and the establishment of a dual layer critical barrier between the kitchen and living room.

"Average Room Air" Samples

To determine the "average room air" concentration, four (4) random locations were selected in the bathroom and four (4) random locations were selected in the kitchen. A sampling pump and cassette was placed in each of the eight (8) locations for the duration of the test.

"Background Air" Samples for TEM Analysis

Prior to conducting the test, the room was sampled to verify cleanliness. Ten (10) samples were collected (five inside the HSA and five outside the residence) following a modified AHERA Protocol. Three (3) blanks were also reserved. Analysis was performed by transmission electron microscopy (TEM) following AHERA Protocol.

Prior of conducting the background test, the horizontal surfaces of the bathroom and kitchen were wet wiped. Since this was an actual residence, utilization of "aggressive leaf blower" techniques was judged impractical. Consequently, samples were collected under static conditions. This static collection of samples is what modifies the technique from AHERA.

Air was drawn through a 25mm, conductive cowl cassette with an 0.45 micron mixed cellulose ester (MCE) filter for collecting airborne fibers. The cassette was connected to a dedicated Gast high volume pump. The pump was used to maintain a flow rate of 10 liters per minute (lpm).

A BGI rotameter was used to calibrate the pumps prior to, during, and post sample collection. The rotameter was calibrated against a primary standard.

The samples were sealed, labeled and shipped to the laboratory for analysis. Samples were signed, placed in an overnight shipping container, sealed, tracked by Airborne, and arrived at the laboratory by next day air.

PCM Light Microscopy Analysis

Samples were analyzed in accordance with NIOSH Method 7400. Total fiber counts were determined by phase contrast microscopy (PCM) in accordance with the NIOSH Manual of Analytical Methods, Fourth Edition, dated 8/15/94, A Rules. Values for PCM analysis are provided in the Appendix A and Appendix B spreadsheets.

The only fibers which are counted are those which are longer than 5 microns and have a length to width ratio equal to or greater than 3:1. PCM analysis counts all fibers meeting the specified dimensions. The analysis is not specific for asbestos but is the method specified to be used in the OSHA regulations.

The PCM laboratory reports are presented in Appendix C.

Fiber Type Determination by Electron Microscopy

Air samples were subsequently analyzed in accordance with NIOSH Method 7402. Specific fiber types were determined by transmission electron microscopy (TEM) in accordance with the NIOSH Manual of Analytical Methods, Fourth Edition, dated 8/15/94, ASBESTOS by TEM. Values for TEM analysis are provided in the Appendix A and Appendix B spreadsheets.

The only fibers which are counted are those which are longer than 5 microns and have a length to width ratio equal to or greater than 3:1. The specific fiber types were determined as a "fraction of optically visible asbestos fibers on the filter". The TEM laboratory reports are presented in Appendix C.

AHERA Electron Microscopy Analysis

AHERA Protocol transmission electron microscopy (TEM) analysis was performed on all background samples to verify the cleanliness of the HSA prior to beginning the test. The sample analysis was performed as described in the Federal Register Vol. 52, No. 210, the Asbestos Hazard Emergency Response Act (AHERA Protocol).

Small squares were cut from each filter, processed appropriately, placed onto 200 mesh copper screens (grids) and transferred to a modified Jaffe Wick Washer containing acetone solvent. After the appropriate processing time, the grids were examined with a JEOL 1200EX or 100CX TEM. Grid openings from each sample were scanned at 20,000X. When fibers or structures of various shapes were encountered, they were assessed for morphological characteristics and crystalline structure with selected area electron diffraction (SAED).

The TEM laboratory reports are presented in Appendix D.

PLM Light Microscopy Analysis

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Bulk samples were analyzed for asbestos by Polarized Light Microscopy (PLM) in accordance with guidelines set forth in the EPA Method for Determination of Asbestos in Bulk Building Materials, U.S. EPA/600/R-93-116 (7/93 Edition).

The PLM laboratory reports are presented in Appendix E.

Statistical Comparisons

Data was formatted in spreadsheets for analysis. Statistical functions were performed including maximum, average, minimum, standard deviation, and variance.

The spreadsheets in Appendices A and B presents the data and summarize the statistical analyses performed.

Laboratory Accreditation

The samples were shipped to and analyzed by R. J. Lee Group, Inc. in their Monroeville, Pennsylvania laboratory. R. J. Lee is accredited for TEM analysis by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as Lab #101208. R. J. Lee is also accredited for PCM analysis by the American Industrial Hygiene Association (AIHA) as Lab #8204.

Video Recording

The entire process was video recorded. A Sony Digital Handycam DCR-TRV11 was used to record the activities from various vantage points in the bathroom.

DISCUSSION OF FINDINGS

Residential Setting

Testing was performed in an actual bathroom located in a residence at 225 Fremont Avenue in Seaside Heights, New Jersey. The bathroom is an area of about 45ft^2 (360ft^3) with a configuration as shown in Figure 1.

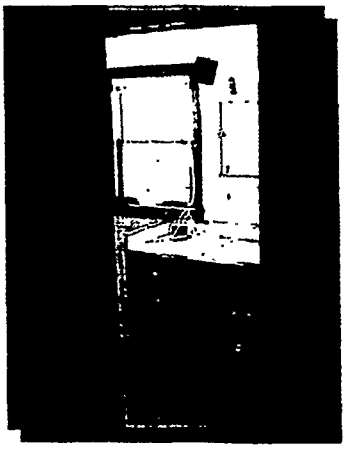

Figure 2 - View from kitchen to bathroom

The bathroom is located just off the kitchen of the residence(see Figure 2). Access to the bathroom is through the kitchen and consequently the kitchen and bathroom were established as the homogeneous sampling area (see Figure 3).

An airtight critical barrier was constructed of a double layer of 6 mil polyethylene sheeting to physically separate the kitchen from the livingroom. One layer was constructed on the kitchen side and one layer was constructed on the living room side. Access to the kitchen was gained through the rear porch.

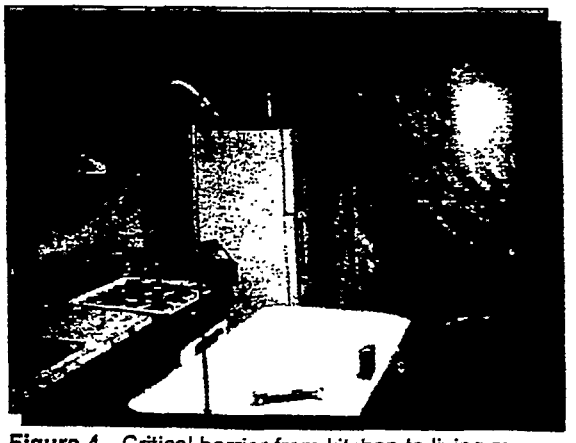

Figure 4 - Critical barrier from kitchen to living room.

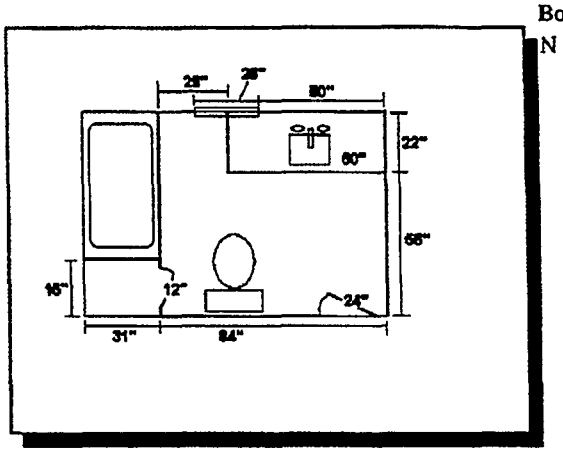

Figure 1 - Bathroom configuration

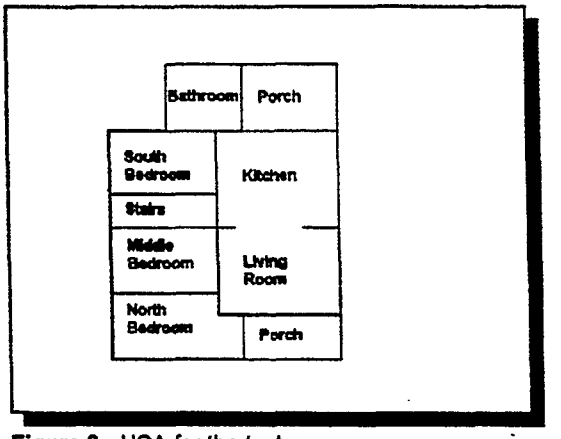

Figure 3 - HSA for the test.

All other openings such as doors and windows were closed. The critical barrier is visible in the view from the bathroom to the kitchen shown in Figure 4.

Background Sampling Results

Prior to conducting any tests, horizontal surfaces in the homogeneous sampling area were systematically wet wiped. Following the cleaning, a series of background samples

were analyzed from five (5) area sampling locations inside the homogeneous sampling area in accordance with a modified AHERA protocol.

Background samples were collected under "static" conditions with analysis by AHERA TEM in accordance with AHERA Protocol.

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Results of the **Pre-Test Background** sampling are shown in the following Table I:

STATISTICAL FUNCTION	Aggressive Air AHERA Method AHERA TEM (s/mm²) - Background for 5/29 -	 NIOSH 7400 PCM (f/cc) - Background for 5/29 -
MAXIMUM	<15.3	0.011
AVERAGE	<15.3	0.006
MINIMUM	<15.3	0.005
STAND. DEV.	0.0	0.002
COUNT	5	5

The levels met the AHERA Clearance Criteria of an average of less than seventy structures per millimeter squared (<70 s/mm²) for the 5 samples analyzed and the homogeneous sampling areas was considered clean. Results are shown in the spreadsheet presented in Appendix B.

Results of the **During-Test, Outdoor Area Background** sampling are shown in the following Table II:

STATISTICAL FUNCTION	NIOSH 7402 TEM (asbestos f/cc) - Background on 5/22 PM -	NIOSH 7400 PCM (total f/cc) - Background on 5/22 PM -
MAXIMUM	0	<0.01
AVERAGE	0	<0.01
MINIMUM	0	<0.01
STAND. DEV.	0.0	0.0
COUNT	5	5

The results indicate that roof and siding removal and replacement activities across the street during the previous week did not adversely impact on the outdoor air quality around the residence where testing was being performed. Consequently, the outdoor air was not an influencing factor in the indoor tests. Results are shown in the spreadsheet presented in Appendix B.

Existing Congoleum VAT

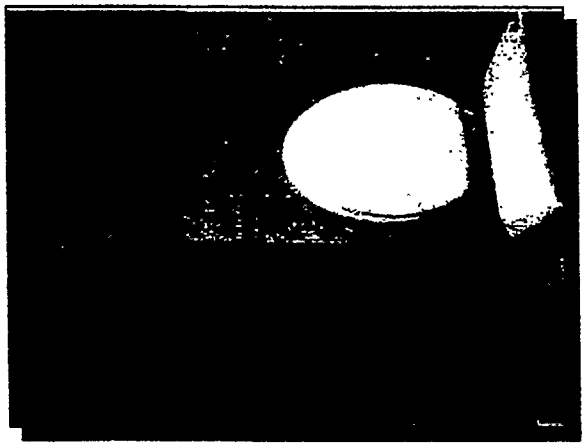

Figure 5 - Three styles of Congoleum VAT.

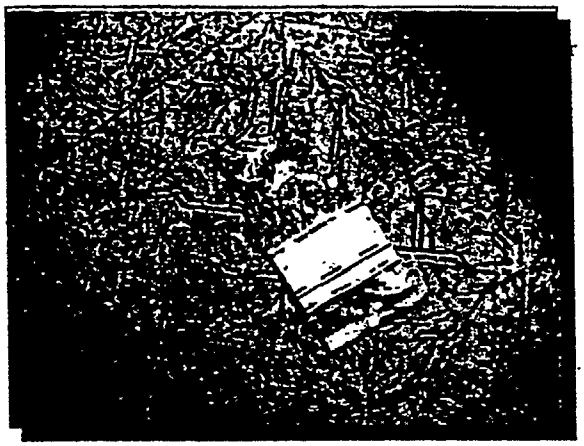

Figure 6 - Existing bathroom Congoleum VAT.

A mosaic of tiles were installed in the bathroom (see Figure 5) as a result of a previous test. All are 1970's vintage vinyl asbestos tiles (VATs) as manufactured by Congoleum Corporation.

The existing original bathroom tile is shown with its corresponding bulk sample in Figure 6. The tile known as Supertile "Libra" VAT with stock number VA-938 was bulk sampled (i.d. MFM-0502-401) and analyzed. The asbestos content of this VAT was determined to be 0.0% chrysotile.

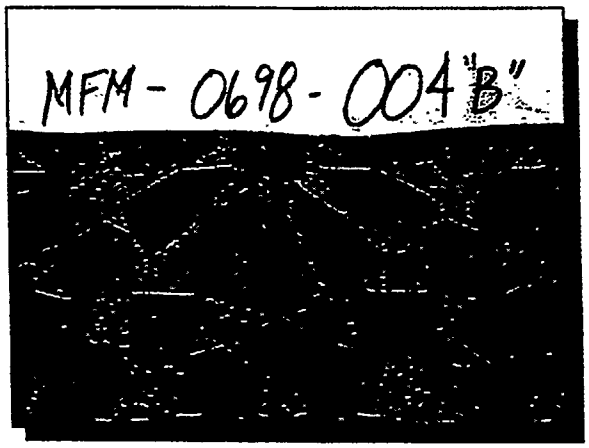

Figure 7 - Congoleum Aztec vinyl asbestos tile.

Another style (See Figure 7) known as Congoleum Aztec is orange with a star pattern. This tile had been previously bulk sampled (i.d. MFM-0698-004) and analyzed. The asbestos content of the Aztec tile was determined to be 0.02% chrysotile.

A third style (See Figure 8) known as Congoleum Ventura has a hexagonal pattern in three different colors. This tile had been previously bulk sampled (i.d. MFM-0698-007) and analyzed. The asbestos content of the Ventura tile was determined to be 0.0% chrysotile.

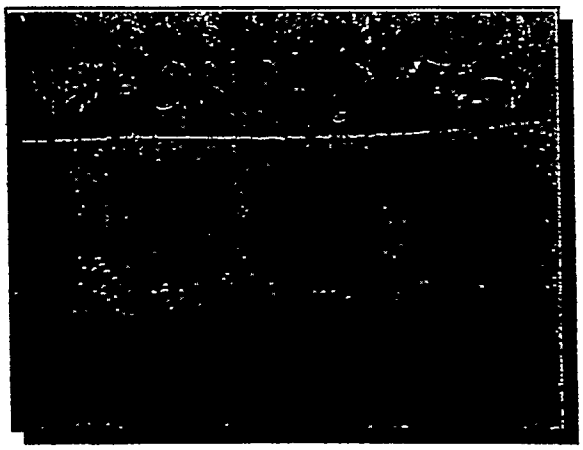

Figure 8 - Congoleum Ventura vinyl asbestos tile.

See Appendix E for bulk sample data.

Tile Removal Test

The particular test being performed was a complete removal of the existing tile as would be typical for a repair activity. The bathroom had approximately 40ft^2 of tiled area as shown in Figure 9. Mr. Wynder was to remove all the tile from this area.

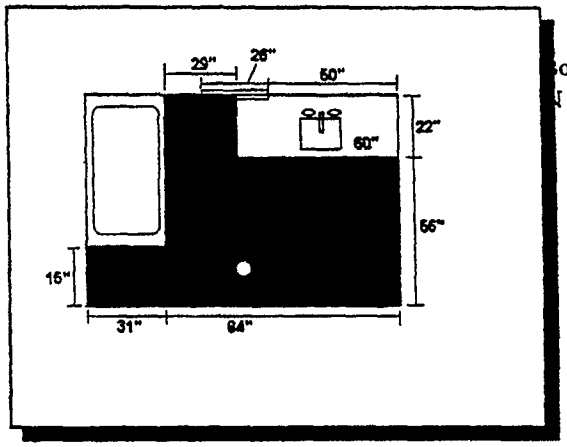

Figure 9 - Area selected for partial removal

During the test, there was no deliberate air movement into or out of the residence. No doors or windows were opened during the testing nor was any mechanical ventilation operated before, during or after any of the test cycles. Since this is an actual residence, however, it is likely that there is a natural ventilation rate due to building envelop leakage. This would represent an actual exposure while performing the tasks.

Mr. Scott Wynder, the professional flooring installer, was asked to perform the activities using typical pre-1970's techniques, tools and methods. The removal was performed entirely by hand using a 6" wide flat blade scraper and a 1" wide wood chisel.

Personal and average room air samplers were started prior to beginning the testing. The samplers were stopped after completion of the testing. The samplers were operated for the period of time indicated. During the test cycle, no one left or entered the homogeneous sampling area.

During the sampling event, similar procedures were followed as described in Table III:

TABLE III - SEQUENCE		
STEP	**ACTIVITY**	**PHOTO**
1	Scope project; prepare and stage tools	Figure 10
2	Remove bathroom fixtures	
3	Plug the waste piping	
4	Remove the baseboard	
5	Remove the tile using a flat blade or chisel	Figure 12
6	Remove high spots of mastic	Figure 13
7	Clean tools and clean debris	Figure 14

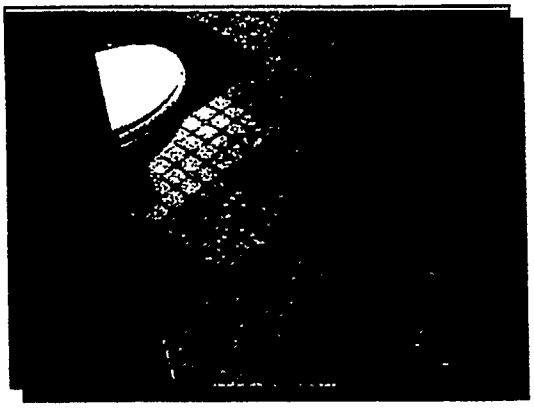

Figure 10 - Existing VAT. Original tile is on the right and the partial installation tile is on the left.

Figure 10 shows the bathroom floor before the test began. The variety of tile types is the product of the partial installation test performed the week earlier. A new Armstrong S-750 mastic (see Figure 12) was used for the partial installation. This mastic was allowed to cure for one week and thus obtain maximum adhesion strength.

Figure 11 - Mastic used to adhere N.O.S. tiles.

Figure 11 shows removal of a section of original tile from under the vanity. Mr. Wynder is using a 1" wide wood chisel for this task.

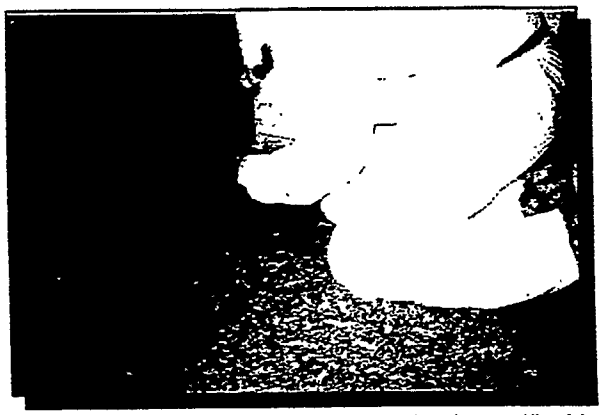

Figure 12 - Original floor tile removal using a 1" wide wood chisel.

Figure 13 - Floor area after complete removal. Area of original mastic is at the top and the area of "new" mastic is at the bottom.

Figure 13 shows the "finished floor" after all the tile has been removed. In all, about 40ft^2 of tiles were removed. Figure 14 shows a bucket of the tile and mastic scraps that were created during the removal activities.

Figure 14 - Removed VAT in bucket.

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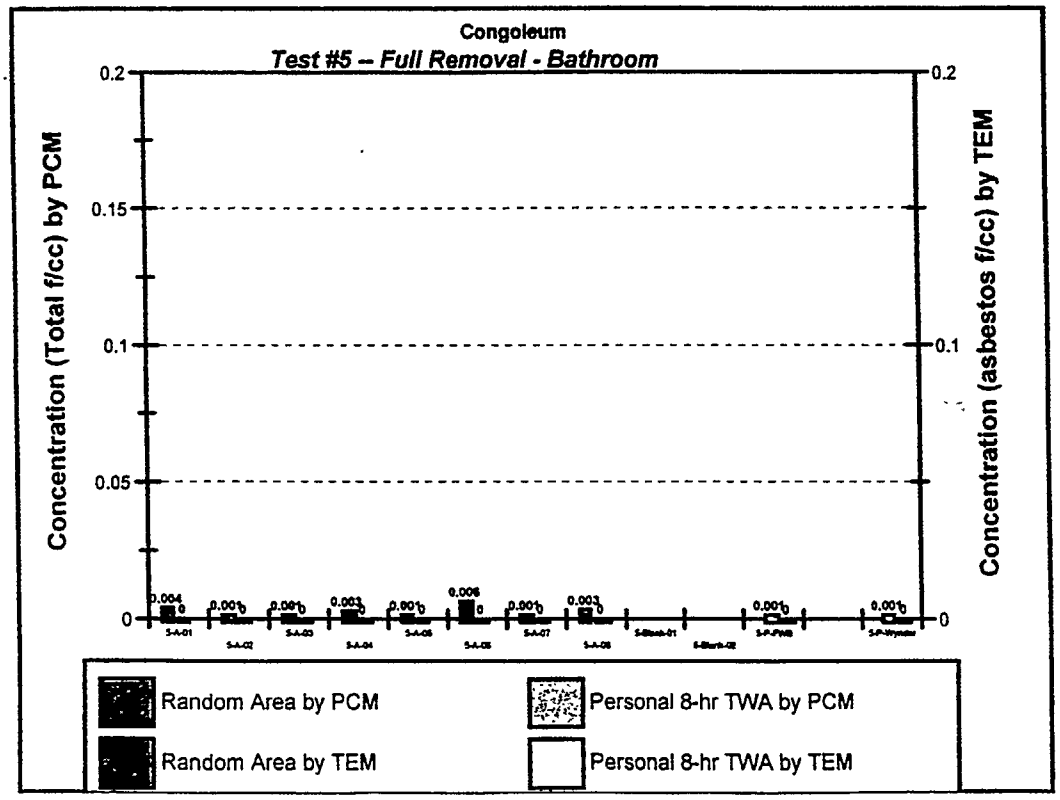
Sampling Results During Test

Results of 8-hr Time Weighted Average (TWA) Permissible Exposure Limit (PEL) sampling is shown in the following table:

STATISTICAL FUNCTION	5/29/01 - PCM Total f/cc by NIOSH 7400 - - Personal Samples -	- Average Room Air -	5/29/01 - TEM Asbestos f/cc by NIOSH 7402 - Personal Samples -	- Average Room Air-
MAXIMUM	0.001	0.006	0.0	0.0
AVERAGE	0.001	0.003	0.0	0.0
MINIMUM	0.001	0.001	0.0	0.0
STAND. DEV.	0.000	0.002	0.0	0.0
COUNT	2	8	2	8

All sample results indicate that while there were some total fiber concentrations as detected by PCM NIOSH 7400, there were no asbestos fibers detected when the samples were analyzed by TEM NIOSH 7402. Clearly, the results are well below the current OSHA 8-hr Time Weighted Average (TWA) Permissible Exposure Limit of 0.1 f/cc.

The Appendix A spreadsheets summarized in the above tables are also depicted graphically in the Appendix A.



CONCLUSIONS

An approximately 40 square foot area of bathroom tile was entirely removed while testing for the fiber release from 1970's vintage Congoleum Corporation vinyl asbestos tile (VAT). The entire installation process was demonstrated including removing the fixtures, lifting the tiles, and scraping the adhesive. Eight (8) room air samples and two (2) long term personal samples were collected during the process during each test. The process as tested took slightly less than 60 minutes to perform.

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All sample results show the total airborne concentrations of total fibers to be well below the current OSHA 8-hr Time Weighted Average (TWA) Permissible Exposure Limit (PEL) of 0.1 f/cc. Furthermore, all samples showed zero (0) asbestos fibers when analyzed by definitive analytical techniques.

Respectfully submitted,

BOELTER & YATES, INC.

Frederick W. Boelter, CIH, PE

Reviewed by,

John W. Spencer, CIH, CSP

Enclosures

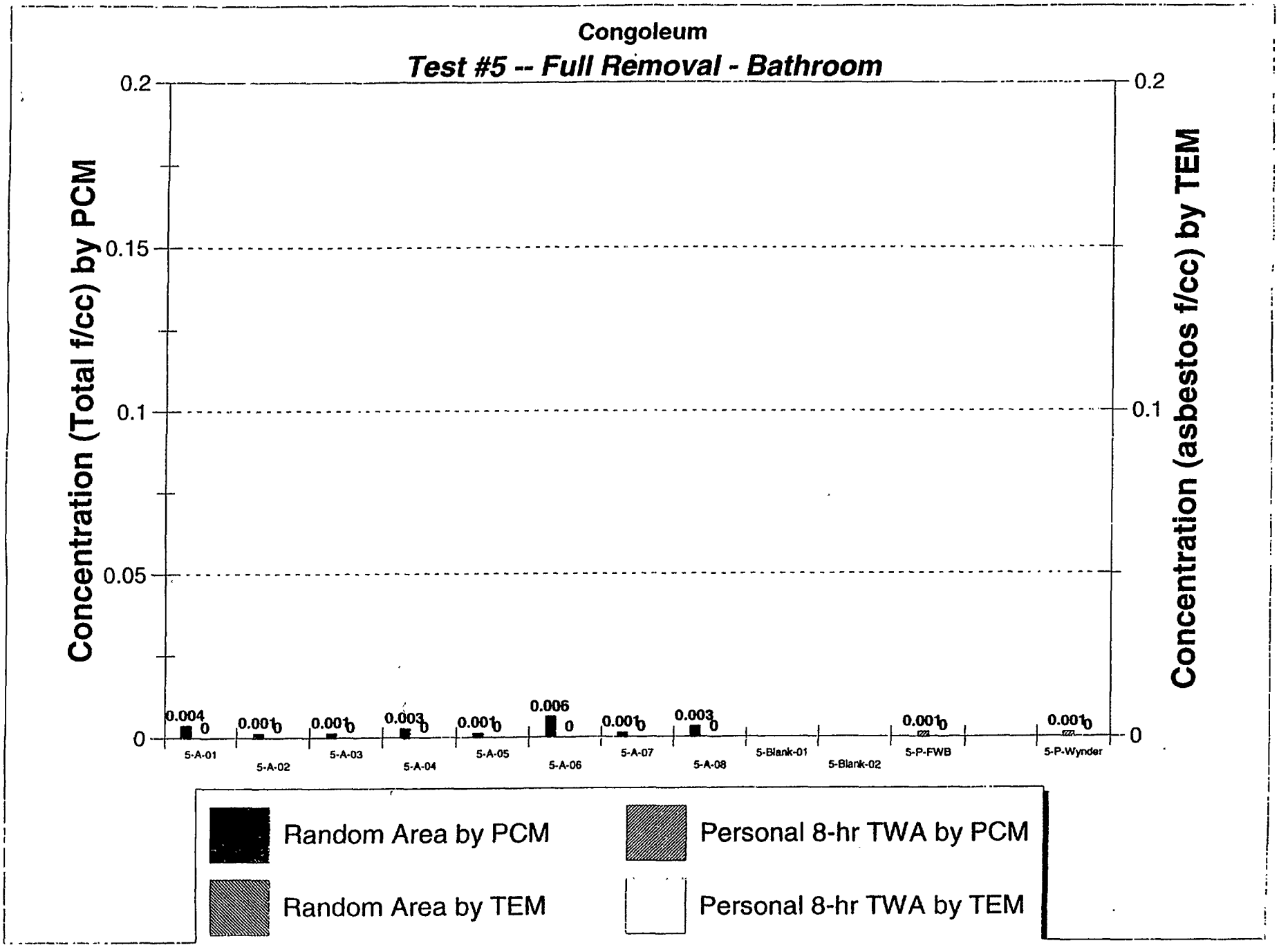
APPENDIX A

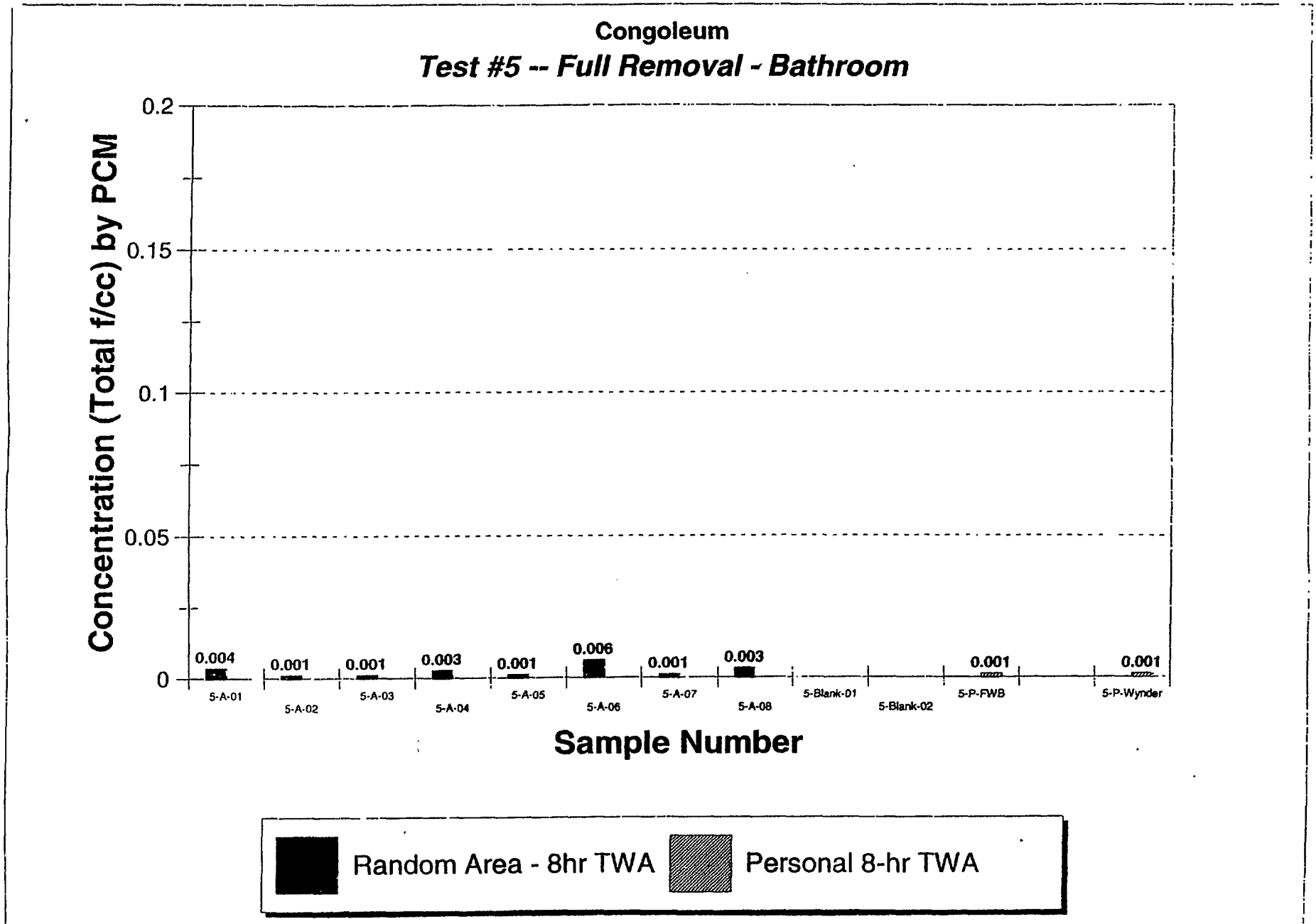
Compilation Spreadsheets and Graphs
NIOSH 7400 and NIOSH 7402 TESTING RESULTS

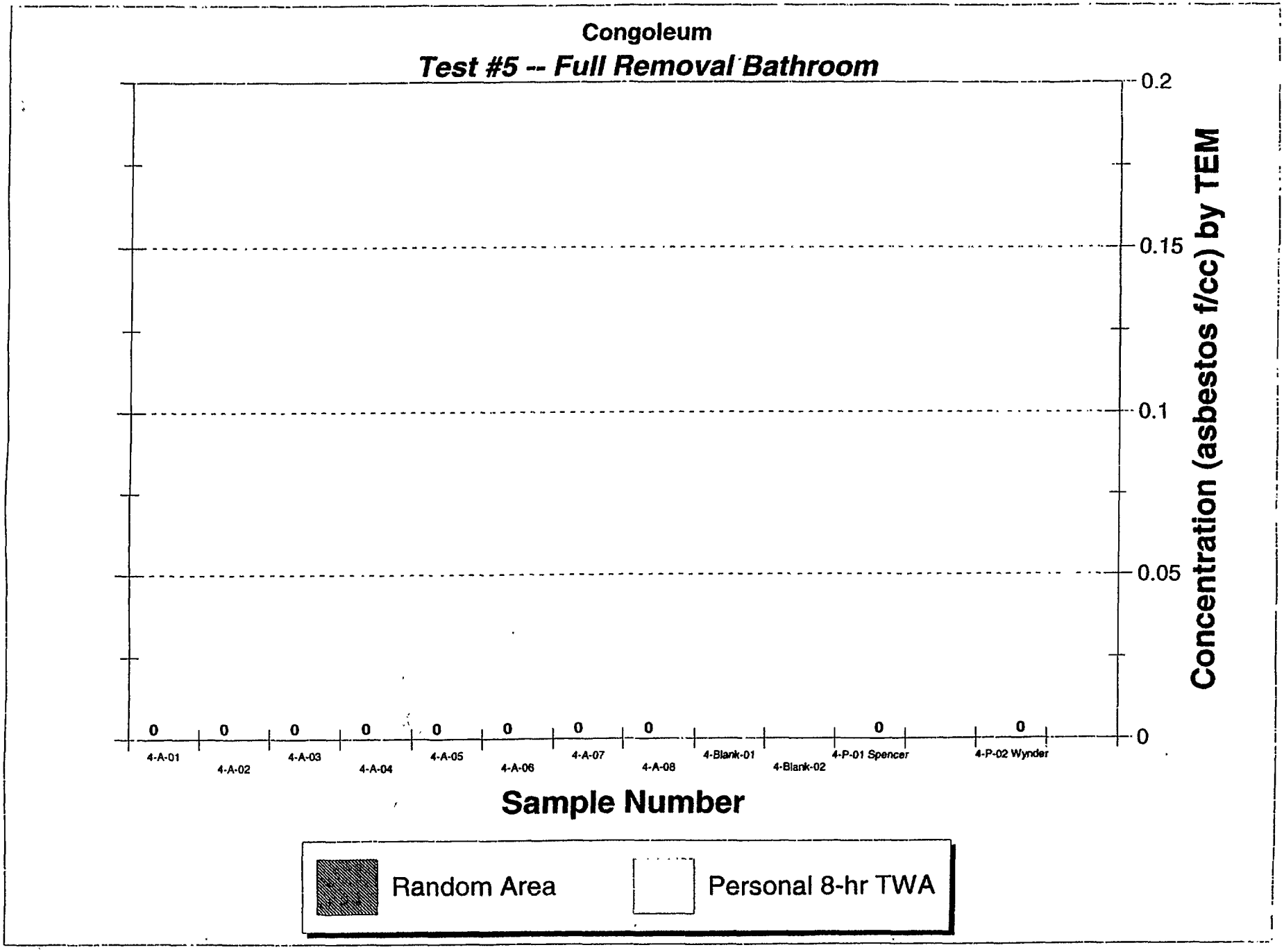
Height
Corporation
BYI Project #1941A-7237

TEST	TEST DATE	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE TIME	SAMPLE RATE	SAMPLE VOLUME	TESTING PCM (Total f/cc) - Personal Actual -	- Area @ 2 -	TESTING PCM (Total f/cc) - Personal 8hr -	- Area @ 2 -	TESTING TEM (asbestos/other)	asbestos f/cc - Personal 8hr -	asbestos f/cc - Area 8hr -
Test 5 - Complete Removal	May 29, 2002	5-A-01	RANDOM AREA	55	2	110		0.033		0.004	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-02	RANDOM AREA	55	2	110		0.012		0.001	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-03	RANDOM AREA	55	2	110		0.012		0.001	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-04	RANDOM AREA	55	2	110		0.025		0.003	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-05	RANDOM AREA	55	2	110		0.012		0.001	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-06	RANDOM AREA	55	2	110		0.056		0.006	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-07	RANDOM AREA	55	2	110		0.012		0.001	0		0
Test 5 - Complete Removal	May 29, 2002	5-A-08	RANDOM AREA	55	2	110		0.029		0.003	0		0
Test 5 - Complete Removal	May 29, 2002	5-Blank-01	BLANK	0	0	0							
Test 5 - Complete Removal	May 29, 2002	5-Blank-02	BLANK	0	0	0							
Test 5 - Complete Removal	May 29, 2002	5-P-FWB	PERSONAL	49	2	98	0.014		0.001		0	0	
Test 5 - Complete Removal	May 29, 2002				2	0							
Test 5 - Complete Removal	May 29, 2002	5-P-Wynder	PERSONAL	49	2	98	0.014		0.001		0	0	
Test 5 - Complete Removal	May 29, 2002				2	0							

MAXIMUM	0.014	0.056	0.001	0.006		0.000	0.0000
AVERAGE	0.014	0.024	0.001	0.003		0.000	0.0000
MINIMUM	0.014	0.012	0.001	0.001		0.000	0.0000
STAND. DEV.	0.000	0.014	0.000	0.002		0.000	0.0000
VARIANCE	0.000	0.000	0.000	0.000		0.000	0.0000
COUNT	2	8	2	8		2	8


Congoleum
Test #5 -- Full Removal - Bathroom
Concentration (Total f/cc) by PCM
Concentration (asbestos f/cc) by TEM
0.2
0.15
0.1
0.05
0
0.004
0.001
0.001
0.003
0.001
0.006
0.001
0.003
0.001
0.001
5-A-01
5-A-02
5-A-03
5-A-04
5-A-05
5-A-06
5-A-07
5-A-08
5-Blank-01
5-Blank-02
5-P-FWB
5-P-Wynder
Random Area by PCM
Random Area by TEM
Personal 8-hr TWA by PCM
Personal 8-hr TWA by TEM


Congoleum
Test #5 -- Full Removal - Bathroom
Concentration (Total f/cc) by PCM
0.2
0.15
0.1
0.05
0
0.004
0.001
0.001
0.003
0.001
0.006
0.001
0.003
0.001
0.001
5-A-01
5-A-02
5-A-03
5-A-04
5-A-05
5-A-06
5-A-07
5-A-08
5-Blank-01
5-Blank-02
5-P-FWB
5-P-Wynder
Sample Number
Random Area - 8hr TWA
Personal 8-hr TWA


Congoleum
Test #5 -- Full Removal Bathroom
0.2
0.15
0.1
0.05
0
Concentration (asbestos f/cc) by TEM
0
0
0
0
0
0
0
0
0
0
4-A-01
4-A-02
4-A-03
4-A-04
4-A-05
4-A-06
4-A-07
4-A-08
4-Blank-01
4-Blank-02
4-P-01 Spencer
4-P-02 Wynder
Sample Number
Random Area
Personal 8-hr TWA

APPENDIX B

Compilation Spreadsheets and Graphs
PRE-TEST BACKGROUND RESULTS
and
DURING TEST OUTDOOR AREA BACKGROUND RESULTS

Congoleum
BYI Project #1941A-7237

TEST NUMBER	TEST DATE	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	SAMPLE TIME	SAMPLE RATE	SAMPLE VOLUME	AHERA "CLEAN" AIR TEM RESULTS (Total Asbestos s/mm2) (avg <70 s/mm2)	LESS THAN LIMIT OF ANALYTICAL SENSITIVITY (<14.2 s/mm2)
Test 5 - Complete Removal	May 29, 2002	5-B-01	AREA	Bath NE	123	10	1230	7.7	<15.3 s/mm2
Test 5 - Complete Removal	May 29, 2002	5-B-02	AREA	Bath SE	125	10	1250	7.7	<15.3 s/mm2
Test 5 - Complete Removal	May 29, 2002	5-B-03	AREA	Bath W	120	10	1200	7.7	<15.3 s/mm2
Test 5 - Complete Removal	May 29, 2002	5-B-04	AREA	Kitchen E	120	10	1200	7.7	<15.3 s/mm2
Test 5 - Complete Removal	May 29, 2002	5-B-05	AREA	Kitchen SW	120	10	1200	7.7	<15.3 s/mm2
Test 5 - Complete Removal	May 29, 2002	5-B-11	BLANK						
Test 5 - Complete Removal	May 29, 2002	5-B-12	BLANK						
Test 5 - Complete Removal	May 29, 2002	5-B-013	BLANK						
MAXIMUM								7.7	
AVERAGE								7.7	
MINIMUM								7.7	
STAND. DEV.								0.0	
VARIANCE								0.0	
COUNT								5	

TEST NUMBER	TEST DATE	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	SAMPLE TIME	SAMPLE RATE	SAMPLE VOLUME	"CLEAN" AIR PCM RESULTS (Total f/cc)	LIMIT OF QUANTIFICATION
Test 5 - Complete Removal	May 29, 2002	5-B-01	AREA	Bath NE	123	2	246	0.011	0.011
Test 5 - Complete Removal	May 29, 2002	5-B-02	AREA	Bath SE	125	2	250	0.005	0.0108
Test 5 - Complete Removal	May 29, 2002	5-B-03	AREA	Bath W	127	2	254	0.005	0.0106
Test 5 - Complete Removal	May 29, 2002	5-B-04	AREA	Kitchen E	128	2	256	0.005	0.0105
Test 5 - Complete Removal	May 29, 2002	5-B-05	AREA	Kitchen SW	130	2	260	0.005	0.0104
Test 5 - Complete Removal	May 29, 2002	5-B-12	BLANK						
Test 5 - Complete Removal	May 29, 2002	5-B-11	BLANK						
MAXIMUM								0.011	
AVERAGE								0.006	
MINIMUM								0.005	
STAND. DEV.								0.002	
VARIANCE								0.000	
COUNT								5	

TEST NUMBER	TEST DATE	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE LOCATION	SAMPLE TIME	SAMPLE RATE	SAMPLE VOLUME	OUTDOOR AIR PCM RESULTS (Total f/cc)	LIMIT OF QUANTIFICATION
Test 5 - Complete Removal	May 29, 2002	5-B-06	AREA	Exterior S	134	2	268	0.005	0.0101
Test 5 - Complete Removal	May 29, 2002	5-B-07	AREA	Exterior SE	131	2	262	0.005	0.0103
Test 5 - Complete Removal	May 29, 2002	5-B-08	AREA	Exterior E	130	2	260	0.005	0.0104
Test 5 - Complete Removal	May 29, 2002	5-B-09	AREA	Exterior NE	128	2	256	0.005	0.0107
Test 5 - Complete Removal	May 29, 2002	5-B-10	AREA	Exterior N	130	2	260	0.005	0.0109
Test 5 - Complete Removal	May 29, 2002	5-B-13	BLANK						
Test 5 - Complete Removal	May 29, 2002	5-B-14	BLANK						
MAXIMUM								0.005	
AVERAGE								0.005	
MINIMUM								0.005	
STAND. DEV.								0.000	
VARIANCE								0.000	
COUNT								5	

APPENDIX C

NIOSH 7400 PCM Laboratory Reports
and
NIOSH 7402 TEM Laboratory Reports

RJ Lee Group, Inc.

AIHA Accreditation No. 460 NVLAP Accreditation No. 101208-0

350 Hochberg Road · Monroeville, PA 15146
Voice 724-325-1776 · Fax 724-733-1795

Laboratory Report

Boelter & Yates, Inc.
O'Hare Corporate Center
1300 Higgins Road Suite 301
Park Ridge, IL 60068-5772
Attention: Mr. Matthew F. Meyer
Telephone: 847-692-4700

Report Date	5/31/2002
Sample Receipt Date.	5/31/2002
RJ Lee Group Job No	AOH205630
Client Job No.	1941A-7237
Authorization/P.O. No.	1941A-7237

Analysis: Fibers (>= 5 um long) on Mixed Cellulose Ester Filters
Method: NIOSH 7400, Issue # 2
Filter Size: 25 mm

Blank Correction: 0 f/mm^2

Graticule: .00785 mm^2

					Uncorrected Fiber Concentrations						
RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Fiber Density (f/mm^2)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2603276.HPC	5-BLANK-02	0	0	100	<7	-	-	-	CBL	5/31/2002	
2603275.HPC	5-BLANK-01	0	0	100	<7	-	-	-	CBL	5/31/2002	
2603267.HPC	5-A-01	110	7.5	100	9.6	0.0334	0.0465	0.0245	CBL	5/31/2002	
2603268.HPC	5-A-02	110	4.5	100	<7	<0.0245	<0.0279	0.0245	CBL	5/31/2002	
2603269.HPC	5-A-03	110	4.5	100	<7	<0.0245	<0.0279	0.0245	CBL	5/31/2002	

Authorized Signature Curtis B. Lysher

Curtis B. Lysher, Microscopist

Notes:
1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm^2 is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

RJ Lee Group, Inc.

Laboratory Report (cont.)

RJ Lee Group Job No: AOH205630
Client Job No: 1941A-7237

RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Uncorrected Fiber Concentrations: Fiber Density (f/mm²)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2603270.HPC	5-A-04	110	5.5	100	7	0.0245	0.0349	0.0245	CBL	5/31/2002	
2603271.HPC	5-A-05	110	3.5	100	<7	<0.0245	<0.0279	0.0245	CBL	5/31/2002	
2603272.HPC	5-A-06	110	12.5	100	15.9	0.0557	0.0749	0.0245	CBL	5/31/2002	
2603273.HPC	5-A-07	110	3	100	<7	<0.0245	<0.0279	0.0245	CBL	5/31/2002	
2603274.HPC	5-A-08	110	6.5	100	8.3	0.029	0.0407	0.0245	CBL	5/31/2002	

Authorized Signature: Curtis B. Lysher

Curtis B. Lysher, Microscopist

Notes:

1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm^2 is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

A0#205630

Boelter & Yates

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

Page 1 of 1

DATE: 5-29-02
PROJECT NO.: 1941A-7237
TURNAROUND TIME: 8HR 12HR 24HR (72HR)

COLLECTED BY: Matthew 7 Myers
ANALYZED BY:

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
S-A-01		Bathroom-NE-4' off floor	Floor tile removal Test #5	
02		Bathroom-E. 18" " "	↓	
03		Bathroom-South-6'6" "	↓	
04		Bathroom-Central-5' off floor	↓	
05		Kitchen-NE-4' " "	↓	
06		Kitchen-Central-3'6" off floor	↓	
07		Kitchen-SW-12" off floor	↓	
S-A-08		Kitchen-NW-6' off floor	↓	
S-Blank-01		BLANK		
S-Blank-02		BLANK		

ANALYTICAL DATA ANALYSIS REQUIRED: TEM ( ) or PCM (X) Effective Filter Collection Area ______ mm² Graticule Field Area ______ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/min)	Final Flow Rate (L/min)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm²)	Structures/mm² (TEM only)	Fibers/cc (blank corr)
S-A-01	1730	1825	55	2.0	2.0	110					
02	1730	1825	55	2.0	2.0	110					
03	1730	1825	55	2.0	2.0	110					
04	1730	1825	55	2.0	2.0	110					
05	1731	1826	55	2.0	2.0	110					
06	1731	1826	55	2.0	2.0	110					
07	1731	1826	55	2.0	2.0	110					
S-A-08	1731	1826	55	2.0	2.0	110					
S-Blank-01	—	—	—	—	BLANKS						
S-Blank-02	—	—	—	—							

NOTES:

Key to Abbreviations

[illegible]

NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted. LOQ = Limit of Quantitation: [illegible] fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable [illegible]. *Sample ID Example: [illegible]

Relinquished by: Matthew 7 Myers
Company: Boelter
Date/Time: 5-30-02

Received By: [signature] 5/31
Company:
Date/Time:

Relinquished by:
Company:
Date/Time:

Received By:
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

[illegible]

RJ Lee*Group*, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

June 7, 2002

Mr. Fred W. Boelter
Boelter & Yates, Inc.
1300 Higgins Road
Suite 301
Park Ridge, IL 60068-5772

RE: TEM Asbestos Results for Samples as Shown on the Test Report
RJ Lee Group, Inc. Job No. : ATH206309
Client Purchase Order No. : 1941A-7237

Dear Mr. Boelter :

Enclosed are the results from the transmission electron microscopy (TEM) asbestos analysis of the above referenced samples using the counting rules established by the NIOSH Method 7402, Issue #2, 8/15/94. The samples and volume information were provided by Boelter & Yates, Inc. personnel.

The analysis for asbestos fibers consisted of fiber morphology, visual selected area electron diffraction (SAED) and elemental chemical analysis by energy dispersive spectroscopy (EDS), supplemented by the measurement and interpretation of micrographs of several selected area electron diffraction patterns (SAED). The samples were analyzed at a magnification of 1000X. Particles meeting the definition of a fiber > 5μm in length , > 0.25μm in diameter and having a length to width aspect ratio ≥ 3:1 were classified as chrysotile or amphibole. The electron microscope used for the analysis was a JEOL 1200 EX equipped with Gresham PEDX system.

The Test Report lists each sample identification number, filter area, volume, area analyzed, asbestos fiber counts (f_S), analytical sensitivity, concentration of asbestos in fibers per cubic centimeters (f/cc), Total Fibers (F_S), and Fiber Ratio (f_S/F_S).

RJ Lee Group, Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for airborne asbestos fiber analysis (TEM), asbestos fiber analysis (PLM), New York State Department of Health Environmental Laboratory Approval Program (ELAP), and by the American Industrial Hygiene Association (AIHA). This test report only relates to the items tested. NVLAP accreditation does not imply endorsement by NVLAP or any agency of the U.S. Government. The report shall not be reproduced except in full.

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 covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions, feel free to call me.

Very truly yours,

Kimberly A. Allison
Manager - TEM Analysis

KAA/slb

Enclosures

Test Report

Asbestos Concentrations and Fiber Ratios
NIOSH 7402 Analysis
Project ATH206309

RJ Lee Group Sample Number	Client Sample Number	Filter Area (sq mm)	Volume ‡ (Liters)	Area Analyzed (sq mm)	Asbestos Fibers (fs) Chr	Asbestos Fibers (fs) Amp	Analytical Sensitivity (f/cc)	Asbestos Concentration (f/cc)	Total Fibers (Fs)	Fiber Ratio (fs/Fs)	Analysis Date
)127924HT	5-A-01	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	8.0	0	6/6/2
)127925HT	5-A-02	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	4.5	0	6/6/2
)127926HT	5-A-03	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	4.0	0	6/6/2
0127927HT	5-A-04	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	9.5	0	6/6/2
0127928HT	5-A-05	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	5.5	0	6/6/2
0127929HT	5-A-06	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	3.0	0	6/7/2
0127930HT	5-A-07	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	4.0	0	6/6/2
0127931HT	5-A-08	385	110.00	0.373	0.0	0.0	0.0094	<0.0094*	3.0	0	6/6/2
0127932HT	5-BLANK-01	385	Blank	0.373	0.0	0.0	-	-	2.0	0	6/6/2
0127933HT	5-BLANK-02	385	Blank	0.373	0.0	0.0	-	-	0.5	0	6/7/2
0127934HT	5-P-01	385	98.00	0.373	0.0	0.0	0.0105	<0.0105*	6.5	0	6/7/2
0127935HT	5-P-02	385	98.00	0.373	0.0	0.0	0.0105	<0.0105*	7.5	0	6/7/2
0127936HT	5-BLANK-03	385	Blank	0.373	0.0	0.0	-	-	0.5	0	6/7/2
0127937HT	5-BLANK-04	385	Blank	0.373	0.0	0.0	-	-	1.0	0	6/7/2

‡ Volumes provided by Boelter & Yates, Inc. for Project 1941A-7237 - Test #5 were used to calculate analytical results and sensitivities.
†Analytical sensitivity is the calculated concentration based on one structure in the area analyzed.

Chr - Chrysotile, Amp - Amphibole
* Results Less Than Analytical Sensitivity.
N/A - Sample not analyzed.

Authorized Signature: Kimberly A. Allison, Manager-TEM Analysis
Date Friday, June 7, 2002

Samples received on: Monday, June 3, 2002

RJ Lee Group, Inc.
Headquarters
350 Hochberg Road
Monroeville, PA 15146
Phone (724) 325-1776
Fax (724) 733-1799

Apd205630

Boelter & Yates

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

DATE: 5-29-02
PROJECT NO.: 1941A-7237
TURNAROUND TIME: 8HR 12HR 24HR (72HR)

COLLECTED BY: Matthew T Myers
ANALYZED BY:

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
5-A-01		Bathroom-NE-4' off floor	Floor tile removal Test #5	
02		Bathroom-E-12" " "	↓	
03		Bathroom-South-6'-6" "	↓	
04		Bathroom-Central-5' off floor	↓	
05		Kitchen-NE-4' " " "	↓	
06		Kitchen-central-3'-6" off floor	↓	
07		Kitchen-SW-12" off floor	↓	
5-A-08		Kitchen-NW-6' off floor	↓	
5-Blank-01		BLANK		
5-Blank-02		BLANK		

ANALYTICAL DATA ANALYSIS REQUIRED: TEM (____) or PCM (X) Effective Filter Collection Area _____ mm² Graticule Field Area _____ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/mm)	Final Flow Rate (L/mm)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm²)	Structures/mm² (TEM only)	Fibers/cm³ (blank corr)
5-A-01	1730	1825	55	2.0	2.0	110					
02	1730	1825	55	2.0	2.0	110					
03	1730	1825	55	2.0	2.0	110					
04	1730	1825	55	2.0	2.0	110					
05	1731	1826	55	2.0	2.0	110					
06	1731	1826	55	2.0	2.0	110					
07	1731	1826	55	2.0	2.0	110					
5-A-08	1731	1826	55	2.0	2.0	110					
5-Blank-01	—	—	—	—	BLANKS						
5-Blank-02	—	—	—	—							

NOTES:

Key to Abbreviations

APR	Air Purifying Respirator	ENV	Environmental	HM	Half Mask	PREP	Site Preparation
BGD	Background	EX	Excursion	IC	Inside Containment	PRS	Personal
BGLO	Bag Load Out	FB	Field Blank	OA	Outside Area	REM	Removal
CL	Clearance	FF	Full Face	OC	Outside Containment	SA	Supplied Air
CLN	Clean Up	GLBG	Glove Bag	PAPR	Powered Air Purifying Respirator	SLB	Sealed Lab Blank
DCU	Decon						

NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted.
LOQ = Limit of Quantitation: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are non-reliable.
*Sample ID Example: RML (sampler initials), 04 = Month; 01 = Year; 01, 02, etc. = Sequence No.

Relinquished by: Matthew T Myers
Company: Boelter
Date/Time: 5-30-02

Received By: [signature] 5/31 11:02
Company:
Date/Time:

Relinquished by:
Company:
Date/Time:

Received By:
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

0201\GLOSSARY\FORMS\AIRCHAR\SDL

A0020563

Boelter & Yates
environmental engineers and scientists

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

DATE: 5-29-02 COLLECTED BY: Martin F. Mogg

PROJECT NO.: 1941A-7237 ANALYZED BY :

TURNAROUND TIME: 8HR 12HR (24HR) 72HR

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
5-P-01	P	Fred Boelter	Mon tube removal - Test #5	
5-P-02	P	Scott Wynder	" " "	
5-Blank-03	Blank	—	BLANKS	
5-Blank-04		—		

ANALYTICAL DATA ANALYSIS REQUIRED: TEM (_____) or PCM (X) Effective Filter Collection Area _____ mm² Graticule Field Area _____ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/mm)	Final Flow Rate (L/mm)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm²)	Structures/mm² (TEM only)	Fibers/cm² (blank corr)
5-P-01	1735	1824	49	2.0	2.0	98					
5-P-02	1735	1824	49	2.0	2.0	98					
5-Blank-03	—	—	—	—	Blanks						
5-Blank-04	—	—	—	—							

NOTES:

Key to Abbreviations

APR	Air Purifying Respirator	ENV	Environmental	HM	Half Mask	PREP	Site Preparation
BGD	Background	EX	Excursion	IC	Inside Containment	PRS	Personal
BGLO	Bag Load Out	FB	Field Blank	OA	Outside Area	REM	Removal
CL	Clearance	FF	Full Face	OC	Outside Containment	SA	Supplied Air
CLN	Clean Up	GLBG	Glove Bag	PAPR	Powered Air Purifying Respirator	SLB	Sealed Lab Blank
DCU	Decon						

*NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted.
LOQ = Limit of Quantitation: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are non-reliable.
*Sample ID Example: AML (sampler initials), 04 = Month; 01 = Year; 01, 02, etc. = Sequence No.

Relinquished by: Martin F Mogg
Company: Boelter
Date/Time: 5-30-02

Received By: [illegible]
Company:
Date/Time:

Relinquished by:
Company:
Date/Time:

Received By: [illegible] 5/31/02 11:00 am
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

APPENDIX D

AHERA TEM Laboratory Reports

RJ Lee Group, Inc.

AIHA Accreditation No. 460 NVLAP Accreditation No. 101208-0

350 Hochberg Road · Monroeville, PA 15146
Voice 724-325-1776 · Fax 724-733-1795

Laboratory Report

Boelter & Yates, Inc.
O'Hare Corporate Center
1300 Higgins Road Suite 301
Park Ridge, IL 60068-5772
Attention: Mr. Matthew F. Meyer
Telephone: 847-692-4700

Report Date	5/31/2002
Sample Receipt Date.	5/31/2002
RJ Lee Group Job No	AOH205632
Client Job No.	1941A-7237
Authorization/P.O. No.	1941A-7237

Analysis: Fibers (>= 5 um long) on Mixed Cellulose Ester Filters
Method: NIOSH 7400, Issue # 2
Filter Size: 25 mm

Blank Correction: 0 f/mm^2

Graticule: .00785 mm^2

					Uncorrected Fiber Concentrations						
RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Fiber Density (f/mm^2)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2603287.HPC	5-BGD-PCM-12	0	0	100	<7	-	-	-	CBL	5/31/2002	
2603286.HPC	5-BGD-PCM-11	0	0	100	<7	-	-	-	CBL	5/31/2002	
2603281.HPC	5-BGD-PCM-01	246	5.5	100	7	0.011	0.0156	0.011	CBL	5/31/2002	
2603282.HPC	5-BGD-PCM-02	250	5	100	<7	<0.0108	<0.0123	0.0108	CBL	5/31/2002	
2603283.HPC	5-BGD-PCM-03	254	2	100	<7	<0.0106	<0.0121	0.0106	CBL	5/31/2002	

Authorized Signature

Curtis B. Lysher, Microscopist

Notes:

1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm ^{2} is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

RJ Lee Group, Inc.

Laboratory Report (cont.)

RJ Lee Group Job No: AOH205632
Client Job No: 1941A-7237

RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Uncorrected Fiber Concentrations: Fiber Density (f/mm²)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2603284.HPC	5-BGD-PCM-04	256	5	100	<7	<0.0105	<0.012	0.0105	CBL	5/31/2002	
2603285.HPC	5-BGD-PCM-05	260	5.5	100	7	0.0104	0.0147	0.0104	CBL	5/31/2002	

Authorized Signature

Curtis B. Lysher, Microscopist

Notes:
1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm ^{2} is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

Boelter & Yates

ADH205632

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

DATE: 5-29-02
PROJECT NO.: 1941A-7237
TURNAROUND TIME: 8HR 12HR 24HR (72HR)
COLLECTED BY: Martin F Mly
ANALYZED BY:

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
5-BGD-PCM-01	BKGRND	Bathroom - SE sect.		
02	↓	Bathroom - South sect		
03	↓	Bathroom - NW sect.		
04	↓	Kitchen - W. section		
05	↓	Kitchen - SE section		
11	BLANK	—		
5-BGD-PCM-12	BLANK	—		

ANALYTICAL DATA ANALYSIS REQUIRED: TEM (___) or PCM (X) Effective Filter Collection Area _____ mm² Graticule Field Area _____ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/min)	Final Flow Rate (L/min)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm³)	Structures/mm² (TEM only)	Fibers/cm³ (blank corr)
5-BGD-PCM-01	1416	1619	123	2.0	2.0	246					
02	1416	1621	125	2.0	2.0	250					
03	1416	1623	127	2.0	2.0	254					
04	1417	1625	128	2.0	2.0	256					
05	1417	1627	130	2.0	2.0	260					
11	—	—	—	—	BLANK						
5-BGD-PCM-12	—	—	—	—	BLANK						

NOTES:

Key to Abbreviations

[illegible]

NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted.
LOQ = Limit of Quantitation: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are not reliable.
*Sample ID Example: [illegible]; 04 = Month; 01 = Year; 01, 02, etc. = Sequence No.

Relinquished by: Martin F Mly
Company: B&Y LLC
Date/Time: 5-30-02

Received By: Dawn Haff [illegible]
Company:
Date/Time: 5/31 [illegible]

Relinquished by:
Company:
Date/Time:

Received By:
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

[illegible]

RJ Lee Group, Inc.

AIHA Accreditation No. 460 NVLAP Accreditation No. 101208-0

350 Hochberg Road · Monroeville, PA 15146
Voice 724-325-1776 · Fax 724-733-1795

Laboratory Report

Boelter & Yates, Inc.
O'Hare Corporate Center
1300 Higgins Road Suite 301
Park Ridge, IL 60068-5772
Attention: Mr. Matthew F. Meyer
Telephone: 847-692-4700

Report Date	6/17/2002
Sample Receipt Date.	6/17/2002
RJ Lee Group Job No	AOH206727
Client Job No.	1941A-7237
Authorization/P.O. No.	1941A-7237

Analysis: Fibers (>= 5 um long) on Mixed Cellulose Ester Filters
Method: NIOSH 7400, Issue # 2
Filter Size: 25 mm

Blank Correction: 0 f/mm^2

Graticule: .00785 mm^2

					Uncorrected Fiber Concentrations						
RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Fiber Density (f/mm^2)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2604397.HPC	5-BGD-PCM-014	0	0	100	<7	-	-	-	BJW	6/17/2002	
2604396.HPC	5-BGD-PCM-013	0	1	100	<7	-		-	BJW	6/17/2002	
2604391.HPC	5-BGD-PCM-06	268	1	100	<7	<0.0101	<0.0113	0.0101	BJW	6/17/2002	
2604392.HPC	5-BGD-PCM-07	262	2	100	<7	<0.0103	<0.0115	0.0103	BJW	6/17/2002	
2604393.HPC	5-BGD-PCM-08	260	1	100	<7	<0.0104	<0.0116	0.0104	BJW	6/17/2002	

Barbara J Woodside

Authorized Signature

Barbara J. Woodside, Microscopist

Notes:
1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm^2 is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

RJ Lee Group, Inc.

Laboratory Report (cont.)

RJ Lee Group Job No: AOH206727
Client Job No: 1941A-7237

RJLG Sample Number	Client Sample Number	Volume (Liters)	Fibers	Fields	Uncorrected Fiber Concentrations: Fiber Density (f/mm²)	Concentration (f/mL)	95% Upper Confidence (f/mL)	Limit of Quantitation (f/mL)	Analyst	Analysis Date	Comment
2604394.HPC	5-BGD-PCM-09	252	2	100	<7	<0.0107	<0.012	0.0107	BJW	6/17/2002	
2604395.HPC	5-BGD-PCM-010	248	2	100	<7	<0.0109	<0.0122	0.0109	BJW	6/17/2002	

Barbara J Woodside

Authorized Signature

Barbara J. Woodside, Microscopist

Notes:
1. Air volumes provided by the client were used to calculate airborne concentrations.
2. 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
3. "<" indicates the fiber density is below the detection limit. A fiber density of 7 f/mm^2 is used to calculate the quantitation limit.
4. Samples will be held for 90 days and then disposed of per Federal regulations.

Boelter & Yates

ADK706727

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

DATE: 5-29-02
COLLECTED BY: Mark 7. My[illegible]
PROJECT NO.: 1941A-7237
ANALYZED BY:
TURNAROUND TIME: 8HR 12HR 24HR (72HR) [72HR circled]

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
5-BGD-PCM-06	EXT	Exterior - South side		
07	EXT	" SE side		
08	EXT	" East side		
09	EXT	" NE side		
10	EXT	" North side		
13	BLANK	—		
5-BGD-PCM-14	BLANK	—		

*NIOSH 7402 →
ANALYTICAL DATA ANALYSIS REQUIRED: TEM (X) or PCM (X) Effective Filter Collection Area ______ mm² Graticule Field Area ______ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/min)	Final Flow Rate (L/min)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm³)	Structures/mm² (TEM only)	Fibers/cm³ (blank corr)
5-BGD-PCM-06	1400	1614	134	2.0	2.0	268					
07	1404	1615	131	2.0	2.0	262					
08	1407	1617	130	2.0	2.0	260					
09	1412	1618	126	2.0	2.0	252					
10	1415	1619	124	2.0	2.0	248					
13	—	—	—	—	BLANK						
5-BGD-PCM-14	—	—	—	—	BLANK						

NOTES:

Key to Abbreviations

APR	Air Purifying Respirator	ENV	Environmental	HM	Half Mask	PRP	Site Preparation
BGD	Background	EX	Excursion	IC	Inside Containment	PRS	Personal
BKLG	Bag Lined Out	FB	Field Blank	OA	Outside Area	REM	Removal
CL	Clearance	FF	Full face	OC	Outside Containment	SA	Supplied Air
CLU	Clean Up	GLBG	Glove Bag	PAPR	Powered Air Purifying Respirator	SLB	Sealed Lab Blank
BCU	[illegible]						

NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted.
LOQ = Limit of Quantification: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are non-reliable.
*Sample ID Example: [illegible], [illegible], 04 = Month; 01 = Year; 01, 02, etc. = Sequence No.

Relinquished by: Patrick [illegible]
Company: Boelter & Yates
Date/Time: 6/14/02

Received By: [signature]
Company:
Date/Time: 6/17/02 1100[illegible]

Relinquished by:
Company:
Date/Time:

Received By:
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

030 NGLOSSARY\FORMS\AIRCHAIN.DOC

RJ LeeGroup, Inc.

350 Hochberg Road
Monroeville, PA 15146
Tel: (724) 325-1776
Fax: (724) 733-1799

The Materials Characterization Specialists

June 4, 2002

Mr. Fred W. Boelter
Boelter & Yates, Inc.
1300 Higgins Road
Suite 301
Park Ridge, IL 60068-5772

RE: TEM Asbestos Results for Samples as Shown on the Test Report
RJ Lee Group Job No. : ATH205302
Client Purchase Order No. : 1941A-7237

Dear Mr. Boelter :

Enclosed are the results from the transmission electron microscopy (TEM) asbestos analysis of the above referenced samples. The samples and volume information were provided by Boelter & Yates, Inc. personnel. As per your request, counting rules as described by the AHERA Method published in the Federal Register, 40 CFR, Part 763, October 30, 1987 were used for the analysis.*

The Test Report lists each sample identification number, area analyzed, sample volume, structure counts, analytical sensitivity, and the concentration of asbestos.

Copies of the count sheets are presented in Appendix A. Each count sheet contains sample information pertaining to structure identification, dimensions, magnification, filter size and type.

RJ Lee Group, Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for selected test methods for airborne asbestos fiber analysis (TEM), asbestos fiber analysis (PLM), New York State Department of Health Environmental Laboratory Approval Program (ELAP), and by the American Industrial Hygiene Association (AIHA). This test report only relates to the items tested. NVLAP accreditation does not imply endorsement by NVLAP or any agency of the U.S. Government. The report shall not be reproduced except in full.

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 covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

If you have any questions, feel free to call me.

Very truly yours,

Kimberly A. Allison
Manager-TEM Analysis

KAA/slb
Enclosures
*Received 8 samples

Test Report

Total Asbestos Structure Concentration
TEM AHERA Analysis

Project ATH205302

RJ Lee Group Sample Number	Client Sample Number	Filter Area (sq mm)	Volume‡ (Liters)	Area Analyzed (sq. mm)	Structures Chr	Structures Amp	Analytical Sensitivity † (S/sq. mm)	Analytical Sensitivity † (S/cc)	Concentration (S/sq. mm)	Concentration (S/cc)	Analysis Date
0127872HT	5-BGD-TEM-01	385	1230.00	0.0653	0	0	15.3	0.0048	<15.3*	<0.0048*	6/3/2
0127873HT	5-BGD-TEM-02	385	1250.00	0.0653	0	0	15.3	0.0047	<15.3*	<0.0047*	6/3/2
0127874HT	5-BGD-TEM-03	385	1270.00	0.0653	0	0	15.3	0.0046	<15.3*	<0.0046*	6/3/2
0127875HT	5-BGD-TEM-04	385	1280.00	0.0653	0	0	15.3	0.0046	<15.3*	<0.0046*	6/3/2
0127876HT	5-BGD-TEM-05	385	1300.00	0.0653	0	0	15.3	0.0045	<15.3*	<0.0045*	6/3/2
0127877HT	5-BGD-TEM-11	385	Blank	N/A	-	-	-	-	-	-	
0127878HT	5-BGD-TEM-12	385	Blank	N/A	-	-	-	-	-	-	
0127879HT	5-BGD-TEM-13	385	Blank	N/A	-	-	-	-	-	-	

‡ Volumes provided by Boelter & Yates, Inc. for Project 1941A-7237 were used to calculate analytical results and sensitivities.
†Analytical sensitivity is the calculated concentration based on one structure in the area analyzed.

Samples received on: Friday, May 31, 2002
Chr - Chrysotile, Amp - Amphibole
* Results Less Than Analytical Sensitivity.
N/A - Sample not analyzed.

Authorized Signature
Kimberly A. Allison, Manager-TEM Analysis
Date Tuesday, June 4, 2002

RJ Lee Group, Inc.
Headquarters
350 Hochberg Road
Monroeville, PA 15146
Phone (724) 325-1776
Fax (724) 733-1799

FIBER COUNT SHEET

B = Bundle

C = Cluster

M = Matrix

Appendix A

RJ Lee *Group* , Inc
Count Sheet

Client Name	**Boelter & Yates, Inc.**	**RJL QA Number**	HQ20733
Project Number	**ATH205302**	**Grid Openings**	7
RJL Sample #	**0127872HT**	**Total Asbestos**	0
Client Sample #	5-BGD-TEM-01	**Total Non-Asbestos**	2
Microscope	2000 FX	**Filter**	CE 385 mm^2
Accelerating Volt	120 Kv	**Volume**	1230.0 Liters
Magnification	21000 X	**Grid Opening Area**	0.0093 mm^2
Analyst	BF		
EDS Disk			

Field	Fiber	< 5 µm	≥ 5 µm	Structure Type	Morph	EDS	Photo	SAED	Amphibole Type	Comment
1	0			NSD						
2	0			NSD						
3	1	X		Nonasbestos		X		NONE		
4	0			NSD						
5	0			NSD						
6	0			NSD						
7	1	X		Nonasbestos		X		X		

NSD - No Structures Detected

RJ Lee *Group* , Inc
Count Sheet

Client Name	**Boelter & Yates, Inc.**		
Project Number	**ATH205302**	**RJL QA Number**	HQ20733
RJL Sample #	**0127873HT**	**Grid Openings**	7
Client Sample #	5-BGD-TEM-02	**Total Asbestos**	0
Microscope	2000 FX	**Total Non-Asbestos**	1
Accelerating Volt	120 Kv	**Filter**	CE 385 mm^2
Magnification	21000 X	**Volume**	1250.0 Liters
Analyst	BF	**Grid Opening Area**	0.0093 mm^2
EDS Disk			

Field	Fiber	< 5 µm	≥ 5 µm	Structure Type	Morph	EDS	Photo	SAED	Amphibole Type	Comment
1	0			NSD						
2	0			NSD						
3	0			NSD						
4	0			NSD						
5	1	X		Nonasbestos		X		X		
6	0			NSD						
7	0			NSD						

NSD - No Structures Detected

RJ Lee *Group* , Inc

Count Sheet

Client Name	**Boelter & Yates, Inc.**		
Project Number	**ATH205302**	**RJL QA Number**	HQ20733
RJL Sample #	**0127876HT**	**Grid Openings**	7
Client Sample #	5-BGD-TEM-05	**Total Asbestos**	0
Microscope	2000 FX	**Total Non-Asbestos**	0
Accelerating Volt	120 Kv	**Filter**	CE 385 mm^2
Magnification	21000 X	**Volume**	1300.0 Liters
Analyst	BF	**Grid Opening Area**	0.0093 mm^2
EDS Disk			

Field	Fiber	< 5 µm	≥ 5 µm	Structure Type	Morph	EDS	Photo	SAED	Amphibole Type	Comment
1	0			NSD						
2	0			NSD						
3	0			NSD						
4	0			NSD						
5	0			NSD						
6	0			NSD						
7	0			NSD						

NSD - No Structures Detected

RJ Lee *Group* , Inc
Count Sheet

Client Name	**Boelter & Yates, Inc.**		
Project Number	**ATH205302**	**RJL QA Number**	HQ20733
RJL Sample #	**0127875HT**	**Grid Openings**	7
Client Sample #	5-BGD-TEM-04	**Total Asbestos**	0
Microscope	2000 FX	**Total Non-Asbestos**	0
Accelerating Volt	120 Kv	**Filter**	CE 385 mm^2
Magnification	21000 X	**Volume**	1280.0 Liters
Analyst	BF	**Grid Opening Area**	0.0093 mm^2
EDS Disk			

Field	Fiber	< 5 µm	≥ 5 µm	Structure Type	Morph	EDS	Photo	SAED	Amphibole Type	Comment
1	0			NSD						
2	0			NSD						
3	0			NSD						
4	0			NSD						
5	0			NSD						
6	0			NSD						
7	0			NSD						

NSD - No Structures Detected

RJ Lee *Group* , Inc
Count Sheet

Client Name	**Boelter & Yates, Inc.**		
Project Number	**ATH205302**	**RJL QA Number**	HQ20733
RJL Sample #	**0127876HT**	**Grid Openings**	7
Client Sample #	5-BGD-TEM-05	**Total Asbestos**	0
Microscope	2000 FX	**Total Non-Asbestos**	0
Accelerating Volt	120 Kv	**Filter**	CE 385 mm^2
Magnification	21000 X	**Volume**	1300.0 Liters
Analyst	BF	**Grid Opening Area**	0.0093 mm^2
EDS Disk			

Field	Fiber	< 5 µm	≥ 5 µm	Structure Type	Morph	EDS	Photo	SAED	Amphibole Type	Comment
1	0			NSD						
2	0			NSD						
3	0			NSD						
4	0			NSD						
5	0			NSD						
6	0			NSD						
7	0			NSD						

NSD - No Structures Detected

Boelter & Yates
environmental engineers and scientists

AIR SAMPLE ANALYSIS DATA/CHAIN OF CUSTODY SHEET

DATE: 5-29-02
PROJECT NO.: 1941A-7237
TURNAROUND TIME: 8HR 12HR 24HR (72HR)
COLLECTED BY: Martin 7. Meyz
ANALYZED BY:

SAMPLE ID NO.	SAMPLE TYPE	WORKER NAME AND SS NO. OR LOCATION	ACTIVITY	RESPIRATOR TYPE
5-BGD-TEM-01	BKgrnd.	Bathroom - SE section		
02	↓	Bathroom - south section		
03	↓	Bathroom - NW sect.		
04	↓	Kitchen - W. section		
05	↓	Kitchen - SE section		
5-BGD-TEM-~~06~~ 11	Blank	BLANK		
~~07~~ 12	↓	↓		
~~08~~ 13	↓	↓		

ANALYTICAL DATA ANALYSIS REQUIRED: TEM (X) or PCM ( ) Effective Filter Collection Area ______ mm² Graticule Field Area ______ mm²

Sample ID No.*	Start Time	Stop Time	Total Time (minutes)	Initial Flow Rate (L/mm)	Final Flow Rate (L/mm)	Total Volume (Liters)	Fibers/Field	Fibers/mm² (blank corr)	LOQ (Fibers/cm³)	Structures/mm² (TEM only)	Fibers/cm³ (blank corr)
5-BGD-TEM-01	1416	1619	123	10.0	10.0	1,230					
02	1416	1621	125	10.0	10.0	1,250					
03	1416	1623	127	10.0	10.0	1,270					
04	1417	1625	128	10.0	10.0	1,280					
05	1417	1627	130	10.0	10.0	1,300					
11	—	—	—	BLANK							
12	—	—	—								
5-BGD-TEM-13	—	—	—								

NOTES:

Key to Abbreviations

APR	Air Purifying Respirator	ENV	Environmental	HM	Half Mask	PREP	Site Preparation
BGD	Background	EX	Excursion	IC	Inside Containment	PRS	Personal
BGLO	Bag Load Out	FB	Field Blank	OA	Outside Area	REM	Removal
CL	Clearance	FF	Full Face	OC	Outside Containment	SA	Supplied Air
CLN	Clean Up	GLBG	Glove Bag	PAPR	Powered Air Purifying Respirator	SLB	Sealed Lab Blank
DCU	Decon						

NOTE: Sampling media used is 25mm 0.8u MCE filter unless otherwise noted.
LOQ = Limit of Quantitation: The method assumes the lowest quantitative concentration is 10 fibers/100 fields and is volume dependent. Samples below the LOQ are non-quantifiable and therefore are non-reliable.
*Sample ID Example: RML (sampler initials), 04 = Month; 01 = Year; 01, 02, etc. = Sequence No.

Relinquished by: Martin 7 Meyz
Company: Boelter
Date/Time: 5-30-02

Received By: [signature]
Company: [illegible]
Date/Time: 5/31/02 9:30am

Relinquished by:
Company:
Date/Time:

Received By:
Company:
Date/Time:

Received at Laboratory By:
Company:
Date/Time:

0201\GLOSSARY\FORMS\ARICHAIN\SDL

APPENDIX E

PLM Bulk Sample

1972

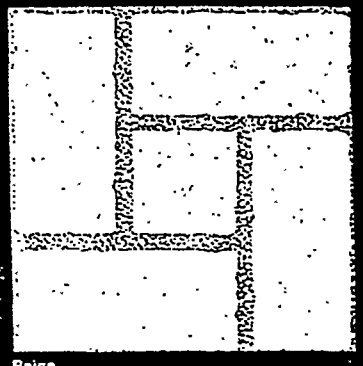
Supertile

Capella

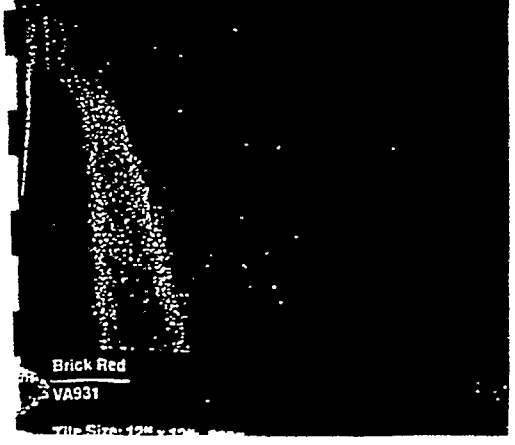
Vinyl asbestos tile

Everyone loves brick. And understandably so. It never tires the eye, and its robust good looks go with practically any decor.

Imagine brick red Capella in a country kitchen, and a no-nonsense boy's room, a book-lined den, or an informal living room . . . In fact, anywhere.

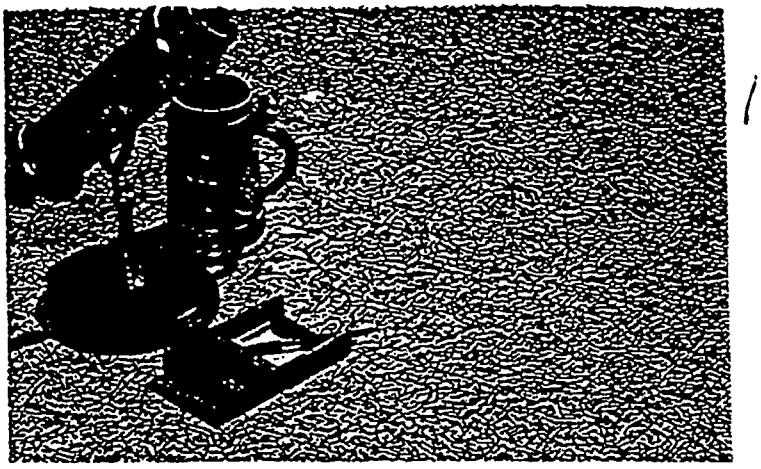


Beige
VA930



Brick Red
VA931

Tile Size: 12" x 12"



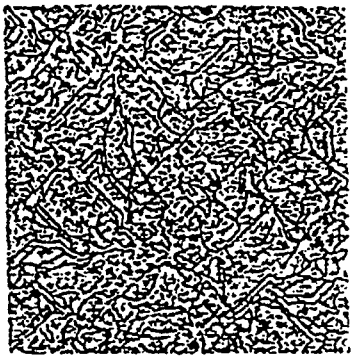
Supertile

Libra

Vinyl asbestos tile

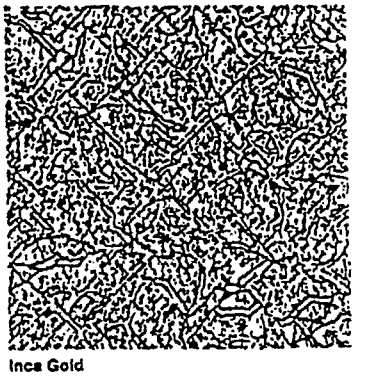
Libra . . . a lovely balance between pattern and texture in an all new tile. Random embossing traces a marbelized background, and the result is a look of luxury and the prettiest play of light and shadow.

Over-all patterns such as Libra are perfect for every room in your home.

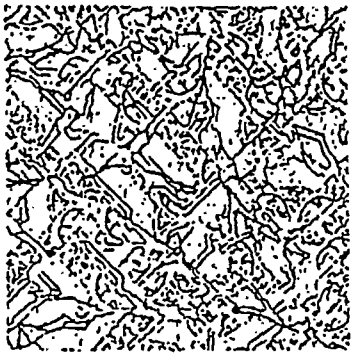


Celadon Green
VA935

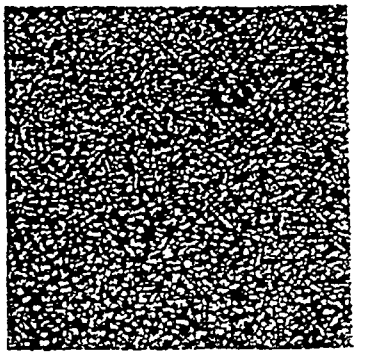
White & Gold
VA936



Inca Gold
VA937



Mustang Beige
VA938



Walnut
VA939

RJ Lee Group, Inc.

AIHA Accreditation No. 460 NVLAP Accreditation No. 101208-0

350 Hochberg Road · Monroeville, PA 15146
Voice 724-325-1776 · Fax 724-733-179

Laboratory Report

Boelter & Yates, Inc.
O'Hare Corporate Center
1300 Higgins Road Suite 301
Park Ridge, IL 60068-5772
Attention: Mr. Matthew F. Meyer
Telephone: 847-692-4700

Report Date	5/28/2002
Sample Receipt Date.	5/23/2002
RJ Lee Group Job No	AOH20558O
Client Job No.	1941A-7237
Authorization/P.O. No.	1941A-7237

Analysis: Asbestos in Bulk Samples
Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2602885.HPL	MFM-0502-401	Yes	ND	<1 CE	100 %	CA, B, OP, MI, M	BAS	5/26/2002
Description: Off-White Floor Tile								
2602886.HPL	MFM-0502-401M	Yes	ND	<1 CE	100 %	T, B, OP, M	BAS	5/26/2002
Description: Black Mastic								
2602887.HPL	MFM-0502-402	Yes	ND	<1 CE	100 %	CA, B, OP, MI, M	BAS	5/26/2002
Description: Off-White Floor Tile								
2602888.HPL	MFM-0502-402M	Yes	ND	<1 CE	100 %	T, B, OP, M	BAS	5/26/2002
Description: Black Mastic								
2602889.HPL	MFM-0502-403	Yes	ND	<1 CE	100 %	CA, B, OP, MI, M	BAS	5/26/2002
Description: Off-White Floor Tile								
2602890.HPL	MFM-0502-403M	Yes	ND	<1 CE	100 %	T, B, OP, M	BAS	5/26/2002
Description: Black Mastic								

RJ Lee Group, Inc.

Laboratory Report (cont.)

AIHA Accreditation No. 460 NVLAP Accreditation No.
101208-0

RJ Lee Group Job No: AOH205580
Client Job No: 1941A-7237

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2602891.HPL	MFM-0502-404	Yes	ND	<1 CE	100 %	CA, B, OP, M	BAS	5/26/2002
Description: White Vinyl Baseboard								
2602892.HPL	MFM-0502-404M	Yes	ND	<1 CE	100 %	T, B, OP, M	BAS	5/26/2002
Description: Black Mastic								
2602893.HPL	MFM-0502-405	Yes	ND	<1 CE	100 %	CA, B, OP, M	BAS	5/26/2002
Description: White Vinyl Baseboard								
2602894.HPL	MFM-0502-405M	Yes	ND	<1 CE, <1 MW	100 %	T, CA, B, OP, M	BAS	5/26/2002
Description: Black Mastic								
2602895.HPL	MFM-0502-406	Yes	ND	<1 CE	100 %	CA, B, OP, M	BAS	5/26/2002
Description: White Vinyl Baseboard								
2602896.HPL	MFM-0502-406M	Yes	ND	<1 CE, <1 MW	100 %	T, B, OP, M	BAS	5/26/2002
Description: Black Mastic								

RJ Lee Group, Inc.

Laboratory Report (cont.)

AIHA Accreditation No. 460 NVLAP Accreditation No. 101208-0

RJ Lee Group Job No: AOH20558(

Authorized Signature Barbara A. Smith

Barbara A. Smith, Microscopist

ASBESTOS

AM = Amosite
AC = Actinolite
AN = Anthophyllite
CH = Chrysotile
CR = Crocidolite
TR = Tremolite

NON-ASBESTOS

CE = Cellulose
MW = Mineral Wool
FG = Fibrous Glass
SF = Synthetic Fibers
H = Hair
W = Wollastonite
OF = Other Fibers

NON-FIBROUS MATERIALS

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum
HY = Hydromagnesite
M = Miscellaneous
MI = Mica
OP = Opaque
OR = Organic
P = Perlite
Q = Quartz
T = Tar
V = Vermiculite

DISCLAIMER NOTES

- "ND" indicates no asbestos was detected; the method detection limit is 1%.
- "Trace" or "<1" indicates asbestos was identified in the sample, but the concentration is less than the method quantitation limit of 1%.
  PLM coefficients of variance range from approximately 1.8 at the quantitation limit of 1% to 0.1 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- 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. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must include the entire document in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."

A0H205580

Boelter & Yates, Inc. **BULK SAMPLE SUMMARY- LABORATORY ANALYSIS REQUEST** Page 1 of 2

Rec Dennis Hoffman 5/23 11:30am

Name: Matt Meyer Project #: [illegible] Type of Analysis: PLM TEM Other:

Boelter & Yates, Inc. 1300 [illegible] Road, Suite 301 Park Ridge, IL 60068-5772

Fax Results: [illegible] Phone Results: [illegible] Page with Results: [illegible]

Turnaround: 48hr 72hr

New Jersey Tests

Chain of Custody: Relinquished by: Matt F. Meyer Date: 5-22-02

Relinquished by: Date: Laboratory Received Signature/Date:

Sample #.	HSA Group #.	Location	Location/Material Description	Quantity Estimate (SF/LF)	Airflow/ Vibration/ Accessibility	Type of Damage	Condition (ND/D/SD)	Fri Yes
MFM-0502-401		Bathroom	Floor tile - 12" Congoleum Super tile "Libra" - off white w/ recessed groove				ND	
401M			mastic (black) w/ sample 401				ND	
402			Floor tile - 12" Congoleum Super tile "Libra" - off white w/ recessed groove				ND	
402M			mastic (black) w/ sample 402				ND	
403			Floor tile - 12" Congoleum Super tile "Libra" - off white w/ recessed groove				ND	
403M			mastic (black) w/ sample 403				ND	
404			Baseboard - 4" white				ND	
404M			mastic (black) w/ sample 404				ND	
MFM-0502-405		Bathroom	Baseboard - 4" white				ND	

SF/LF: square/linear feet Damage: water/physical ND/D/SD: not damaged/damaged/significantly damaged

From Optical 724-733-1759 To: Matthew F Meyer Date: 5/28/02 Time: [illegible] AM

A0112055 80

Boelter & Yates, Inc.

BULK SAMPLE SUMMARY- LABORATORY ANALYSIS REQUEST

Name: Matt Mig... Project #: 1941A-7237 Type of Analysis: (PLM) TEM Other:

Boelter & Yates, Inc.
1300 Higgins Road, Suite 301
Park Ridge, Il 60068-5772

☐ Fax Results: 847/823-3127
☐ Phone Results: 847/692-5700
☐ Fax with Results: 7032

Serial Analysis: X No, analyze all samples ☐ Yes, analyze samples in homogeneous sample area (HSA) until Asbestos is detected

Turnaround: 4hr 8hr 12hr 24hr 48hr (72hr)

Chain of Custody: Relinquished by: Martin ... Date: 5-22-02

Relinquished by: Date: Laboratory Recipient Signature/Date:

Sample #	HSA Group #	Analytical Result (Location)	Location/Material Description	Quantity Estimated (SF/LF)	Airflow/ Vibration/ Accessibility	Type of Damage	Condition ND/D/SD	Friable Yes/N
AFM-0502-405M		Bathroom	Mastic (black) w/ sample # 405					
↓ 406		↓	Baseboard - 4" white					
AFM-0502-406M		↓	Mastic (black) w/ sample # 406					

G:\APPS\WP\HALOSSARY\FORM\Data\bulks.wpd SF/LF: square/linear feet Damage: water/physical ND/D/SD: not damaged/damaged/significantly damaged

COMPLETE REMOVAL
1970 VINTAGE CONGOLEUM
VINYL ASBESTOS TILE
RESIDENTIAL BATHROOM

June 27, 2002
BYI Project #1941A-7237

Boelter & Yates
environmental engineers and scientists