AHERA

Asbestos
Management Plan

Elizabeth D. Redd Elementary School

Richmond, Virginia

Richmond Public Schools

By

Davis & Floyd, Inc

Engineers

Greenwood, South Carolina

EC.033 5/88

Virginia Department of Education
Energy and Facilities Services

AHERA MANAGEMENT PLAN COVER SHEET

LEA: Richmond Public Schools
Address: Elizabeth Redd
5601 Jahnke Rd. Richmond, Va 23225-28
County: Richmond
Phone: 804-232-4561

Management Plan Submission: ☒ Original ☐ Resubmittal ☐ Building Occupied After Oct. 12, 1988

List of Documents Attached:

☒ A School Buildings
☐ B Previous Inspections
☒ C Determination of Sampling Locations
☒ D Description of Each Sample Area
☒ E Bulk Sample Analysis
☒ F Assessment of Materials
☒ G Response Actions Recommended
☒ H Preventive Measures and Response Actions Scheduled
☒ I Operations and Maintenance Plan
☒ J Resources Needed
☒ K Steps to Inform Others
☒ L Periodic Surveillance Plan
☒ M Reinspection Plan

LEA AHERA DESIGNEE

Typed Name: Claude William Sears
Mailing Address: Richmond Public Schools
2907 North Boulevard Richmond, Va 23230
Phone: Office 804-780-6145 Home 804-270-6705

Name of Training Course: Inspector/Management Planner
Year 88 Month 07 Day 25 Total Hours of Course 40
Name of Training Agency: Virginia Commonwealth Univ
Medical College of Virgin

MANAGEMENT PLANNER - I certify as a management planner that I have prepared or assisted in the preparation of such plan or have reviewed such plan, and that such plan is in compliance with 40 CFR Part 763 subpart E.

Typed Name: Gary Pelletier
Signature: Gary Pelletier
Accreditation Number: 000251
Agency: Virginia Department of Commerce

For persons who performed inspections, and recommend(ed) design, or carry out response actions (except for operations and maintenance) the local education agency used or will use persons who have been accredited by a state which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act or is accredited by an EPA-approved course under section 206(c) of the Title II of the Act. In addition, the LEA has considered whether any conflict of interest may arise from the interrelationship among accredited personnel, such as abatement activities being performed by an inspector or management planner, and whether that should influence the selection of accredited personnel to perform activities under this AHERA program.

The signatories below certify that the general local education agency responsibilities, as stipulated by Part 763.84 have been met or will be met.

Signature: Claude W. Sears
LEA AHERA Designee
Date: 4/27/89

Signature: James W. Tyler
LEA Superintendent
James W. Tyler
Typed Name of Superintendent
Date: 4/27/89

FOR REVIEWING AGENCY USE ONLY

☐ Reviewed
☐ Returned for Reasons Stated Below

State I.D.# _____

Reviewer's Signature: _____

MANAGEMENT PLAN OUTLINE

This plan is divided into eleven sections listed below. The most important sections are I, V, VI, and IX. These four sections:

Identify the areas that contain asbestos;

Classify by damage level the (ACB) materials (with most severe damage listed first) and list the response action recommendations;

Outline procedures that must be performed when working in ACBM areas;

Include the required forms that act as a quality check for this program to ensure human health and the environment are protected.

I. INTRODUCTION

Management plan outline
Preface

II. INSPECTION REVIEW 763.93(e) (1, 2, ii, iii, iv)

Brief description of the inspection building
(Virginia State Document A) list of school buildings
(Virginia State Document C) list of areas with suspected ACBM
(Virginia State Document D) a repeat listing of Document C with corresponding bulk sampling list

Floor Plan - Summary of bulk sampling and analysis procedures
(Virginia State Document E) list of bulk sample analysis results

Asbestos Bulk Sample Analysis Report

III. HAZARD ASSESSMENT 763.93(e)(3)(v)

(Virginia State Document F) Repeat list of Doc. E with an added (statistical) damage classification number.

Hazard assessment discussions/definitions

Assessment classification matrix

IV. RESPONSE ACTION 763.93(e)(3)(v)

The ACBM materials have been classified by damage priority. That is, most severe damage and/or potential for damage materials listed first.

The areas containing (ACB) materials are listed and are followed by response action recommendations. A schedule and approximate removal costs are listed.

Document H is a repeat of Document G with the addition of preventive measures to reduce potential damage.

V. OPERATIONS AND MAINTENANCE 763.93(e)(9)

Virginia State Document I

Highlights of control procedures for any contemplated work in areas that contain ACBM.

Complete Operations and Maintenance Plan

VI. RESOURCES NEEDED 763.93(e)(11)

Virginia State Document J - list of equipment and support personnel as well as approximation of funding for removal of ACBMs.

VII. NOTIFICATION 763.93(e)(10)

(Virginia State Document K)

Discussion of program to inform others

VIII. SURVEILLANCE 763.93(e)(9)

(Virginia State Document L)

Discussion of Surveillance Plan

IX. REINSPECTION 763.94

Discussion of reinspection plan.

X. RECORDKEEPING

Brief description of recordkeeping requirements. Set of blank forms that are one of the main keys to a workable quality check system. Whenever any type of occupancy/work is being planned for an ACBM-containing area, the asbestos control manager must evaluate each event prior to start of work. All appropriate forms must be completed and adhered to. The completed forms must be signed and filed in this section.

XI. DOCUMENTATION

Certifications/accreditations

II. PREFACE

In accordance with EPA Final Rule and Notice 40 CFR Part 73.93, this Asbestos Management Plan prepared by Davis & Floyd, Inc. provides the means and the methods by which the asbestos-containing building materials (ACBMs) identified will be effectively dealt with.

All phases of response strategy are reported in this plan. Inspection, establishing of priorities, scheduling of abatement activities, documentation of decision-making and operational activities, coordination of personnel, and evaluation of results. The plan has an additional function as a reporting document to the state. The document package has been submitted to the Virginia Department of Education, Energy and Facilities Services for review and approval. At the local level, the plan must be made available for general review by school districts. Notice of the plan's availability must also be sent in writing at least once per year, to local parent-teacher associations or the parents themselves. It is imperative that records of all correspondence be kept. (Section VIII)

Although the school was inspected as required by the United States Environmental Protection Agency's (USEPA) Asbestos-Containing Building Materials in Schools' rule (as amended in 40 CFR Part 763 on October 17, 1987), there cannot be a guarantee that all ACBM have been located or identified. Some of the reasons are:

1. Sampling was performed on a random basis and the material was assumed to be homogeneous. The possibility does exist that the material composition may differ from where the samples were taken.

2. Only exposed materials have been sampled. Some concealed or difficult to reach suspect ACBM has been included in the survey based on certain assumptions.

3. Some non-friable materials may not have been sampled. While most of these non-friable materials do not generate fiber release under normal conditions, they cannot be ignored if they are altered.

4. Multiple samples were collected to minimize error. There is a chance that human error will create inconsistencies.

5. Before any abatement or major renovation is undertaken, confirmation samples may be required to verify the exact extent of the ACBM including building materials and equipment i.e. roofing systems, chalk boards, laboratory counter tops ... not specifically covered under AHERA.

INSTRUCTIONS FOR COVER SHEET

PURPOSE

The LEA (local education agency) shall use this AHERA Management Plan Cover Sheet for any complete or partial submittals of a Management Plan.

PREPARATION

1. The LEA should type their name, address, county and phone number in the top right-hand corner.

2. Place a check mark to indicate whether this is the original submittal, resubmittal, or a building occupied after October 12, 1988.

3. Under List of Documents, make a check mark to indicate each form that is being submitted with this Management Plan Cover Sheet. All of the indicated documents should be attached to this cover sheet in order for a Management Plan to be considered complete. It would be helpful if they were in the order listed, so they can be easily reviewed. If a building is asbestos free, it is only necessary to complete oversheet and Documents A, B, C, D, E, F, and K.

4. The name and signature of the LEA AHERA designee shall be supplied along with mailing address, telephone numbers and the name of the training courses taken. For training courses taken by the LEA AHERA Designee, the time of those courses shall be included, such as the year, month, day, total hours of the courses and the training agency where the training was received.

5. The Management Planner should sign and date the document in the appropriate signature block. The Management Planner will also supply the unique accreditation number and the name of the training agency at which accreditation was received.

6. The LEA AHERA Designee should sign and date after reading the above review requirements.

   The LEA Superintendent should sign and date after reading the above review requirements. Type the name of the Superintendent on the appropriate line.

INSTRUCTIONS FOR DOCUMENT A

PURPOSE

To record friable and non-friable material in school buildings according to 40 CFR Part 763.93(e)(1) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

The name of the LEA and school should be in the top right-hand corner of this form. In each individual location on the firm, list the name and location of each school building. Include street address, city and zip code. For each building, also indicate whether or not asbestos exists in the facility. Under ACBM (asbestos-containing building material), indicate presence of friable material, or non-friable material. Under Suspect ACBM, indicate presence of friable or non-friable material. If no ACBM or suspected ACBM has been found in the buildings by the inspector, place a check in the column under No ACBM.

Use the same form to list additional buildings and number sheets, A.1, A.2, A.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd

List of School Buildings

Building Name	Location	Presence of ACBM: Friable	Presence of ACBM: Non-Friable	Presence of Suspect ACBM: Friable	Presence of Suspect ACBM: Non-Friable	No ACBM
Elizabeth Redd	5601 Janke Road	x	x			

INSTRUCTIONS FOR DOCUMENT C

PURPOSE

To provide a description of the manner used to determine sampling locations as described in 40 CFR Part 763.93(e)(3)(iii) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the top right-hand corner. Discuss the manner used to determine a homogeneous area. Describe the material (i.e., surfacing, thermal system, miscellaneous, non-friable suspected ACBM) and provide the approximate square or liner footage of the material.

At the bottom of this form, the inspector shall supply their name, signature, date of signature, unique accreditation number and the training agency where accreditation was obtained. Use the same form to describe the manner used to determine additional homogeneous areas and number sheets C.1, C.2, C.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Description of Sampling Locations 763.93(e)(3)(iii)

Discussion of Each Sample Area:

The homogeneous area(s) of suspected ACBM listed below were established by examination of each area for uniformity in color, texture, and for similar appearance in every respect.

The sample locations within each homogeneous area were approximately distributed and randomly selected to be representative of the sampling area. Materials were sampled using the EPA sampling technique

HOMOGENOUS AREA		NO. OF SAMPLES	MATERIAL TYPE	APPROX. SQ. OR LINEAR FT.
01	ROOM 23	1	SUSPENDED ACOUSTICAL TILE	
	ROOM 22	1	SUSPENDED ACOUSTICAL TILE	
	ROOM 21	1	SUSPENDED ACOUSTICAL TILE	
01	CORRIDOR 4, CR 20-23, B19-B22, H-H3			
02	ROOM 22	1	SUSPENDED ACOUSTICAL TILE	
02	CR 20-23			
03	ROOM 23	1	SUSPENDED ACOUSTICAL TILE	
03	CR 20-23			
04	ROOM 23	1	VINYL TILE	
	CORRIDOR 4	1	VINYL TILE	
04	CORRIDOR 4, CR20-23, H-H3			
05	B21	1	VINYL FLOOR COVERING	1,700 sf
05	B 19-22, B2-B5, B6-B13			
06	RM 23	1	VINYL BASEBOARD	
	RM 21	1	VINYL BASEBOARD	

Inspector: Salah Abo-Sido

Signature: Salah ABO-SIDO Date: 10-24-88
License #: 000421 Agency: VA. DEPT. OF COMMERCE

HOMOGENOUS AREA	NO. OF SAMPLES	MATERIAL TYPE	APPROX. SQ. OR LINEAR FT.
CORRIDOR 1	1	VINYL BASEBOARD	
06 CORRIDOR 4, CR20-23, B19-B22, H-H3, ACTIVITY, STORAGE, MUSIC, ART, PRINCIPAL, B16, S5, CONFERENCE, CURRICULUM, SPECIALIST, COUNSELOR, S6, B17, B18, CLINIC OFFICE, CORRIDOR 3, KITCHEN 3, MULTI-PURPOSE, LIBRARY, MEDIA PRODUCTION, LIBRARY OFFICE, CORRIDOR 1, TEACHERS' LOUNGE, S4			
07 ROOM 23	1	WALL PLASTER	
ROOM 17	1	WALL PLASTER	
ROOM 17	1	WALL PLASTER	
07 CR19, TEACHERS' LOUNGE, CR18, STORAGE RMS L&M, BOOK STORAGE RM, CR17, CR16, BOYS' RESTROOM, JANITOR'S CLOSET Y, CR15, CR14, CR13, CR12, CR11, CR9, CR10, GIRLS' RESTROOM, CR20-23, B19-B22, H-H3, B23, AUD-1, AUDITORIUM, B24, B25, ACTIVITY, STORAGE, MUSIC, ART, PRINCIPAL, B16, S5, CONFERENCE, CURRICULUM, SPECIALIST, S6, COUNSELOR, B17, B18, CLINIC OFFICE, CORRIDOR 3, CAFETERIA, CAF1, CAF2, KITCHEN, S1, KIT1, KIT2, B1, KIT3, CR2, CR3, B2-B5, CR5-CR8, B6-B13, LIBRARY, MEDIA PRODUCTION, EQUIP. LIB, OFFICE, CORRIDOR 1, CORRIDOR 2, B14, TEACHERS' LOUNGE, B15, S2, S3, STAIRWELLS, CORRIDOR 5			
08 CORRIDOR 2	1	VINYL TILE	14,400 sf
CORRIDOR 2	1	VINYL TILE	
B15	1	VINYL TILE	
08 CR 19, TEACHER'S LOUNGE, CR 18, STORAGE RMS, LAND M, JANITOR'S CLOSET Z, BOOK STORAGE RM, CR 17, CR 16, CR 15, CR 14, CR 13, CR 12, CR 11, CR 10, CORRIDOR 5, AUDITORIUM, AUD-1, B24, B25, CAFETERIA, CR 2, CR 3, CR 5-CR 8, CORRIDOR 2, B15, S2, S3, CR9, CR2, CR3, STAIRWELLS			
09 B15	1	VINYL TILE	14,400 sf
CORRIDOR 2	1	VINYL TILE	
CORRIDOR 2	1	VINYL TILE	
09 CR 19, TEACHER'S LOUNGE, CR 18, STORAGE RMS L AND M, JANITOR'S CLOSET Z, BOOK STORAGE RM, CR 17, CR 16, CR 15, CR 14, CR 13, C4 12, CR 11, CR 10, CORRIDOR 5, AUDITORIUM, AUD-1, B24, B25, CAFETERIA, CAF1, CAF2, CR 2, CR3, C45-CR8, CORRIDOR 2, R15, S2, S3, CR9, CR2, CR3, STAIRWELLS			
10 CORRIDOR 3	1	ACOUSTICAL TILE	
CORRIDOR 2	1	ACOUSTICAL TILE	
CORRIDOR 2	1	ACOUSTICAL TILE	

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88

License #: 000421 Agency: VA. DEPT. OF COMMERCE

HOMOGENOUS AREA		NO. OF SAMPLES	MATERIAL TYPE	APPROX. SQ. OR LINEAR FT.
10	CR10, CORRIDOR 5, AUDITORIUM, AUD-1, CORRIDOR 3, CAFETERIA, KITCHEN 1, KITCHEN 3, CORRIDOR 2, KIT 1, KIT 3			
11	CORRIDOR 2	1	VINYL TILE	
	CORRIDOR 2	1	VINYL TILE	
11	AUDITORIUM, AUD-1, B24, B25, CAFETERIA, CAF2, CAF2, CR2, CR3, CR5-CR8, CORRIDOR 2, CR2, CR3			
12	CONFERENCE	1	SUSPENDED ACOUSTICAL TILE	
	PRINCIPAL	1	SUSPENDED ACOUSTICAL TILE	
12	PRINCIPAL, B16, CURRICULUM, SPECIALIST, COUNSELOR, S6, B17, B18, CLINIC, LIBRARY OFFICE, TEACHERS' LOUNGE			
13	CONFERENCE	1	SUSPENDED ACOUSTICAL TILE	
	LIBRARY OFFICE	1	SUSPENDED ACOUSTICAL TILE	
	TEACHERS' LOUNGE	1	SUSPENDED ACOUSTICAL TILE	
13	MUSIC, ART, CONFERENCE			
14	B17	1	VINYL TILE	
	S5	1	VINYL TILE	
14	B16, S5, B17, B18, CLINIC			
15	ART	1	VINYL TILE	
	ACTIVITY	1	VINYL TILE	
15	ACTIVITY, STORAGE, ART			
16	OFFICE	1	SUSPENDED ACOUSTICAL TILE	
16	OFFICE, CORRIDOR 3			
17	MAIN CRAWL	1	HARD JOINT	
	MAIN CRAWL	1	HARD JOINT	
	MAIN CRAWL	1	HARD JOINT	
17	SIDE CRAWL			16,000 sf
18	MAIN CRAWL	1	PIPE AIR CELL	

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88

License #: 000421 Agency: VA. DEPT. OF COMMERCE

HOMOGENOUS AREA		NO. OF SAMPLES	MATERIAL TYPE	APPROX. SQ. OR LINEAR FT.
	MAIN CRAWL	1	PIPE AIR CELL	
	MAIN CRAWL	1	PIPE AIR CELL	
	MAIN CRAWL	1	PIPE AIR CELL	
	MAIN CRAWL	1	PIPE AIR CELL	
18	SIDE CRAWL			
19	RM 17	1	PLASTER CEILING	
	RM 17	1	PLASTER CEILING	
	BOILER ROOM	1	CEILING PLASTER	
	RM 18	1	PLASTER CEILING	
19	CR 19, TEACHERS' LOUNGE, CR 18, STORAGE RMS L&M, JANITOR'S CLOSET Z, BOOK STORAGE RM, 17, 16, BOY'S RESTROOM Z, JANITOR'S CLOSET Y, 15, 14, 13, 12, 11, 9, 10, GIRLS' RESTROOM Z, B23, B24, B25, 55, CAFETERIA, CAF1, CAF2, KITCHEN, S1, KIT2, B1, CR2, CR3, B2-B5, CR5-CR8, B6-B13, MEDIA PRODUCTIONS, EQUIPMENT, CORRIDOR 1, CORRIDOR 2, B14, B15, S2, S3, S4, STAIRWELLS			
20	BOILER ROOM	1	TANK INSULATION	
	BOILER ROOM	1	TANK INSULATION	
21	BOILER ROOM	1	BOILER INSULATION	240 sf
	BOILER ROOM	1	BOILER INSULATION	
	BOILER ROOM	1	BOILER INSULATION	
	BOILER ROOM	1	BOILER INSULATION	
22	RM 17	1	HARD JOINT	
	RM 17	1	HARD JOINT	

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88

License #: 000421 Agency: VA. DEPT. OF COMMERCE

INSTRUCTIONS FOR DOCUMENT D

PURPOSE

To provide a description that clearly identifies the location where each sample was collected as referenced in 40 CFR Part 763.93(e)(3)(ii) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the LEA name, the school, and the building in the top of the right-hand corner.

For each sample taken, the date that the sample was taken and the specific location for each sample shall be identified.

Information on this form can be supplied on a blueprint, diagram, or a written description for each school building and each homogeneous area.

Use the sample form to list additional sample areas and number sheets D.1, D.2, D.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Description of Each Sample Area 763.93(e)(3)(ii)

Date	Homo. Area	Sample ID #	Location	Material	Discussion
07/28/88	01	353-01	ROOM 22	SUSPENDED ACOUSTICAL TILE	
07/28/88	02	353-02	ROOM 22	SUSPENDED ACOUSTICAL TILE	
07/28/88	03	353-03	ROOM 23	SUSPENDED ACOUSTICAL TILE	
07/28/88	01	353-04	ROOM 23	SUSPENDED ACOUSTICAL TILE	
07/28/88	01	353-05	ROOM 21	SUSPENDED ACOUSTICAL TILE	
07/28/88	04	353-06	ROOM 23	VINYL TILE	
07/28/88	05	353-07	B21	VINYL FLOOR COVERING	
07/28/88	06	353-08	RM 23	VINYL BASEBOARD	
07/28/88	06	353-09	RM 21	VINYL BASEBOARD	
07/28/88	07	353-10	ROOM 23	WALL PLASTER	
07/28/88	04	353-11	CORRIDOR 4	VINYL TILE	
07/28/88	08	353-12	CORRIDOR 2	VINYL TILE	
07/28/88	09	353-13	CORRIDOR 2	VINYL TILE	
07/28/88	10	353-14	CORRIDOR 2	ACOUSTICAL TILE	
07/28/88	11	353-15	CORRIDOR 2	VINYL TILE	
07/28/88	06	353-16	CORRIDOR 1	VINYL BASEBOARD	
07/28/88	12	353-17	CONFERENCE	SUSPENDED ACOUSTICAL TILE	
07/28/88	13	353-18	LIBRARY OFFICE	SUSPENDED ACOUSTICAL TILE	
07/28/88	13	353-19	TEACHERS' LOUNGE	SUSPENDED ACOUSTICAL TILE	
07/28/88	08	353-20	B15	VINYL TILE	
07/28/88	09	353-21	B15	VINYL TILE	
07/28/88	14	353-22	S5	VINYL TILE	
07/28/88	16	353-23	OFFICE	SUSPENDED ACOUSTICAL TILE	
07/28/88	12	353-24	PRINCIPAL	SUSPENDED ACOUSTICAL TILE	
07/28/88	13	353-25	CONFERENCE	SUSPENDED ACOUSTICAL TILE	
07/28/88	14	353-26	B17	VINYL TILE	
07/28/88	10	353-27	CORRIDOR 3	ACOUSTICAL TILE	
07/28/88	15	353-28	ACTIVITY	VINYL TILE	
07/28/88	15	353-29	ART	VINYL TILE	
07/28/88	07	353-30	ROOM 17	WALL PLASTER	
07/28/88	07	353-31	ROOM 17	WALL PLASTER	
07/28/88	22	353-32	RM 17	HARD JOINT PLASTER CEILING	
07/28/88	19	353-33	RM 18	ACOUSTICAL TILE	
07/28/88	10	353-34	CORRIDOR 2		

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88
License #: 000421 Agency: VA Dept. of Commerce

Date	Homo. Area	Sample ID #	Location	Material	Discussion
07/28/88	11	353-35	CORRIDOR 2	VINYL TILE	
07/28/88	08	353-36	CORRIDOR 2	VINYL TILE	
07/28/88	09	353-37	CORRIDOR 2	VINYL TILE	
07/28/88	22	353-38	RM 17	HARD JOINT	
07/28/88	19	353-39	RM 17	PLASTER CEILING	
07/28/88	19	353-40	RM 17	PLASTER CEILING	
07/28/88	20	353-41	BOILER RM	TANK INSULATION	
07/28/88	20	353-42	BOILER RM	TANK INSULATION	
07/28/88	21	353-43	BOILER RM	BOILER INSULATION	
07/28/88	21	353-44	BOILER RM	BOILER INSULATION	
07/28/88	21	353-45	BOILER RM	BOILER INSULATION	
07/28/88	21	353-46	BOILER RM	BOILER INSULATION	
07/28/88	19	353-47	BOILER RM	CEILING PLASTER	
07/28/88	18	353-48	MAIN CRAWL	PIPE AIR CELL	
07/28/88	18	353-49	MAIN CRAWL	PIPE AIR CELL	
07/28/88	18	353-50	MAIN CRAWL	PIPE AIR CELL	
07/28/88	18	353-51	MAIN CRAWL	PIPE AIR CELL	
07/28/88	17	353-52	MAIN CRAWL	HARD JOINT	
07/28/88	17	353-53	MAIN CRAWL	HARD JOINT	
07/28/88	17	353-54	MAIN CRAWL	HARD JOINT	
07/28/88	18	353-55	MAIN CRAWL	PIPE AIR CELL	

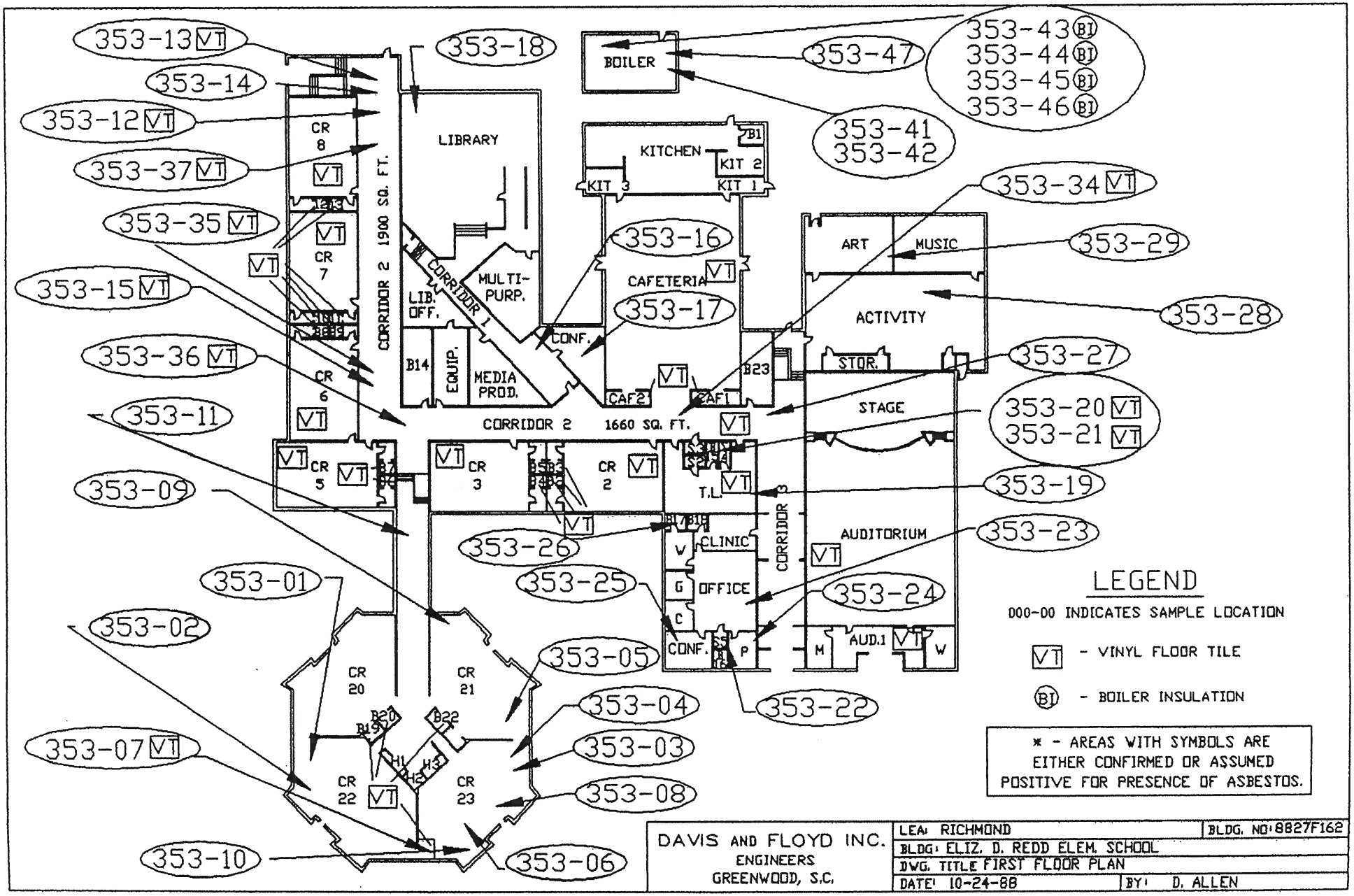
DISCUSSION:

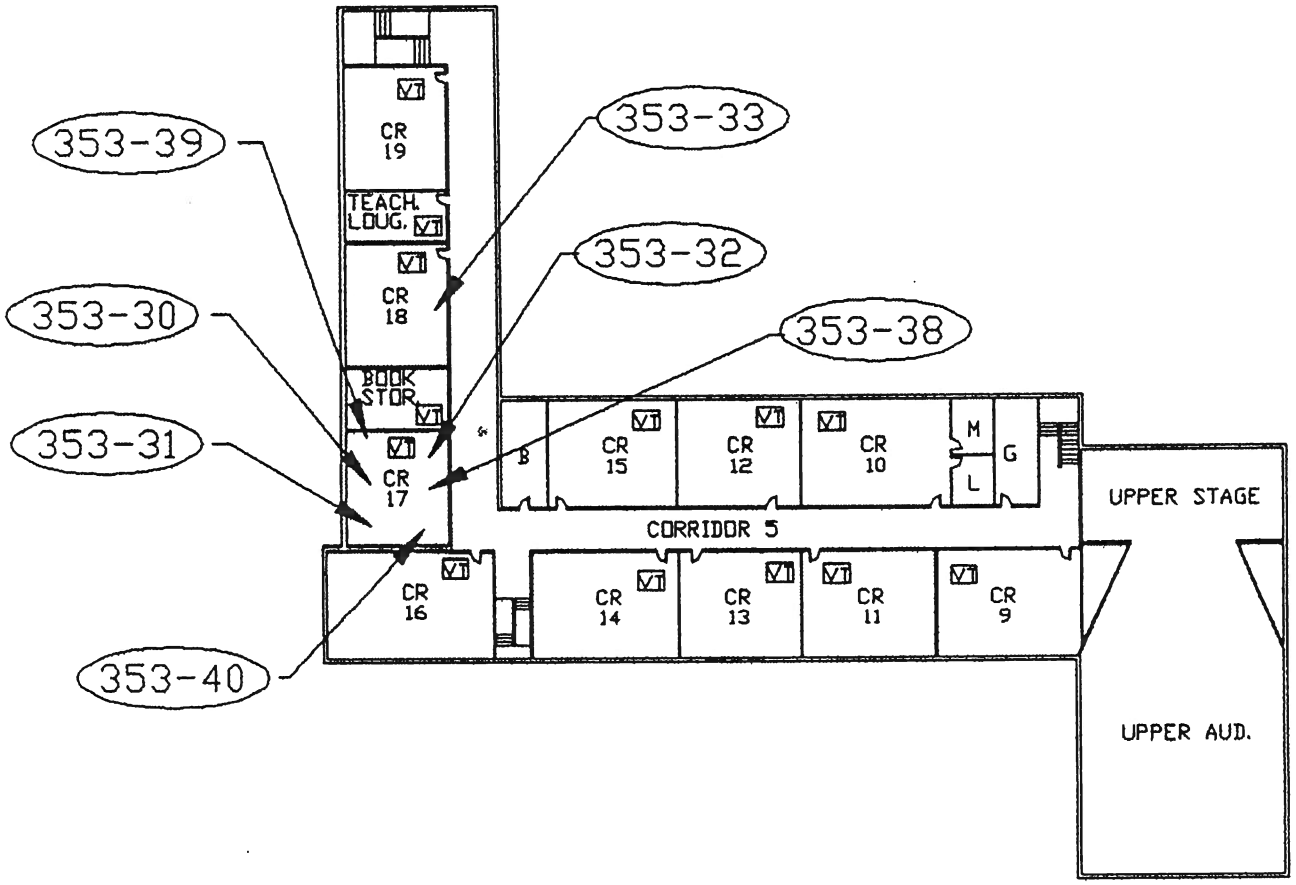
Miscellaneous, surfacing, & thermal materials were sampled using the EPA sampling technique

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88

License #:000421 Agency: VA Dept. of Commerce


353-13 VT
353-14
353-12 VT
353-37 VT
353-35 VT
353-15 VT
353-36 VT
353-11
353-09
353-01
353-02
353-07 VT
353-10
353-18
353-47
353-43 BI
353-44 BI
353-45 BI
353-46 BI
353-41
353-42
353-34 VT
353-16
353-29
353-17
353-28
353-27
353-20 VT
353-21 VT
353-19
353-26
353-23
353-25
353-24
353-22
353-05
353-04
353-03
353-08
353-06
BOILER
LIBRARY
KITCHEN
KIT 1
KIT 2
KIT 3
CR 8
CR 7
CR 6
CR 5
CR 3
CR 2
CR 20
CR 21
CR 22
CR 23
CORRIDOR 2 1900 SQ. FT.
CORRIDOR 1
LIB. OFF.
MULTI-PURP.
CONF.
CAFETERIA
ART
MUSIC
ACTIVITY
STOR.
STAGE
B14
EQUIP.
MEDIA PROD.
CAF2
CAF1
B23
CORRIDOR 2 1660 SQ. FT.
T.L.
CLINIC
OFFICE
CONF.
AUDITORIUM
AUD.1
CORRIDOR 3
LEGEND
000-00 INDICATES SAMPLE LOCATION
VT - VINYL FLOOR TILE
BI - BOILER INSULATION
* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.
DAVIS AND FLOYD INC.
ENGINEERS
GREENWOOD, S.C.
LEA: RICHMOND
BLDG. NO: 8827F162
BLDG: ELIZ. D. REDD ELEM. SCHOOL
DWG. TITLE FIRST FLOOR PLAN
DATE: 10-24-88
BY: D. ALLEN



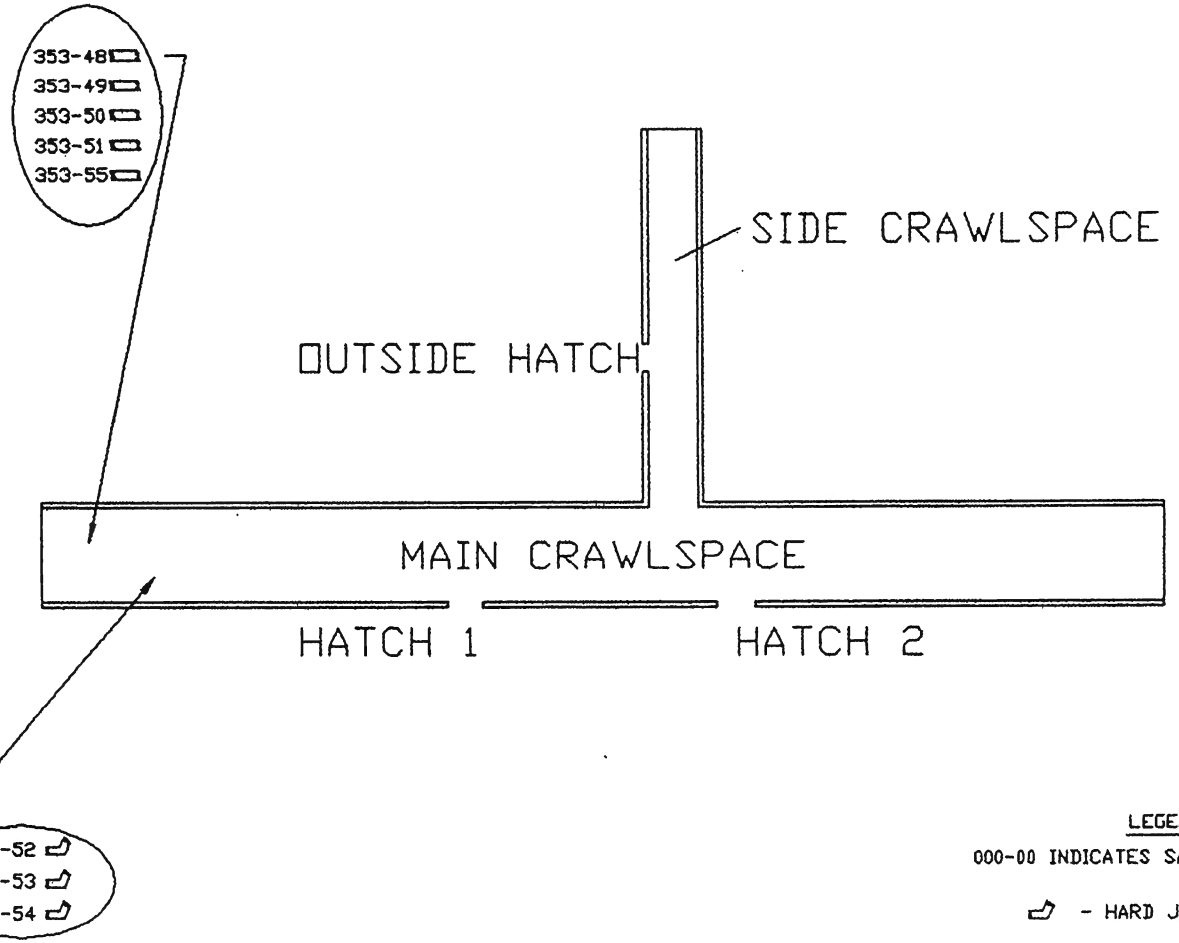
* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.

LEGEND

000-00 INDICATES SAMPLE LOCATION

VT - VINYL FLOOR TILE

DAVIS AND FLOYD INC. ENGINEERS GREENWOOD, S.C.	LEA: RICHMOND	BLDG. NO: 8827F262
	BLDG: ELIZ. D. REDD ELEM. SCHOOL	
	DWG. TITLE SECOND FLOOR PLAN	
	DATE: 10-25-88	BY: D. ALLEN



LEGEND

000-00 INDICATES SAMPLE LOCATION

- HARD JOINT

- PIPE INSULATION

* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.

DAVIS AND FLOYD INC. ENGINEERS GREENWOOD, S.C.	LEA: RICHMOND	BLDG. NO:
	BLDG: ELIZ. D. REDD ELEM. SCHOOL	
	DWG. TITLE CRAWLSPACE	
	DATE: 10-24-88	BY: D. ALLEN

SURFACING

- (AS) ACOUSTICAL SPRAY
- (S) STUCCO
- (WP) WALL PLASTER
- (CP) CEILING PLASTER
- (F) FIREPROOFING (SPRAY ON)

THERMAL

- HARD JOINT
- PIPE INSULATION
- (BI) BOILER INSULATION
- (EI) EQUIPMENT INSULATION
- (DI) DUCT INSULATION
- (DL) DUCT LINING
- (TI) TANK INSULATION

MISC.

- (VT) VINYL FLOOR TILE
- (SAT) SUSPENDED ACOUSTICAL TILE
- (AT) ACOUSTICAL TILE
- TRANSITE BOARD
- ASBESTOS CEMENT PIPE (ACP)
- LABORATORY COUNTER TOPS (LAB)
- FIRE DOOR
- VINYL BASEBOARD (INCLUDING MASTIC) (BB)
- GYPSUM BOARD (GB)
- INSULATION BOARD (IB)
- SIDING (S)
- FLEXIBLE CONNECTIONS (FC)
- GASKETS (G)
- DUCT TAPE (DT)
- FLASHING (F)
- VINYL WALL COVERING (VWC)
- CAULKING (C)
- FIRE BLANKET (FB)
- STAGE CURTAIN (SC)
- ASBESTOS ROPE (AR)
- KILN (K)

INSTRUCTIONS FOR DOCUMENT E

PURPOSE

To provide a copy of analyses of bulk samples collected and analyzed as described in 40 CFR Part 763(e)(3)(iv) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

In the top right-hand corner of this form, enter name of the LEA, the school name, the building name, the date the sample(s) were taken, the date the sample(s) were analyzed, and the analysis method. The information to complete this form shall be derived from the laboratory report. The inspector shall review the laboratory report and organize the information into the same homogeneous areas as described in Document C and complete this form.

Under "Homogeneous Area(s)", the inspector shall describe the unique area where the samples have been taken.

Under "Sample ID", "Owner", the inspector shall include the unique number for each sample submitted for laboratory analysis.

Under "Sample ID", "Lab", the specific laboratory identification for each sample will be given.

Under the column "Asbestos", the inspector shall indicate the type of asbestos and percent of asbestos for each sample.

Under the column "Comments", additional information will be supplied, such as the gross sample appearance, sample treatment, other fibrous materials present, non-fibrous materials present, and whether or not the sample material appears to be friable.

Use the same form to list additional sample areas and number sheets E.1, E.2, E.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd
Analysis Method: PLM/DS

Bulk Sample Analysis

Homogeneous Area: NOS. 1-21

SAMPLE ID #			Asbestos		Date	Date
Owner #	Homo Area	Lab ID#	Type*	%	Analyzed	Sampled
353-01	01	8810469		0	08/18/88	07/28/88
353-02	02	8810470		0	08/18/88	07/28/88
353-03	03	8810471		0	08/18/88	07/28/88
353-04	01	8810472		0	08/18/88	07/28/88
353-05	01	8810473		0	08/18/88	07/28/88
353-06	04	8810474		0	08/18/88	07/28/88
353-07	05	8810475	1	30	08/18/88	07/28/88
353-08	06	8810476		0	08/18/88	07/28/88
353-09	06	8810477		0	08/18/88	07/28/88
353-10	07	8810478		0	08/18/88	07/28/88
353-11	04	8810479	1	3	08/18/88	07/28/88
353-12	08	8810480	1	5	08/18/88	07/28/88
353-13	09	8810481	1	3	08/18/88	07/28/88
353-14	10	8810482		0	08/18/88	07/28/88
353-15	11	8810483	1	5	08/18/88	07/28/88
353-16	06	8810484		0	08/18/88	07/28/88
353-17	12	8810485		0	08/18/88	07/28/88
353-18	13	8810486		0	08/18/88	07/28/88
353-19	13	8810487		0	08/18/88	07/28/88
353-20	08	8810488	1	5	08/18/88	07/28/88
353-21	09	8810489	1	5	08/18/88	07/28/88
353-22	14	8810490		0	08/18/88	07/28/88
353-23	16	8810491		0	08/18/88	07/28/88
353-24	12	8810492		0	08/18/88	07/28/88
353-25	13	8810493		0	08/18/88	07/28/88
353-26	14	8810494		0	08/18/88	07/28/88
353-27	10	8810495		0	08/18/88	07/28/88
353-28	15	8810496		0	08/18/88	07/28/88
353-29	15	8810497		0	08/18/88	07/28/88
353-30	07	8810498		0	08/18/88	07/28/88
353-31	07	8810499		0	08/18/88	07/28/88
353-32	22	8810500		0	08/18/88	07/28/88
353-33	19	8810501		0	08/18/88	07/28/88
353-34	10	8810502		0	08/18/88	07/28/88
353-35	11	8810503		0	08/18/88	07/28/88
353-36	08	8810504	1	5	08/18/88	07/28/88
353-37	09	8810505	1	3	08/18/88	07/28/88
353-38	22	8810506		0	08/18/88	07/28/88
353-39	19	8810507		0	08/18/88	07/28/88
353-40	19	8810508		0	08/18/88	07/28/88
353-41	20	8810509		0	08/18/88	07/28/88
353-42	20	8810510		0	08/18/88	07/28/88
353-43	21	8810511	1	60	08/18/88	07/28/88
353-44	21	8810512	1,2	50	08/18/88	07/28/88

* - Asbestos Types Key:
1 - Chrysotile 2 - Amosite 3 - Crocidolite
4 - Anthrophyllite 5 - Tremolite 6 - Actinolite

Homogeneous Area: NOS. 1-21

SAMPLE ID # Owner #	Homo Area	Lab ID#	Asbestos Type*	%	Date Analyzed	Date Sampled
353-45	21	8810513	1,2	40	08/18/88	07/28/88
353-46	21	8810514	1,2	40	08/18/88	07/28/88
353-47	19	8810515		0	08/18/88	07/28/88
353-48	18	8810516	1	40	08/18/88	07/28/88
353-49	18	8810517	1	40	08/18/88	07/28/88
353-50	18	8810518	1	40	08/18/88	07/28/88
353-51	18	8810519	1	40	08/18/88	07/28/88
353-52	17	8810520	1	60	08/18/88	07/28/88
353-53	17	8810521	1	60	08/18/88	07/28/88
353-54	17	8810522	1	60	08/18/88	07/28/88
353-55	18	8810523	1	40	08/18/88	07/28/88

It is certified by the signature below that the laboratory identified below is accredited by the National Bureau of Standards or has received interim accreditation for Polarized Light Microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program.

Laboratory: DAVIS & FLOYD, INC.
P.O. Drawer 428
Greenwood, SC 29648
(803) 229-5211

Analysis performed by: A. Michelle Whitmore

Certified by: Carl Burrell

Signature: E. Carl Burrell, Jr.

Date: 8/18/88

* - Asbestos Types Key:
1 - Chrysotile 2 - Amosite 3 - Crocidolite
4 - Anthrophyllite 5 - Tremolite 6 - Actinolite

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients samole #: 353-01 Laboratory sample #: 8810469
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	90
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	00
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-02 Laboratory sample #: 8810470
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	30
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	30
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.
CONSULTING ENGINEERS
POST OFFICE DRAWER 428
GREENWOOD, SOUTH CAROLINA 29648
803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-03
Laboratory sample #: 8810471
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	30
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	30
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-04 Laboratory sample #: 8810472
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	90
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	00
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD. INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-05 Laboratory sample #: 8810473
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	90
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	00
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-06 Laboratory sample #: 8810474
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-07 Laboratory sample #: 8810475
Sample Date: 07/28/88
Description: VINYL FLOOR COVERING

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	30
2. Amosite :	00
3. Crocidolite :	00
4. Anthrophyllite :	00
5. Tremolite :	00
6. Actinolite :	00
Asbestos Total:	30

Other Components	Estimated Percentage
1. Cellulose Fibers :	00
2. Glass Fibers :	00
3. Mineral Wool Fibers :	00
4. Perlite :	00
5. Mica :	00
6. Binder :	50
7. Other :	20
Other Total:	70

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-08 Laboratory sample #: 8810476
Sample Date: 07/28/88
Description: VINYL BASEBOARD

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-09 Laboratory sample #: 8810477
Sample Date: 07/28/88
Description: VINYL BASEBOARD

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-10 Laboratory sample #: 8810478
Sample Date: 07/28/88
Description: WALL PLASTER

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	20
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-11 Laboratory sample #: 8810479
Samole Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	03
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	3

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	07
	Other Total:	97

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-12 Laboratory sample #: 8810480
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	05
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	5

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	05
	Other Total:	95

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED 1% CHRYSOTILE.
Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88
Laboratory Certification No.: 4788

Davis & Floyd, Inc.

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-13 Laboratory sample #: 8810481
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	03
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	3

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	07
	Other Total:	97

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-14 Laboratory sample #: 8810482
Sample Date: 07/28/88
Description: ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	90
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	00
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-15 Laboratory sample #: 8810483
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	05
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	5

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	05
	Other Total:	95

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.
Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-16 Laboratory sample #: 8810484
Sample Date: 07/28/88
Description: VINYL BASEBOARD

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-17 Laboratory sample #: 8810485
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	50
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-18 Laboratory sample #: 8810486
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Comoonents		Estimated Percentage
1. Cellulose Fibers	:	50
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients samole #: 353-19 Laboratory sample #: 8810487
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	50
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-20 Laboratory sample #: 8810488
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	05
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	5

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	05
	Other Total:	95

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED 1% CHRYSOTILE.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-21
Laboratory sample #: 8810489
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	05
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	5

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	05
	Other Total:	95

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED 1% CHRYSOTILE.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-22
Laboratory sample #: 8810490
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	10
6. Binder	:	70
7. Other	:	20
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-23 Laboratory sample #: 8810491
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	30
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	30
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-24 Laboratory sample #: 8810492
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	30
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	30
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients samole #: 353-25 Laboratory sample #: 8810493
Sample Date: 07/28/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	30
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	30
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5801 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-26 Laboratory sample #: 8810494
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients samole #: 353-27 Laboratory sample #: 8810495
Sample Date: 07/28/88
Description: ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	90
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	00
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-28 Laboratory sample #: 8810496
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-29 Laboratory sample #: 8810497
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/16/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 3601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-30 Laboratory sample #: 8810498
Sample Date: 07/28/88
Description: WALL PLASTER

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88
Laboratory Certification No.: 4788

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-31 Laboratory sample #: 8810499
Sample Date: 07/28/88
Description: WALL PLASTER

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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803-229-521

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-32 Laboratory sample #: 8810500
Sample Date: 07/28/88
Description: HARD JOINT

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	10
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	40
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88
Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-33

Laboratory sample #: 8810501

Sample Date: 07/28/88
Description: PLASTER CEILING

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	60
7. Other	:	40
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-34
Laboratory sample #: 8810502
Sample Date: 07/28/88
Description: ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1.	Chrysotile :	00
2.	Amosite :	00
3.	Crocidolite :	00
4.	Anthrophyllite :	00
5.	Tremolite :	00
6.	Actinolite :	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1.	Cellulose Fibers :	90
2.	Glass Fibers :	00
3.	Mineral Wool Fibers :	00
4.	Perlite :	00
5.	Mica :	00
6.	Binder :	00
7.	Other :	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-35
Laboratory sample #: 8810503
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Laboratory sample #: 8810504

Clients sample #: 353-36
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	05
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	5

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	05
	Other Total:	95

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/18/88

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-37
Laboratory sample #: 8810505
Sample Date: 07/28/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	03
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	3

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	10
5. Mica	:	10
6. Binder	:	70
7. Other	:	07
	Other Total:	97

Comments -- The Method used was PLM/DS.
: THERE WAS NO MASTIC.

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-38 Laboratory sample #: 8810506
Sample Date: 07/28/88
Description: HARD JOINT

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	10
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	40
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Laboratory sample #: 8810507

Clients sample #: 353-39
Sample Date: 07/28/88
Description: PLASTER CEILING

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1.	Chrysotile :	00
2.	Amosite :	00
3.	Crocidolite :	00
4.	Anthrophyllite :	00
5.	Tremolite :	00
6.	Actinolite :	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1.	Cellulose Fibers :	00
2.	Glass Fibers :	00
3.	Mineral Wool Fibers :	00
4.	Perlite :	00
5.	Mica :	00
6.	Binder :	60
7.	Other :	40
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-40 Laboratory sample #: 8810508
Sample Date: 07/28/88
Description: PLASTER CEILING

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	90
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA

Clients sample #: 353-41 Laboratory sample #: 8810509
Sample Date: 07/28/88
Description: TANK INSULATION

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	10
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	40
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-42 Laboratory sample #: 8810510
Sample Date: 07/28/88
Description: TANK INSULATION

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	10
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	40
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	40
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-43 Laboratory sample #: 8810511
Sample Date: 07/28/88
Description: BOILER INSULATION

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	60
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	60

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	40

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-44 Laboratory sample #: 8810512
Sample Date: 07/28/88
Description: BOILER INSULATION

Asbestos Type(s) Present: 1,2

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	30
2. Amosite	:	20
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	50

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	20
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	00
	Other Total:	50

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-45 Laboratory sample #: 8810513
Sample Date: 07/28/88
Description: BOILER INSULATION

Asbestos Type(s) Present: 1,2

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	30
2. Amosite	:	10
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	10
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	20
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-46 Laboratory sample #: 8810514
Sample Date: 07/28/88
Description: BOILER INSULATION

Asbestos Type(s) Present: 1,2

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	30
2. Amosite	:	10
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	10
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	20
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-47 Laboratory sample #: 8810515
Sample Date: 07/28/88
Description: CEILING PLASTER

Asbestos Type(s) Present:

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	00
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	0

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	20
6. Binder	:	70
7. Other	:	10
	Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-48 Laboratory sample #: 8810516
Sample Date: 07/28/88
Description: PIPE AIR CELL

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	40
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	40
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	10
7. Other	:	10
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88
Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-49 Laboratory sample #: 8810517
Sample Date: 07/28/88
Description: PIPE AIR CELL

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	40
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	40
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	10
7. Other	:	10
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-50 Laboratory sample #: 8810518
Sample Date: 07/28/88
Description: PIPE AIR CELL

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	40
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	40
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	10
7. Other	:	10
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88
Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-51 Laboratory sample #: 8810519
Sample Date: 07/28/88
Description: PIPE AIR CELL

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	40
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	40
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	10
7. Other	:	10
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-52 Laboratory sample #: 8810520
Sample Date: 07/28/88
Description: HARD JOINT

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	60
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	60

Other Compoonents		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	40

Comments -- The Method used was PLM/DS.
:

Samoled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A Michelle Whitmire
Date: 08/16/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-53 Laboratory sample #: 8810521
Sample Date: 07/28/88
Description: HARD JOINT

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	60
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	60

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	40

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-54 Laboratory sample #: 8810522
Sample Date: 07/28/88
Description: HARD JOINT

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	60
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	60

Other Components		Estimated Percentage
1. Cellulose Fibers	:	00
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	30
7. Other	:	10
	Other Total:	40

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6514
Client : RICHMOND PUBLIC SCHOOLS
Location : REDD, ELIZABETH (FOREST VIEW)
: 5601 JANKE ROAD
: RICHMOND, VA
Clients sample #: 353-55 Laboratory sample #: 8810523
Sample Date: 07/28/88
Description: PIPE AIR CELL

Asbestos Type(s) Present: 1

Asbestos Materials		Estimated Percentage
1. Chrysotile	:	40
2. Amosite	:	00
3. Crocidolite	:	00
4. Anthrophyllite	:	00
5. Tremolite	:	00
6. Actinolite	:	00
	Asbestos Total:	40

Other Components		Estimated Percentage
1. Cellulose Fibers	:	40
2. Glass Fibers	:	00
3. Mineral Wool Fibers	:	00
4. Perlite	:	00
5. Mica	:	00
6. Binder	:	10
7. Other	:	10
	Other Total:	60

Comments -- The Method used was PLM/DS.
:

Sampled by: D. NUENSCHWANDER

Affiliation: DAVIS & FLOYD, INC.

Analyzed by: A. MICHELLE WHITMIRE
Signature - A. Michelle Whitmire
Date: 08/18/88

Laboratory Certification No.: 4788

INSTRUCTIONS FOR DOCUMENT F

PURPOSE

The information required by this form is referenced in 40 CFR 763.93(e)(3)(v) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

At the top right-hand corner, fill in the name of the LEA, the school, and the building.

As described in 763.88(a), (b), and (c), for each homogeneous area where ACBM is found or suspected, the inspector shall classify and assess the materials. A classification and assessment shall be made for each homogeneous area.

Under "Sample ID," each sample in a homogeneous area shall be identified by the number assigned by the inspector or the owner.

Under "Asbestos", when the sample has been found to contain more than 1% asbestos, the type of asbestos and the percent of asbestos will be indicated.

Under "Photo," a reference will be made to indicate the unique number assigned to any photograph taken to be used in this report or in the future.

Under "Assessment," the inspector shall classify the ACBM, as required in paragraph 763.88(b), into one of the following categories: (1) damaged or significantly damaged thermal insulation ACBM; (2) damaged friable surfacing ACBM; (3) significantly damaged friable surfacing ACBM; (4) damaged or significantly damaged friable miscellaneous ACBM; (5) ACBM with potential for damage; (6) ACBM with potential for significant damage; (7) any remaining friable ACBM or friable suspected ACBM.

Under the column "Comments", the inspector shall include information such as location, the amount of material, the condition of the material, type of damage or significant damage, severity of damage, extent or spread of damage, accessibility, potential for disturbance, known or suspected causes of damage, preventive measures which might reduce or eliminate fiber disturbance, and/or other comments and recommendations appropriate to the conditions observed. The inspector may attach a copy of the assessment form used during the inspection and note under "Comments" that the inspection form is attached. The inspector shall include the assessment of materials identified from "Previous Inspections" on Document B. At the bottom of this form, the inspector shall include the typed name, signature, date of signature, unique accreditation number and the name of the training agency at which accreditation was obtained.

Use the same form to assess materials in additional homogeneous areas and number sheets F.1, F.2, F.3, etc.

Virginia Department of Education
Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Assessment of Materials

Homogeneous Areas: NOS. 1-21

Sample ID #	Asbestos Type*	%	Photo	Assessment	Comments
353-01		0	668-15		
353-02		0	668-16		
353-03		0	668-17		
353-04		0	668-18		
353-05		0	668-19		
353-06		0	668-20		
353-07	1	30	668-21		NONFRIABLE
353-08		0	668-22		
353-09		0	668-23		
353-10		0	668-24		
353-11	1	3	668-25		NONFRIABLE
353-12	1	5	660-01		NONFRIABLE
353-13	1	3	660-02		NONFRIABLE
353-14		0	660-03		
353-15	1	5	660-04		NONFRIABLE
353-16		0	668-05		
353-17		0	660-06		
353-18		0	660-07		
353-19		0	660-08		
353-20	1	5	660-09		NONFRIABLE
353-21	1	5	660-10		NONFRIABLE
353-22		0	660-11		
353-23		0	660-12		
353-24		0	660-13		
353-25		0	660-14		
353-26		0	660-15		
353-27		0	660-16		
353-28		0	660-17		
353-29		0	660-18		
353-30		0	660-19		
353-31		0	660-19		
353-32		0	660-20		
353-33		0	660-21		
353-34		0	660-22		
353-35		0	660-23		
353-36	1	5	660-24		NONFRIABLE
353-37	1	3	660-25		NONFRIABLE
353-38		0	661-01		
353-39		0	661-03		

* - Asbestos Types Key:
1 - Chrysotile 2 - Amosite 3 - Crocidolite
4 - Anthrophyllite 5 - Tremolite 6 - Actinolite

Inspector: Salah Abo-Sido

Signature: Salah ABO-SIDO Date: 10-24-88
License #: 000421 Agency: VA. DEPT. OF COMMERCE

Homogeneous Areas: NOS. 1-21

Sample ID #	Asbestos Type*	%	Photo	Assessment	Comments
353-40		0	661-03		
353-41		0	661-05		
353-42		0	661-06		
353-43	1	60	661-07	1	
353-44	1,2	50	661-08	1	
353-45	1,2	40	661-09	1	
353-46	1,2	40	661-10	1	
353-47		0	661-11		
353-48	1	40	661-17	1	
353-49	1	40	661-17	1	
353-50	1	40	661-18	1	
353-51	1	40	661-18	1	
353-52	1	60	661-21	1	
353-53	1	60	661-21	1	
353-54	1	60	661-22	1	
353-55	1	40	661-22	1	

* - Asbestos Types Key:
1 - Chrysotile 2 - Amosite 3 - Crocidolite
4 - Anthrophyllite 5 - Tremolite 6 - Actinolite

Inspector: Salah Abo-Sido

Signature: Salah Abo-Sido Date: 10-24-88
License #: 000421 Agency: VA. DEPT. OF COMMERCE

INSTRUCTIONS FOR DOCUMENT G

PURPOSE

To record response actions recommended as required by 40 CFR Part 763.93(e)(5) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice by the Accredited Management Planner.

PREPARATION

The name of the LEA, the school, and the building shall be entered in the top right-hand corner of this form. The estimated cost to remove all ACBM from the building shall be entered next to "Building Total Cost to Remove".

Under the column "Each Location" in line with 763.88(d), the Management Planner shall describe the homogeneous area where a response action is recommended.

The Management Planner shall describe recommended response actions for each homogeneous area under RECOMMENDED RESPONSE ACTIONS. Choices shall be given if any response actions protect human health and the environment. If more than one response action is recommended, the LEA may select the response action which is least burdensome to the LEA.

A schedule for each response action recommended for each location shall include a month and year for when the actions should begin and when they should be completed.

Under "Estimated Cost to Remove", the Management Planner shall estimate cost to remove ACBM (including cost of disposal and the cost of any "put-back" material that is required) as a lump sum figure for each homogeneous area. The total cost to remove all ACBM from the building should be entered in the top right-hand corner where called for.

The Management Planner should sign and date the document in the appropriate signature block. The Management Planner will also supply the unique accreditation number and name of the training agency at which the accreditation was received. Use the same form to recommend response action for additional homogeneous areas and number sheets G.1, G.2, G.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd
Total Removal Cost: $497,425

Response Actions Recommended

Each Location	Recommended Response Actions	Schedule Begin	Schedule Comp	Estimated Cost
POTENTIAL SIGNIFICANT DAMAGE - HARD JOINT		IMMED.	ONGOING	$38,700
MAIN CRAWL, SIDE CRAWL				
	RECOMMENDED RESPONSE ACTION			
	1. Continue O&M. Remove as soon as possible or reduce potential for disturbance.			
PIPE INSULATION		IMMED.	1/1/92	$38,700
MAIN CRAWL				
	RECOMMENDED RESPONSE ACTION			
	1. Isolate area and restrict access. Remove as soon as possible.			
POTENTIAL DAMAGE - VINYL FLOOR TILE		IMMED.	ONGOING	$402,825
B21, CORRIDOR 2, B15				
	RECOMMENDED RESPONSE ACTION			
	1. Continue O&M. Take preventive measures to reduce disturbance.			
BOILER INSULATION		IMMED.	ONGOING	$17,200
BOILER ROOM				
	RECOMMENDED RESPONSE ACTION			
	1. Continue O&M. Remove as soon as possible or reduce potential for disturbance.			

An O&M program may include enclosure and encapsulation where appropriate to increase its effectiveness.

Management Planner
Typed Name: Gary Pelletier

Signature: Gary Pelletier Date: 12-7-88
License No: 000251 Agency: Virginia Dept. of Commerce

INSTRUCTIONS FOR DOCUMENT H

PURPOSE

To record preventive measures and response actions scheduled as required by 40 CFR Part 763.93(c)(6) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

In the top right-hand corner of the form, fill in the name of the LEA, the school name, and the building name. Under the column entitled "Each Location", the LEA shall indicate a description of each homogeneous area where friable asbestos-containing building material (ACBM) was found in the building. Use the same description for each homogeneous area as described by the management planner on Document G.

For each location where friable ACBM is found in the building, the LEA shall give a detailed description of preventive measures and response actions to be taken and the reasons for selecting the response action or preventive measure. The LEA may select from the response actions recommended by the management planner that response action which is the least burdensome to the LEA.

For each action to be taken, the LEA shall indicate the month and year the action is to begin and also the month and year the action is scheduled to be completed.

Use the same form to schedule preventive measures and response action for additional homogeneous areas and number sheets H.1, H.2, H.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Preventive Measures and Response Actions Scheduled 40 CFR Part 763.93(c)(6)

Each Location	Descriptions of/ Reasons for Actions	Schedule Begin	Schedule Comp
POTENTIAL SIGNIFICANT DAMAGE - HARD JOINT		IMMED.	ONGOING
MAIN CRAWL, SIDE CRAWL			
	RECOMMENDED RESPONSE ACTION		
	1. Continue O&M. Remove as soon as possible or reduce potential for disturbance.		
PIPE INSULATION		IMMED.	8/7/92
MAIN CRAWL			
	RECOMMENDED RESPONSE ACTION		
	1. Isolate area and restrict access. Remove as soon as possible.		
POTENTIAL DAMAGE - VINYL FLOOR TILE		IMMED.	ONGOING
B21, CORRIDOR 2, B15			
	RECOMMENDED RESPONSE ACTION		
	1. Continue O&M. Take preventive measures to reduce disturbance.		
BOILER INSULATION		IMMED.	ONGOING
BOILER ROOM			
	RECOMMENDED RESPONSE ACTION		
	1. Continue O&M. Remove as soon as possible or reduce potential for disturbance.		

REDUCE POTENTIAL FOR DISTURBANCE

A. Do not scrape, puncture, drill, etc. into insulated components, structures, or equipment.

B. Do not bump or push items such as boxes, filing cabinets, bookcases, etc. against components, structures, or equipment.

C. Do not hang items such as posters, plants, tools,

Each Location	Descriptions of/ Reasons for Actions	Schedule Begin	Comp

etc. on insulated components, structures, or equipment.

D. Relocate/reposition any items that contact insulation.

E. Labels must be put on all asbestos containing insulation in Mechanical Room.

CAUTION: ASBESTOS HAZARDOUS: DO NOT DISTURB WITHOUT PROPER TRAINING

INSTRUCTIONS FOR DOCUMENT I

PURPOSE

To record operations, maintenance and repairs to a homogeneous area as required by 40 CFR Part 763.93(e)(9) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the top right-hand corner.

For each homogeneous area where friable ACBM is present, assumed to be present or is about to become present, write an operations, maintenance and repair (O&M program as described in paragraph 763.91. The program shall describe worker protection, initial and additional cleaning programs, building occupant protection (access control, signs, control of air movement, work practices, area cleaning, disposal methods) design and performance of other than small-scale, short-duration maintenance activities, and activities associated with minor and major fiber release episodes. The program shall also discuss methods of protecting non-friable material from becoming friable from damage caused by misuse, maintenance, or construction projects. Use the same form to discuss operations, maintenance, and repair plans for additional homogeneous areas and number sheets I.1, I.2, I.3, etc.

DOCUMENT I

Virginia Department of Education
Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Operations and Maintenance Plan

Discussion of Operations, Maintenance and Repair Plan:

Homogeneous Area Nos. 5, 8, 9, and 11 - Vinyl Floor Tile

1. CLEANING AND MAINTENANCE PROCEDURES

   A. Drilling Into Vinyl Flooring

      1. If it is necessary to drill into asbestos-containing vinyl flooring (making the ACBM friable).The following precautions must be followed.

         a. Worker or workers should wear NIOSH/MSHA approved respirators equipped with HEPA filter cartridges.

         b. Wet the area to be drilled.

         c. A HEPA vacuum should be used adjacent to the drilling operation to pick up fibers and debris as the drilling occurs.

         d. Dispose of any debris as asbestos waste.

         e. Clean up area as outlined above.

   B. Removing or Repairing Vinyl Flooring

      1. To remove floor tiles, apply dry ice or heat to the tiles, then carefully pry the tiles up.

      2. Use a 'wet' or solvent method to remove and clean the adhesive.

      3. Do not sand the adhesive from the base flooring.

      4. A HEPA vacuum or wet-wiping should be used to clean up debris.

      5. All tiles, cloths, and debris must be disposed of as asbestos waste.

   C. Care of Vinyl Floor Tile

1. Do not sand, abrade or wire brush vinyl asbestos tiles (VAT), VAT's are unlikely to release any fibers unless cut or sanded. Use HEPA attachments described in the section on cutting non-friable materials. The adhesive that is used to stick floor tiles to the floor is likely to have asbestos in it also. Do not sand or wire brush the adhesive. The best way to deal with VAT is to use regular detergent and floor wax. The waxed surface will act as an encapsulant.

2. Use all procedures outlined in the sections for respiratory protection, protective clothing and work area preparation. Remember that the adhesive probably has more asbestos than the tile itself. Dispose contaminated material and replace the tile with non-asbestos tile. Wrap the tiles in plastic and put them in a box. Wrap the box and put it in a bag or drum. Otherwise the sharp tile edges will cut the bag spilling asbestos waste onto the floor.

2. PROCEDURES FOR FIBER RELEASE EPISODES

A. Cutting Non-Friable Material

1. Non-friable materials include transite board, vinyl asbestos tile, ceiling tiles, etc. HEPA attachments are available for drills and saws, although they are expensive. The HEPA unit draws the asbestos fibers released by sawing or drilling through a set of filters. The unit must be used, cleaned, and filters replaced using protective clothing and respiratory equipment.

B. Disposal of Asbestos Waste

1. All asbestos containing materials, waste, bags and equipment (such as mopheads or air filters) must be disposed of in a labeled 6-mil polyethylene bag. The bag must be placed in a sealed impermeable container such as a drum. Water used for cleaning must be either filtered or placed in an impermeable container. A single drum may be used until it is

full. The drum must be disposed of at a licensed landfill and a disposal receipt with the location obtained to prove that you disposed of it legally. An interim storage area must be secured and locked with only trained personnel having access to it. Transportation must be done in closed trucks (not rented) and the truck wet cleaned after each use. The easiest way to dispose of small amounts of asbestos is to accumulate it and have a licensed contractor remove it (Find a local company willing to provide this service to you).

Homogeneous Area No. 17 - Hard Joint
Homogeneous Area No. 18 - Pipe Insulation
Homogeneous Area No. 21 - Boiler Insulation

1. CLEANING AND MAINTENANCE PROCEDURES

A. Initial Cleaning

1. All areas of a school building containing friable surfacing, suspected or miscellaneous material or damaged or significantly damaged thermal system insulation shall be cleaned at least once after the initial inspection and before the initiation of any response action (except O&M and repair).

B. Periodic Cleaning

1. Areas containing asbestos should be recleaned a minimum of once every six months. If debris accumulates, cleaning should be performed more often and repair or removal completed to eliminate the hazard.

C. Emergency Procedures

1. If an emergency occurs, immediately notify the LEA and restrict access to the area. Common emergencies include pipe leaks, boiler breakdowns, and water damage. Keep the phone number of a reliable local contractor for problems that may be larger than the in-house staff can handle. If you are not certain of the size or the extend of the damage, have a contractor and consultant look at it immediately.

D. Specialized Cleaning Procedures

1. Special cleaning practices should be followed. Cleaning up existing asbestos contamination within a building is one of the primary objectives of the O&M program.

2. Things not to do when cleaning asbestos-containing vinyl flooring or thermal system insulation:

   a. Do not sand asbestos flooring or backing material.
   b. Do not dust with a brush.
   c. Do not dry sweep floors.
   d. Do not use an ordinary vacuum to clean up asbestos debris.

3. The following precautions should always be used when cleaning ACBM:

   a. All dusting and mopping of the ACBM must be conducted using "wet" cleaning techniques (mops or cloths dampened with water or dust suppressant) or with special vacuum cleaners equipment with High Efficiency Particulate Air (HEPA) filters.

   b. Spray (mist) bottles of water or dust suppressant should be available and used to keep the mops and cloths damp.

   c. Cleaning materials (mop heads, cloths, etc.) should be washed after each cleaning, changed at regular intervals, and discarded as asbestos waste -- the materials should be placed in 6 mil plastic bags, the bags sealed and labeled: **"DANGER - CONTAINS ASBESTOS FIBERS - AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD,"** Small amounts of waste could be stored in labeled 55-gallon drums (or other durable containers) in secure areas on-site. A disposal company could then transport the waste to an approved landfill periodically.

   d. HEPA filters should be removed from vacuum cleaners with great care. Consult the manufacturer's instructions on filter removal. Workers should mist the filters with water as they are removed.

   e. Ladders, mops, buckets, vacuum cleaners, and all cleaning equipment should be washed or wiped with damp cloths when the cleaning is finished. Cloths should be discarded as asbestos waste.

   f. A regular cleaning schedule of the asbestos-containing thermal system insulation should be done at least every six months. This could be done during the periodic surveillance as outlined in Document 8 of this management plan. The

frequency of regular cleaning may need to change as history of the ACBM condition is logged during periodic surveillance.

2. WORK PRACTICES FOR MAINTENANCE ACTIVITIES

Maintenance activities affecting asbestos-containing thermal system insulation generally involve plumbing-type repairs. Frequently the ACBM must be removed to provide access to the valve, flange, or related system part needing maintenance. The extent of special work practices is tailored to reflect the likelihood that the ACBM will be disturbed and that asbestos fibers will be released. Four categories of potential disturbance are defined: (A) contact with ACBM is very unlikely, (B) accidental disturbance of ACBM is possible, (C) disturbance of ACBM is intended or likely - small disturbances (under three feet of thermal system insulation), and (D) disturbance of ACBM is intended or likely - large disturbances (greater than three feet of thermal system insulation).

A. Contact With ACBM Unlikely

Repairs which can be performed without contacting or disturbing the ACBM require only normal care, good workmanship, and respirators and a HEPA vacuum cleaner should be available for use of requested by workers.

B. Accidental Disturbance of ACBM Possible

Maintenance tasks that involve no direct contact with ACBM but may cause accidental disturbance: Vibrations created by maintenance activities in one part of a piping network will be transmitted to other parts. Vibrations could then cause fibers to be released from insulation which is exposed or not in good condition. If in doubt about the possibility of fiber release, thoroughly inspect the asbestos-containing hard joints before undertaking the maintenance or repair work . Then, either correct the problem before starting, or assume that the maintenance work may cause accidental disturbance and fiber release. In this case, the following procedures should be used:

1. Approval should be obtained from the Asbestos Control Manager before beginning work. The Asbestos Control Manager or supervisor should make an initial visit to the work site.

2. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from

entering the work area (e.g., **"MAINTENANCE WORK IN PROGRESS, DO NOT ENTER"**). Note, emergency exists must remain in operation.

3. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.

4. A 6-mil polyethylene plastic dropcloth should be placed beneath the location of the maintenance work, extending at least 10 feet beyond all sides of the work site.

5. Plastic sheets (6-mil polyethylene) should be cut and taped around any asbestos-containing insulation which might be accidentally disturbed. The plastic should be misted with amended water before sealing with tape. If the areas with insulation are too numerous for isolation with plastic, workers should perform the maintenance work wearing air-purifying respirators at a minimum and protective clothing, including disposable suits and hoods.

6. After the maintenance work is completed, all tools, ladders, and other equipment should be HEPA-vacuumed or wiped with a damp cloth. Special care should be taken when removing the plastic from the insulation to minimize disturbance of ACBM dust or debris that may have fallen from the insulation.

7. If any debris is apparent on the drop cloth, floor or elsewhere, it should be HEPA-vacuumed.

8. The plastic dropcloth should be wiped with a damp cloth, carefully folded, and discarded as asbestos waste.

9. All clothes, vacuum bags/filters, and other disposable materials should be discarded in sealed and labeled plastic bags as asbestos waste.

10. Workers should HEPA-vacuum respirators and protective clothing at the work site. The clothing should then be discarded as asbestos waste. If the ACBM was disturbed during the course of the work, the workers should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.

C. Small Disturbance of ACBM Intended or Likely

1. Where less than 3 feet of asbestos-containing thermal system insulation must be removed to maintain or repair the thermal system, the ACBM will obviously be disturbed. The following procedures should be used:

   a. Approval should be obtained from the Asbestos Control Manager before beginning work. The Asbestos Control Manager or supervisor should make an initial visit to the work site.

   b. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from entering the work area (e.g., **"MAINTENANCE WORK IN PROGRESS, DO NOT ENTER"**). Note, emergency exists must remain in operation.

   c. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.

   d. Maintenance workers should wear at least air-purifying respirators with HEPA filters and protective clothing (suit, hood, and boots) in case of a fiber release accident.

   e. The asbestos-containing thermal system insulation should be removed as necessary for the repairs, and the repairs made using standard glove bag techniques where possible (refer to the EPA publication: "Asbestos-in-Buildings Technical Bulletin: Abatement of Asbestos-Containing Pipe Insulation," 1986-2 and the OSHA Construction Industry Rule). Glove bags are fastened around the part to be repaired, the insulation is removed with knives and saws to make the part accessible, and the repairs are made using tools contained in the glove bag tool pouch.

   f. At the conclusion of the work, Maintenance workers should clean their clothing using a HEPA vacuum and wet wiping.

   g. All glove bags and any other used materials (including disposable clothing) should be discarded as asbestos waste. If the ACBM was disturbed during the course of the work, the workers should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.

h. Non-asbestos insulating material can be installed as necessary to replace insulation which was removed.

D. Large Disturbance of ACBM Intended or Likely

1. When more than 3 feet of asbestos-containing thermal system insulation must be removed to maintain or repair the thermal system, this should be considered a large-scale disturbance of ACBM. In some situations glove bag techniques may be appropriate and the procedures described above for "small disturbances" should be followed. When glove bags are not feasible, then an outside contractor should be hired for the removal project before the maintenance work begins.

3. PROCEDURES FOR FIBER RELEASE EPISODES

A. Thermal Insulation Fiber Release Procedures

As long as ACBM remains in the building, a fiber release episode could occur. A fiber release episode is when the ACBM becomes damaged in such a way as to release asbestos fibers to the atmosphere. Custodial and maintenance workers should report to the Asbestos Control Manager the present of debris on the floor, water or physical damage to the ACBM, or any other evidence of possible fiber release. Fiber release episodes can also occur during maintenance or renovation projects. The Asbestos Control Manager should assign a suitably trained in-house team to clean up debris and make repairs as soon as possible. For episodes likely to occur with asbestos-containing thermal system insulation the following procedures should be used.

1. Workers should wear air-purifying respirators with HEPA filters at a minimum.

2. Debris should be thoroughly saturated with water or amended water using a mister with a very fine spray. The debris should then be placed in a labeled, 6-mil plastic bag for disposable, and the floor should be cleaned with damp cloths or a mop. Or the debris can be collected with a HEPA vacuum cleaner.

3. All debris and materials used in the cleanup should be discarded as asbestos waste.

4. Workers should vacuum their disposable suits, if used, before leaving the work site and discard as asbestos waste.

5. The damaged ACBM should be repaired with asbestos-free spackling, plaster, cement, or insulation, or sealed with latex paint or an encapsulant.

6. Each fiber release episode should be documented using the form at the end of this document and the report filed in this management plan or the permanent asbestos file.

B. Work Practices for Removal or Repair of Areas 3 Sq. Ft. or Linear Feet

All removal or repair projects should be correctly and safely set up. These are minimum work practices required by state and federal law. **Work may not be performed if the area exceeds three square or linear feet. You must have a contractor do the work if it exceeds these size limits.** Refer back to this section whenever you plan to disturb asbestos containing material. The initial set up of any job that disturbs asbestos is as important as the actual removal itself. The following steps must be followed to ensure a safe project.

1. Restrict entry - by physical isolation or scheduling to ensure unauthorized persons do not enter the area.

2. Post warning signs at all entrances to the site to prevent unauthorized entry.

3. Shut off air handling equipment or modify all air conditioning, heating, ventilation systems, etc. Restrict air movement (fans, windows).

4. Remove moveable objects and cover remaining items with plastic. Duct tape 6-mil plastic over any remaining surfaces and duct tape to provide an air-tight seal. Decontaminate any objects that have debris by wet-wiping and HEPA vacuuming.

5. Isolate the work area by sealing and taping vents, windows, air conditioners, ducts, drains, grills, windows, and doors etc. with plastic. If the building is occupied, the entrances to the work area must be sealed and caulked with plywood, gypsum board or a solid material. Plastic does not qualify as a critical barrier. Glove bag operations are exempt from this requirement. Ceramic tiles or floors, walls or ceiling that are impervious (no cracks, holes, fissures) need not be covered. If you are not sure - put up plastic.

6. Cover walls and ceilings with plastic sheeting with seam and joints sealed with duct tape. The idea is to make an impervious barrier to the floor, ceiling, wall etc. Two layers of plastic are required for the floor and walls with an overlap of 12" on the wall. The wall covering must overlap the floor.

7. Ground fault circuit interrupters must always be used as you will be working in a WET environment.

8. Clean fixtures and equipment in the work area using proper cleaning methods.

9. Properly dispose of all ACBM in properly labeled, leak-proof containers.

10. Before leaving the removal area, HEPA vac and wet wipe the protective clothing.

11. All other equipment must be decontaminated by wet-wiping and HEPA vacuuming or by wrapping the material in two layers of 6 mil plastic or put in a drum with a locking lid. Glove bag operations are exempt from this requirement. Use of a changing room is applicable to removal of surface material where a glovebag cannot be used.

12. Read your manual and be sure that you understand the operation of the HEPA vacuum before using. Ask your sales representative for a detailed demonstration of how to use it. Always empty the vacuum under controlled conditions, remove the filter after you have dampened it and treat all waste as contaminated material. You can cause a major contamination problem if you do not use your HEPA vac properly.

13. Any material that is enclosed/contained must be clearly identified in the building records. The following requirements must be satisfied.

    a. The enclosure must be air tight - wooden structures must be made with tongue and groove construction and caulked.

    b. Gypsum board seams must be taped.

    c. Drills and other tools should have a HEPA attachment.

    d. All electrical conduits, telephone lines, etc. must be moved so there is no reason to re-enter the area. If this cannot be accomplished, the area should not be contained.

14. Any wrapped material such as a boiler or pipe must be labeled as asbestos.

    a. Suspended ceilings can not qualify as an enclosure because it is not air tight.

15. Liquid encapsulants must be applied with an airless sprayer and are not to be used on severely damaged or deteriorating surfaces.

16. Asbestos must be wet when it is disturbed in any way. The material must be wet enough to keep the dust down, but not wet enough to cause the water to leak out of the project area. A surfactant must be used, as this increases the ability of the water to penetrate the fibers.

17. Do not remove material and leave it on the floor until you are ready to clean up.

18. If you are working at heights, do not throw debris to the ground.

19. Seal asbestos on double 6-mil labeled bags and/or drums with locking lids.

20. The work area must be secured according to the section on work area preparation. All persons not involved in the procedure must leave the site and warning signs must be posted. Try to perform the work when the building is unoccupied. Your co-workers are very curious as to whether this type of operation could be harmful to them.

21. The work area floor must be covered with plastic in case of breakage. Be generous with the plastic - it is a lot cheaper than cleaning up an area with no protection.

C. Glovebag Repairs

1. The glovebag must fully cover the three feet or less to be removed, as the bag cannot be moved once it is in place. All tools such as wire cutters, bone saw, nylon brush and knife are to be placed in the pouch that is inside the bag. You will be able to reach the tools once your hands are inserted in the gloves.

2. Inspect the work area and determine the location boundaries of the work to be accomplished. Be sure it is not over three feet! Cut the sides of the glovebag down far enough to place it over the pipe. Support the bottom of the glovebag as the weight of the debris and water may cause the bag to leak or

break. Always be as cautious as possible when dealing with asbestos. This is for your own and others protection.

3. Attach the top seam of the glove bag by taping with heavy duct tape. Use several different pieces overlapping each other instead of one long piece. Staple the tape at intervals of two or three inches. Fold the taped flap over on itself and tape again. Tape the bottom seam of the bag also. These precautions can prevent a costly and dangerous fiber release.

4. Tape the openings on each side of the glovebag where the pipes protrude. Put several layers of duct tape to ensure that there is no fiber release. The glovebag must then be smoke tested to ensure that there are no leaks. An aspirator bulb filled with smoke is inserted into an opening pre-cut by the manufacturer. The same opening will be used to insert a sprayer wand to wet the material with. If there is no opening on your glovebag, cut a small hole through a duct tape patch and insert the smoke tube. The duct tape patch ensures that the bag will not rip along that opening. Patch any area that leaks with duct tape. When you are convinced that your bag is air-tight, insert the spray wand and HEPA-VAC hose into either holes made by the manufacturer or your own patched holes. Duct tape the equipment into the holes securely. The holes should be in the upper 1/3 of the bag so it is easy to wet the material. Get the best quality glovebags you can, which will have reinforced entry holes for the smoke tube, spray wand, and HEPA-VAC hose. Some bags even have zippers, which eliminates the cutting section.

5. Fold the taped flap over on itself and tape again. Tape the bottom seam of the bag also.

6. Wet the section of pipe to be removed until it is completely wet. Make sure that you do not fill the glovebag with water. The solution used to wet the material must be "amended water". The solution can be obtained through asbestos supply companies (or soap can be used). The amended water ensures that the material is wetted as evenly as possible. Using a razor, knife, or bone saw, cut through to the pipe on both sides and remove the material as smoothly as possible (use a retractable blade and always retract it when not in use. Do not cut the bag open by mistake). A second person must keep the material wet using the wand. Soak the bare pipe and hand clean using the rags and nylon brush that are in the pouch

contained within the bag. Threads on pipes and joint areas require particular attention in order to get them clean.

7. Wash down the interior of the glovebag and pipe section one final time to ensure that all debris is at the bottom of the bag. Place all tools into the hand part of one of the gloves. Pull the glove inside out, seal it with duct tape and cut between the sealed area. Retape the glove and place it in a bucket of water. Later, the glove may be untied and the tools cleaned. Activate the HEPA-VAC and collapse the bag as much as possible. Do not collapse too much or the bag will be damaged. The HEPA vac should continue to run during the entire process of removing the glovebag.

8. Twist the glovebag closed and tape it shut. A disposal bag should be placed over the glovebag while it is still on the pipe. Carefully cut the glovebag from the pipe and place in the disposal bag. Dispose of properly as asbestos containing waste.

9. The ends of the pipe must be covered with re-wettable fiberglass. Cut a large enough piece to cover the area and dip it in a bucket of clean water. Wrap it around the end of the pipe and smooth until; all opening are covered. Spray the bare pipe with encapsulant to lock down any remaining fibers. The pipe may be painted with heat resistant latex paint if desired.

Discussion of General Operations and Maintenance Program

OBJECTIVE: The three main objectives of an Operations and Maintenance (O&M) program are:

1. Clean up existing contamination
2. Minimize future fiber release by controlling access to asbestos-containing building materials (ACBM)
3. Maintain ACBM until it is eventually removed

Since by law all but small quantities of ACBM must be removed from buildings before demolition, this O&M program is not a permanent solution. It is implemented as part of an overall asbestos management plan that has as its goal the elimination of asbestos exposure within the facility. The O&M program likewise is **not** a means by which full scale asbestos abatement is accomplished. Rather, intentional disruption of ACBM should be limited to repair or removal of small areas of significantly damaged ACBM, or small areas where removal is necessary to facilitate maintenance/renovation activities (ie. "Small Scale, Short Duration Activities").

ELEMENTS OF THIS OPERATIONS AND MAINTENANCE PROGRAM

A. SMALL SCALE, SHORT DURATION ACTIVITIES
B. NOTIFICATION OF OCCUPANTS
C. LABELING
D. TRAINING
E. RESPIRATORY PROTECTION
F. MEDICAL SURVEILLANCE
G. SPECIAL CLEANING PROCEDURES
H. SPECIAL PRECAUTIONS FOR ASBESTOS MATERIALS
I. WORK PRACTICES FOR MAINTENANCE ACTIVITIES
J. PROCEDURES FOR FIBER RELEASE EPISODES
K. OUTSIDE SERVICE CONTRACTORS
L. PERIODIC SURVEILLANCE OF ACBM
M. EQUIPMENT NEEDED
N. RECORDKEEPING

A. SMALL SCALE, SHORT DURATION ACTIVITIES

Small scale, short duration maintenance activities are tasks that require the removal, repair, or disturbance of **less than** 3 square feet or 3 linear feet of asbestos-containing building material(ACBM). Disturbing or removing quantities **greater than** 3 square or linear feet is considered a Large Scale Disturbance which **must** be designed and conducted by **accredited** persons. Small scale tasks include, but are not limited to:

1. Removal of small quantities of ACBM only if required in the performance of another maintenance activity that is **NOT** intended as asbestos abatement.

2. Minor repairs to damaged thermal system insulation which do not require removal.

3. Repairs, involving encapsulation, enclosure or removal, of small amounts of friable ACBM only if required in the performance of **emergency** or routine maintenance activity and not intended solely as asbestos abatement.

4. Removal of asbestos-containing insulation on pipes.

5. Removal of small quantities of asbestos-containing insulation on beams or above ceilings.

6. Removal or replacement of damaged floor tiles.

7. Replacement of an asbestos-containing gasket on a valve.

8. Installation of electrical conduits through or proximate to asbestos-containing building materials.

B. NOTIFICATION OF OCCUPANTS

The Asbestos Control Manager or LEA Designee is responsible for informing all building occupants of the asbestos control program in this building. Notification serves two purposes: (1) it alerts affected parties to a potential hazard in the buildings; and (2) it provides basic information on avoiding the hazard. Building occupants, employees, and others who are aware of the presence of ACBM are less likely to disturb the material and cause fiber release.

All new employees and building occupants during their initial orientation, should be informed of the asbestos control program and locations of ACBM in this building.

C. **LABELING**

Labeling in areas where ACBM is located is required in all mechanical areas and areas frequented by maintenance personnel. Labeling is not intended as general information. It serves as a final line of defense to prevent unprotected individuals from disturbing ACBM, or entering areas where repair or renovation activities involving ACBM are underway. Warning signs used in conjunction with small renovation or repair that involves the disruption of ACBM should be posted at the entrances and around the perimeter of the project and in accordance with OSHA Asbestos Standard for the Construction Industry (29 CFR 1926.58).

Warning labels must be put on all asbestos-containing building materials in mechanical rooms or areas frequented by maintenance personnel. The labels should be worded as follows:

CAUTION: ASBESTOS. HAZARDOUS.
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT

All labels shall be prominently displayed in readily visible locations and shall remain posted until the ACBM that is labeled is removed.

D. **TRAINING**

Training of service (custodial and maintenance) workers is one of the most important aspects of an effective O&M plan. Training serves to establish proper awareness and understanding of work practices that are vital to the success of the program. All service workers should receive at least two hours of general awareness training. This training session should include, at a minimum, all the information outlined in the notification section. Service personnel who conduct any activities that will result in the disturbance of ACBM must receive 14 hours of additional instruction (per AHERA). Training should include cleaning techniques, appropriate practices for handling ACBM, and the proper use of personal protective equipment, including hands-on training. The training program should be conducted by the Asbestos Control Manager or a person trained in asbestos control and O&M programs.

E. **RESPIRATORY PROTECTION**

Any employer who requires or permits employees to wear a respirator must have a written respiratory protection program. This is required by OSHA in both of their asbestos standards (29 CFR 1910.1001 and 1926.58) and respiratory regulations (29 CFR 1910.134). The written respiratory program establishes standard operating

procedures for the use and maintenance of respiratory equipment. The OSHA regulations spell out exactly what must be included in a written program.

F. **MEDICAL SURVEILLANCE**

Employers are required to institute a medical surveillance program for all employees who are assigned to wear a negative-pressure respirator. All examinations and procedures must be performed by or under the supervision of a licensed physician at no cost to the employee. the purpose of the medical surveillance program is to establish an employee's fitness to wear a respirator, and to detect any changes in the gastrointestinal and cardio-pulmonary systems as a result of working in asbestos contaminated areas. The OSHA regulations spell out what is required in the medical surveillance program.

G. **SPECIALIZED CLEANING PROCEDURES**

Special cleaning practices should be followed in buildings with ACBM. **Initial Cleaning** of existing asbestos contamination within a building is one of the primary objectives of the O&M program. Dry brooms, mops, dust cloths, and standard vacuum cleaners simply re-suspend asbestos fibers into the air. All rooms or areas with friable or damaged ACBM must be cleaned at least once after the inspection for ACBM in the buildings and before the initiation of any response actions other than O&M activities or repair. The following procedures should be used:

1. HEPA-vacuum or steam clean all carpets.

2. HEPA-vacuum or wet-clean all other floors and walls.

3. Dispose of all debris, filters, mopheads, cloths, etc. as asbestos waste as outlined below.

Things <u>not</u> to do when cleaning asbestos-containing building materials:

1. Do not **sand** asbestos flooring or backing material.

2. Do not dust with a brush.

3. Do not dry sweep bare floors.

4. Do not use an ordinary vacuum to clean up asbestos debris.

For all the buildings with friable ACBM, the following precautions should always be used when cleaning the friable ACBM or areas contaminated with asbestos:

1. All dusting and mopping of the contaminated areas must be conducted using "wet" cleaning techniques (mops or cloths dampened with water or a dust suppressant) or with special vacuum cleaners equipped with High Efficiency Particulate Air (HEPA) filters.

2. Spray (mist) bottles of water or dust suppressant should be available and used to keep the mops and cloths damp.

3. Cleaning materials (mop heads, cloths, etc.) should be washed after each cleaning, changed at regular intervals, and discarded as asbestos waste -- the materials should be placed in 6 mil plastic bags, the bags sealed and labeled: **"DANGER - CONTAINS ASBESTOS FIBERS - AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD,"** and the bags deposited in a landfill approved by the State of South Carolina. Small amounts of waste could be stored in labeled 55-gallon drums (or other durable containers) in secure areas on-site. A disposal company could then transport the waste to an approved landfill periodically. Any liquid material used to clean items must be contained and discarded as asbestos waste.

4. HEPA filters should be removed from vacuum cleaners with great care. Consult the manufacturer's instructions on filter removal. Workers should mist the filters with water as they are removed.

5. Ladders, mops, buckets, vacuum cleaners, and all cleaning equipment should be washed or wiped with damp cloths when the cleaning is finished. Cloths should be discarded as asbestos waste. Any liquid material used to clean items must be contained and discarded as asbestos waste.

6. A regular cleaning schedule of the asbestos containing areas should be done at least every six months. This could be done during the periodic surveillance as outlined in **Document 8** of this management plan. The frequency of regular cleaning may need to change as history of the ACBM condition is logged during periodic surveillance.

H. SPECIAL PRECAUTIONS FOR ASBESTOS MATERIALS

DRILLING INTO VINYL FLOORING

Situations may arise where it is necessary to drill into the asbestos-containing vinyl flooring to attach furniture etc. This operation may make the ACBM friable, therefore extra precautions are needed. Options available are:

1. Worker or workers should wear NIOSH/MSHA approved respirators equipped with HEPA filters cartridges.

2. Wet wipe the area to be drilled.

3. A HEPA vacuum should be used adjacent to the drilling operation to pick up fibers and debris as the drilling occurs. Alternately, apply caulking or silicone sealant directly to the tile and drill through the applied material.

4. Dispose of any debris as asbestos waste as outlined in the previous section.

5. Clean up area as outlined above.

REMOVING OR REPAIRING VINYL FLOORING

1. To remove small sections of floor tiles, dry ice or heat from a portable heater can be applied to the tops of the tiles, then pry the tiles up.

2. Use a "wet" or solvent method to remove and clean the adhesive.

3. Do not sand the adhesive from the base flooring.

4. A HEPA vacuum or wet-wiping should be used to clean up as outlined above.

5. All tiles, cloths, and debris must be disposed of as asbestos waste as outlined above.

6. Large scale removal should be done only under abatement conditions

CHANGING FIXTURES IN ROOMS WITH ASBESTOS CEILINGS

Fixtures include things such as lights, speakers, ventilation screens, clocks, suspended ceiling tiles, etc.

1. Always have a HEPA vacuum available if needed.

2. Personnel should always wear a negative pressure respirator when performing activity around asbestos ceiling materials that may become disturbed.

3. Room or area should be evacuated of non-essential personnel while fixtures are being changed.

4. Plastic dropcloth should be used to contain any ACBM debris. All asbestos debris must be disposed of as asbestos waste.

SPRAYED-ON CEILING MATERIAL (SCM)

1. Perform initial cleaning of all contaminated areas using wet methods.

2. Do not hang or stack anything on or next to SCM.

3. Be watchful of any residue that may have fallen from SCM and follow procedures outlined for **Fiber Release Episodes** in **Section J.**

4. Remove only under abatement conditions.

5. Changing light fixtures next to ceiling material should be performed by trained and properly protected personnel only.

6. Document all activities.

CEILING TILES

1. Perform initial cleaning of all areas using wet methods.

2. Do not hang or stack anything on or next to ceiling tiles.

3. Be watchful of any residue that may have fallen from ceiling tiles and follow procedures outlined for **Fiber Release Episodes** in **Section J.**

4. Remove only under abatement conditions.

5. Changing light fixtures or performing any activity above or next to ceiling tiles should be performed by trained and properly protected personnel only.

6. Document all activities.

TRANSITE BOARD

1. Do not drill, break or puncture transite board without a HEPA vacuum available to clean up any debris.

2. Only properly trained personnel should potentially disturb transite board.

3. Document all activities.

THERMAL SYSTEM INSULATION (PIPE, EQUIPMENT, HARD JOINTS)

1. Restrict entry to maintenance areas to properly trained and protected personnel only.

2. Perform initial cleaning in all contaminated areas with any damaged insulation using wet methods.

3. Properly label all asbestos materials in maintenance areas as outlined in **Section C.**

4. Avoid unnecessary contact with the insulation by not leaning ladders, brooms, or other objects onto or against asbestos insulation material.

5. Be watchful of any residue that may have fallen from ceiling tiles and follow procedures outlined for **Fiber Release Episodes** in **Section J.**

6. Small scale, short duration activities should be performed by properly trained personnel only as outlined in **Section A.**

7. Document all activities.

DUCT SEALANT MATERIAL

1. Check material for drying out periodically.

2. Do not cut material or make it friable.

3. Properly label all asbestos materials in maintenance areas as outlined in **Section C.**

4. Avoid unnecessary contact with the sealant by not leaning ladders, brooms, or other objects onto or against asbestos sealant material.

5. Be watchful of any residue that may have fallen from the sealant material and follow procedures outlined for **Fiber Release Episodes** in **Section J.**

6. Small scale, short duration activities should be performed by properly trained personnel only as outlined in **Section A.**

7. Document all activities.

FLEXIBLE JOINT MATERIAL

1. Check integrity of material to make sure it is not cut or punctured.

2. Avoid unnecessary contact by not leaning ladders, brooms, or other objects onto or against asbestos flexible joint material that may make it friable.

3. Properly label all asbestos materials in maintenance areas as outlined in **Section C.**

4. Document all activities.

LIGHT FIXTURE INSULATION:

1. Have only trained personnel change light bulbs on the light fixtures. Use caution.

2. Properly label all asbestos materials in maintenance areas as outlined in **Section C.**

3. Be watchful of any residue that may have fallen from the light fixture insulation and follow procedures outlined for **Fiber Release Episodes** in **Section J.**

4. Document all activities.

I. WORK PRACTICES FOR MAINTENANCE ACTIVITIES

Maintenance activities affecting asbestos-containing thermal system insulation generally involve plumbing-type repairs. Frequently the ACBM must be removed to provide access to the valve, flange, or related system part needing maintenance. The extent of special work practices is tailored to reflect the likelihood that the ACBM will be disturbed and that asbestos fibers will be released. Four categories of potential disturbance are defined: (1) contact with ACBM is very unlikely, (2) accidental disturbance of ACBM is possible, (3) disturbance of ACBM is intended or likely - small disturbances (under three(3) feet of thermal system insulation), and (4) disturbance of ACBM is intended or likely - large disturbances (greater than three(3) feet of thermal system insulation).

CONTACT WITH ACBM UNLIKELY

Repairs which can be performed without contacting or disturbing the ACBM require only normal care, good workmanship, and that respirators and a HEPA vacuum cleaner are available if needed.

ACCIDENTAL DISTURBANCE OF ACBM POSSIBLE

Maintenance tasks that involve no direct contact with ACBM may cause accidental disturbance. Vibrations created by maintenance activities in one part of a piping network will be transmitted to other parts. Vibrations could then cause fibers to be released from insulation which is exposed or not in good condition. If in doubt about the possibility of fiber release, thoroughly inspect the ACBM before undertaking the maintenance or repair work. Then, either correct the problem before starting, or assume that the maintenance work may cause accidental disturbance and fiber release. In this case, the following procedures should be used:

1. Approval should be obtained from the Asbestos Control Manager before beginning work. The Asbestos Control Manager or supervisor should make an initial visit to the work site.

2. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from entering the work area (e.g., " **MAINTENANCE WORK IN PROGRESS, DO NOT ENTER** "). Note, emergency exits must remain in operation.

3. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.

4. A 6-mil polyethylene plastic dropcloth should be placed beneath the location of the maintenance work, extending at least 10 feet beyond all sides of the work site.

5. Plastic sheets (6-mil polyethylene) should be cut and taped around any asbestos-containing insulation or other ACBM which might be accidentally disturbed. The plastic should be misted with amended water before taping it shut. If the locations where insulation could be disturbed are too numerous for isolation with plastic, workers should perform the maintenance work wearing air-purifying respirators at a minimum and protective clothing, including disposable suits and hoods.

6. After the maintenance work is completed, all tools, ladders, and other equipment should be HEPA-vacuumed or wiped with a damp cloth. Special care should be taken when removing the plastic from the insulation to minimize disturbance of ACBM dust or debris that may have fallen from the insulation.

7. If any debris is apparent on the drop cloth, floor or elsewhere, it should be HEPA-vacuumed.

8. The plastic dropcloth should be wiped with a damp cloth, carefully folded, and discarded as asbestos waste.

9. All cloths, vacuum bags/filters, and other disposable materials (including any liquid materials) should be contained and discarded in sealed and labeled plastic bags as asbestos waste.

10. Workers should HEPA-vacuum respirators and protective clothing at the work site. The clothing should then be discarded as asbestos waste. If the ACBM was disturbed during the course of the work, the workers

should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.

SMALL DISTURBANCE OF ACBM INTENDED OR LIKELY

Where less than 3 feet of asbestos-containing thermal system insulation must be removed to maintain or repair the thermal system, the ACBM will obviously be disturbed. The following procedures should be used:

1. Approval should be obtained from the Asbestos Control Manager before beginning work. The Asbestos Control Manager or supervisor should make an initial visit to the work site.

2. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from entering the work area (e.g., " **MAINTENANCE WORK IN PROGRESS, DO NOT ENTER** "). Note, emergency exits must remain in operation.

3. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.

4. Maintenance workers should wear at least air-purifying respirators with HEPA filters and protective clothing (suit, hood, and boots) in case of a fiber release accident.

5. The asbestos-containing thermal system insulation should be removed as necessary for the repairs, and the repairs made using standard glove bag techniques where possible (refer to the EPA publication: "Asbestos-in-Buildings Technical Bulletin: Abatement of Asbestos-Containing Pipe Insulation," 1986-2 and the OSHA Construction Industry Rule). Glove bags are fastened around the part to be repaired, the insulation is removed with knives and saws to make the part accessible, and the repairs are made using tools contained in the glove bag tool pouch.

6. At the conclusion of the work, Maintenance workers should clean their clothing using a HEPA vacuum and wet wiping.

7. All glove bags and any other used materials (including disposable clothing and any liquid materials) should be discarded as asbestos waste. If the ACBM was disturbed during the course of the work, the workers should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.

8. Non-asbestos insulating material can be installed as necessary to replace insulation which was removed.

LARGE DISTURBANCE OF ACBM INTENDED OR LIKELY

Where **more than** 3 square feet or 3 linear feet of asbestos-containing thermal system insulation must be removed to maintain or repair the thermal system, this should be considered a large-scale disturbance of ACBM and not a small scale, short duration activity. In some situations glove bag techniques may be appropriate and the procedures described above for "small disturbances" should be followed. When glove bags are not feasible, then an **accredited** outside contractor should be hired for the removal project before the maintenance work begins. If maintenance personnel are to conduct the asbestos removal, they must be thoroughly trained in removal techniques and be **accredited** as required by OSHA and SCDHEC.

If the maintenance activities are likely to cause disturbance of ACBM on pipes, boilers, or ducts at sites other than just those undergoing repair (due to vibration, etc.), then the entire room or area must be isolated and large-scale asbestos removal procedures employed. These include: construction of containment barriers and decontamination facilities; use of negative pressure ventilation system; use of protective clothing and "type C" respirators by workers; proper disposal of asbestos debris; and proper cleanup of the work site followed by clearance air monitoring.

All large-scale disturbances **must be** designed by an **AHERA accredited** designer who is also a **registered** professional engineer or architect in the State of South Carolina.

J. **PROCEDURES FOR FIBER RELEASE EPISODES**

As long as ACBM remains in the building a fiber release episode could occur. A fiber release episode is when the ACBM becomes damaged in such a way as to release asbestos fibers to the atmosphere. Fiber release episodes are categorized as: 1) Minor Fiber Release Episode - the falling or dislodging of 3 square or linear feet or **LESS** of friable ACBM; and 2) Major Fiber Release Episode - the falling or dislodging or **MORE** than 3 square or linear feet of friable ACBM. Custodial and maintenance workers should report to the Asbestos Control Manager the presence of debris on the floor, water or physical damage to the ACBM, or any other evidence of possible fiber release. Fiber release episodes can also occur during maintenance or renovation projects.

For **Minor Fiber Release Episodes**, the Asbestos Control Manager should assign a suitably trained in-house team to clean up debris and make repairs as soon as possible. The

following procedures should be used:

1. Workers should wear air-purifying respirators with HEPA filters at a minimum.

2. Debris should be thoroughly saturated with water or amended water using a mister with a very fine spray. The debris should then be placed in a labeled, 6-mil plastic bag for disposal, and the floor should be cleaned with damp cloths or a mop. Or the debris can be collected with a HEPA vacuum cleaner.

3. All debris and materials used in the cleanup should be discarded as asbestos waste.

4. Workers should vacuum their disposable suits, if used, before leaving the work site and discard as asbestos waste.

5. The damaged ACBM should be repaired with asbestos-free spackling, plaster, cement, or insulation, or sealed with latex paint or an encapsulant.

6. Each fiber release episode must be documented using the form at the end of this document and the report filed in this management plan or the permanent asbestos file.

For any **Major Fiber Release Episode**, the following procedures must be used:

1. Restrict entry into the area and post signs to prevent entry into the area by persons other than those necessary to perform the response action.

2. Shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building.

3. The response action to any major fiber release episode must be designed by persons **accredited** to design response actions and conducted by persons **accredited** to conduct response actions.

4. Each fiber release episode must be documented using the form at the end of this document and the report filed in this management plan or the permanent asbestos file. For any **Major Fiber Release Episode**, the **EPA** must be notified within **48** hours.

K. <u>OUTSIDE SERVICE CONTRACTORS</u>

If any outside contractor is employed to do work where the ACBM may be disturbed (such as periodic cleaning, major renovation, or pipe repairs), contracts with such companies should include the following provisions to

insure that the workers can and will follow appropriate work practices:

1. Proof that the contractor's workers have been properly notified about ACBM in the building. buildings.

For major renovation or removal also include:

2. Copies of respiratory protection, medical surveillance and worker training documentation submitted to OSHA.

3. Historical air monitoring data for representative examples of the contractor's previous projects, with emphasis on projects similar to those likely to be encountered at the building.

L. PERIODIC SURVEILLANCE OF ACBM

At least once every six(6) months, the Asbestos Control Manager or his/her designee will conduct periodic surveillance in each building that contains asbestos-containing thermal system insulation. Each person performing periodic surveillance shall:

1. Visually inspect all areas that have been identified as asbestos-containing.

2. Record the date of the surveillance, his or her name, and any changes in the condition of the ACBM.

3. Submit to the Asbestos Control Manager a copy of such a record or report for inclusion into the management plan or permanent asbestos file.

The Asbestos Control Manager is responsible for compliance to this section. An example of the periodic surveillance form to be used is shown at the end of this document.

M. EQUIPMENT NEEDED

AHERA recommends that the school have on-site at least one HEPA vacuum cleaner to be used when needed. Also needed will be at least one half-mask air-purifying respirator for each worker who may be required to wear one. Also recommended is to have an asbestos emergency repair kit which contains equipment and tools necessary for repair of damaged asbestos-containing insulation and asbestos disposal bags. Disposable suits may also be needed for maintenance workers.

N. RECORDKEEPING

All written records discussed in this Operations and Maintenance program should be maintained as part of this management plan or a permanent asbestos file.

FIBER RELEASE EPISODE REPORT

MAJOR FIBER RELEASE EPISODE _____
or
MINOR FIBER RELEASE EPISODE _____

1. Building and room number(s) where episode occurred:
_____
_____
_____
_____

2. The release episode was reported by:_____
_____ on _____(date).

3. Describe the episode: _____
_____
_____
_____
_____
_____
_____

Quantity of ACBM _____

4. The asbestos-containing material was____ /was not_____ cleaned according to approved procedures. Describe the cleanup: _____
_____
_____
_____
_____
_____
_____

5. Name of person(s) performing clean-up:_____
_____
_____

6. Name and location of asbestos waste disposal site:_____
_____
_____
_____

SIGNED:_____ **DATE:**_____
(Asbestos Control Manager)

MAJOR FIBER RELEASE EPISODE REQUIRES NOTIFYING EPA WITHIN 48 HOURS OF INCIDENT

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building name):
_____
_____
_____

Type of asbestos-containing material: **VINYL FLOOR TILE**_____
THERMAL INSULATION_____
SPRAY-ON CEILING_____
OTHER_____

Assessment:

1. Evidence of physical damage:_____
_____
_____

2. Evidence of water damage:_____
_____
_____

3. Evidence of delamination or other deterioration:_____
_____
_____

4. Other observations:_____
_____
_____
_____
_____

SIGNED:_____ **DATE:**_____

INSTRUCTIONS FOR DOCUMENT J

PURPOSE

To provide an evaluation of resources needed to complete response actions, carry out reinspections, operations and maintenance activities, periodic surveillance and training as described in 40 CFR Part 763.93(e)(11). EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the top right-hand corner. Under "Evaluation of Resources Needed", discussion may include such information as funding required, equipment, facilities, support personnel, etc. When appropriate, this discussion shall be supplied for each homogeneous area; however, homogeneous areas can be combined if the resources required are the same for each.

Use the same form to discuss resources needed for additional homogeneous areas and number sheets J.1, J.2, J.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Resources Needed 763.93(e)(11)

Evaluation of Resources Needed:

EQUIPMENT

HEPA vacuum
1/2 face respirator
tool kit (emergency repair)
disposable type suits
6-mil polyethylene sheets

SUPPORT PERSONNEL

Engineering Consultant
Maintenance Personnel (Trained)
Asbestos Project Manager

FUNDING

$497,425

INSTRUCTIONS FOR DOCUMENT K

PURPOSE

To provide steps taken to inform others of actions taken as required in 40 CFR Part 763.93(e)(10) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the top right-hand corner. In the discussion section of this form, information should be included that describes steps taken to inform workers and building occupants, or their legal guardians, about inspections, reinspections, response actions, and post response action activities, including periodic reinspection and surveillance activities that are planned or in progress. Use the same form if additional space is needed and number sheets K.1, K.2, K.3, etc.

Virginia Department of Education Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Steps to Inform Others 40 CFR Part 763.93(e)(10)

Discussion of Program to Inform Others:

The Asbestos Control Manager is responsible for informing all building occupants of the asbestos control program at the Elizabeth Redd. Notification serves two purposes: (1) it alerts affected parties to a potential hazard in the buildings; and (2) it provides basic information on avoiding the hazard. Building occupants, employees, and others who are aware of the presence of ACBM are less likely to disturb the material and cause fiber release.

Plan existence/availability notices to the staff, parents/guardians, short term workers and the general public will be addressed in the following manner.

1. Staff: Bulletin board notices will be posted, paycheck insert notices will be distributed, all staff will be offered the two hour asbestos awareness training mandated for custodial/maintenance workers.

2. Parent/Guardians: Announcement/informational handout will be provided at initial registration. PTA will provide notice during meetings, newspaper news releases will be filed and announcements will be made at conference times.

3. Short term Workers: Notice will be included with Purchase Order for services, verbal notice will be made during our visit.

RICHMOND PUBLIC SCHOOLS
301 NORTH NINTH STREET RICHMOND, VA 23219-3913

ALBERT J. WILLIAMS, Ed.D.
SUPERINTENDENT
Telephone: (804) 780-7700
Fax: (804) 780-4122
e-mail: awilliam@richmond.k12.va.us

MEMORANDUM

TO: Principals

FROM: Albert J. Williams, Ed.D.
Superintendent

DATE: August 5, 1998

RE: Asbestos Management Plans

The following notice should be sent to PTA presidents. Also, please advise your staff of this as well.

In accordance with Section 205 of the Toxic Substances Control Act (15USC 2645), all asbestos management plans for Richmond Public Schools' facilities have been filed with the Commonwealth of Virginia as of May 1989. Copies of these plans and all asbestos response actions taken since the implementation of these plans are available for inspection in the main office of every school facility.

/jh

INSTRUCTIONS FOR DOCUMENT L

PURPOSE

To provide a periodic surveillance plan as required in 40 CFR Part 763.93(e)(9) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the top right-hand corner. Discuss the Periodic Surveillance Plan described in paragraph 763.92(b) requiring a periodic surveillance of each building with ACBM at least every 6 months. Each person performing periodic surveillance shall visually inspect the areas, record the date, area of inspection, inspector's name, and description of any changes of the materials. A copy shall be developed for the management plan and submitted to the person designated by the LEA to administer the AHERA program in the LEA.

Use the same form if additional space is needed and number sheets L.1, L.2, L.3, etc.

Virginia Department of Education
Energy and Facilities Services

LEA: Richmond Public Schools
School: Elizabeth Redd
Building: Elizabeth Redd

Periodic Surveillance Plan 40 CFR Part 763.93 (e) (9)

Discussion of Periodic Surveillance Plan:

At least once every six (6) months, the Asbestos Control Manager or his/her designee will conduct periodic surveillance in each building that contains asbestos-containing thermal system insulation. Each person preforming periodic surveillance shall:

1. Visually inspect all areas that have been identified as asbestos-containing.

2. Record the data of the surveillance, his or her name, and any changes in the condition of ACBM.

3. Submit to the Asbestos Control Manager a copy of such a record or report for inclusion into the management plan or permanent asbestos file.

The Asbestos Control Manager is responsible for compliance to the section.

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(Periodic Surveillance)

Location of asbestos-containing material(s) (building name):

Reed School

Type of asbestos-containing material:

VINYL FLOOR TILE X
THERMAL INSULATION

Assessment:

1. Evidence of physical damage:

2. Evidence of water damage:

3. Evidence of delamination or other deterioration:

4. Other observations: All T.S.I. was Removed in Summer 1989. No change in Vinyl Asbestos Tile.

SIGNED: Michael H Griffin DATE: 12/27/89

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building) :

Elizabeth Redd Elementary School

Type of asbestos-containing material:

Vinyl Floor Tile _____
Thermal Insulation _____
Others _____

Assessment:

1. Evidence of physical damage :

2. Evidence of water damage :

3. Evidence of delimitation or other deterioration:

4. Other observations :

See 2007 Re-inspection Davis & Floyd. **Date :** _____

Comment(s):

INSTRUCTIONS FOR DOCUMENT M

PURPOSE

The information required on this form is described in 40 CFR Part 763.93(e)(9) of the EPA Asbestos-Containing Materials in Schools; Final Rule and Notice.

PREPARATION

Enter the name of the LEA, the school, and the building in the upper right-hand corner. The requirements of a reinspection plan are described in paragraph 763.85(b) and shall include frequency (at least every 3 years), address all friable and non-friable known or assumed ACBM, performance by an accredited inspector, visual reinspection and reassessment, touching of material to determine changes of condition, identification of homogeneous areas where material has become friable since the last inspection, sampling of areas assumed to contain ACBM, reassessment of areas where condition of materials, exact sample location, manner used to determine sampling locations, and names and signatures of persons making the reinspections, taking samples and reassessing the materials, accreditation numbers, and state of accreditation.

Use the same form if additional space is needed and number sheets M.1, M.2, M.3, etc.

Virginia Department of Education Energy and Facilities Services	LEA: Richmond Public Schools School: Elizabeth Redd Building: Elizabeth Redd

Reinspection Plan 40 CFR Part 763.93 (e) (9)

Discussion of Reinspection Plan:

1. Reinspection of friable and nonfriable ACBM every three years.

2. Inspection by accredited inspector.

3. Reinspection shall include:

   a. Visual reinspection of all friable ACBM and newly friable ACBM. Reassessment of all friable ACBM.

   b. Recheck all previously nonfriable ACBM to determine if they have become friable.

   c. Identify newly friable materials.

   d. Collect and submit samples of newly friable ACBM if previously assumed to be ACBM.

   e. Assess, under 763.88, newly friable ACBM.

   f. Reassess condition of previously identified friable ACBM.

   g. Record and submit:

      1. Reinspection report.
      2. Inventory of homogeneous areas. Exact sample site locations.
      3. Description of manner used to determine sample site locations.

Reinspection is the responsibility of the LEA or his designee.

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 04 Quantity: _____

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N✓	Y___ N✓
2. Sampled/Analyzed	Y✓ N___	Y___ N✓
3. Friable/Nonfriable	F___ N✓	F___ N✓
4. Damaged/No Damage	D___ N___	D✓ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y✓ N___ Y___ N✓ Y✓ N___
4b. Extent: Percent Damage Localized Distributed	___ % Y___ N___ Y___ N___	2 % Y___ N✓ Y✓ N___
4c. Accessibility: Low/Med./High	L__ M__ H__	L__ M__ H✓
4d. Disturbance Potential L/M/H	L__ M__ H__	L__ M__ H✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Fain
DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 01-31-92 Licence No: 3304000105

LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Sears DATE: 7/9/92

TRAINING: _____ CERTIFIED INSPECTOR/MANAGEMENT PLANNER

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 08 Quantity: 14403 SF

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y ✓ N___	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D___ N___	D ✓ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y ✓ N___ Y___ N ✓ Y ✓ N___
4b. Extent: Percent Damage Localized Distributed	____ % Y___ N___ Y___ N___	2 % Y___ N ✓ Y ✓ N___
4c. Accessibility: Low/Med./High	L___ M___ H___	L___ M___ H ✓
4d. Disturbance Potential L/M/H	L___ M___ H___	L___ M___ H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Fain

DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]

DATE: 01-31-92 Licence No: 3304000105

LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Sears DATE: 7/9/92

TRAINING: _____ CERTIFIED INSPECTOR/MANAGEMENT PLANNER

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 09 Quantity: 14,100 SF

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y ✓ N___	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D___ N___	D ✓ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y ✓ N___ Y___ N ✓ Y ✓ N___
4b. Extent: Percent Damage Localized Distributed	____ % Y___ N___ Y___ N___	2 % Y___ N ✓ Y ✓ N___
4c. Accessibility: Low/Med./High	L__M__H__	L__M__H ✓
4d. Disturbance Potential L/M/H	L__M__H__	L__M__H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	OEM	OEM
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: [signature]
DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 01-31-92 Licence No: 3304000105

LEA AHERA DESIGNATD PERSON

SIGNED: [signature] DATE: 7/9/92

CERTIFIED INSPECTOR/MANAGEMENT PLANNER

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 11 Quantity: _____

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N___	Y___ N✓
2. Sampled/Analyzed	Y___ N___	Y___ N✓
3. Friable/Nonfriable	F___ N___	F___ N✓
4. Damaged/No Damage	D___ N___	D✓ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y✓ N___ Y___ N✓ Y✓ N___
4b. Extent: Percent Damage Localized Distributed	___ % Y___ N___ Y___ N___	2 % Y___ N✓ Y✓ N___
4c. Accessibility: Low/Med./High	L___ M___ H___	L___ M___ H✓
4d. Disturbance Potential L/M/H	L___ M___ H___	L___ M___ H✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Fain
DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 01-31-92 Licence No: 3304000105
LEA AHERA DESIGNATD. PERSON

SIGNED: Sandy W. Sears DATE: 7/9/92

TRAINING: _____ CERTIFIED INSPECTOR/MANAGEMENT PLANNER

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 17 Quantity: _____

Material: HARD JOINT

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: Abated

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N✓	Y___ N___
2. Sampled/Analyzed	Y✓ N___	Y___ N___
3. Friable/Nonfriable	F✓ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	____ % Y___ N___ Y___ N___	____ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L__M__H__	L__M__H__
4d. Disturbance Potential L/M/H	L__M__H__	L__M__H__
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	1	N/A completed
6. Recommended Response Action Mark Number from 40CFR763.90	F	N/A
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Fain

DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: _____

DATE: 01-31-92 Licence No: 3304000105

LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Sears DATE: 7/9/92

TRAINING: _____ CERTIFIED INSPECTOR/MANAGEMENT PLANNER

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 18 Quantity: _____

Material: PIPE AIR CELL (INSULATION)

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: Abated

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N✓	Y___ N___
2. Sampled/Analyzed	Y✓ N___	Y___ N___
3. Friable/Nonfriable	F✓ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	____ % Y___ N___ Y___ N___	____ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L__ M__ H__	L__ M__ H__
4d. Disturbance Potential L/M/H	L__ M__ H__	L__ M__ H__
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	1	N/A computed
6. Recommended Response Action Mark Number from 40CFR763.90	F	N/A
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Shinn
DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 01-31-92 Licence No: 330400105

LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Sears DATE: 7/9/92

TRAINING: CERTIFIED INSPECTOR/MANAGEMENT PLANNER

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D. REDD ELEMENTARY

Buildings: _____ Building Number: 353

Homogeneous Area # : 21 Quantity: 240 SF

Material: BOILER INSULATION

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: Abated

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N___
2. Sampled/Analyzed	Y ✓ N___	Y___ N___
3. Friable/Nonfriable	F ✓ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	____ % Y___ N___ Y___ N___	____ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L M H	L M H
4d. Disturbance Potential L/M/H	L M H	L M H
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	1	N/A Completed
6. Recommended Response Action Mark Number from 40CFR763.90	F	N/A
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: George Shinn
DATE: 1-8-92 Licence No: 330300 1408

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 01-31-92 Licence No: 3304000105

LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Sears DATE: 7/9/92

TRAINING: CERTIFIED INSPECTOR/MANAGEMENT PLANNER

REINSPECTION OUTLINE

Reinspections shall be made of all friable or nonfriable known or assumed ACBM in each school building that is leased, owned, or otherwise used as a school building. Each inspection will be made by an AHERA accredited and state (SCDHEC) licensed inspector. The reinspection shall be done in accordance with EPA 40 CFR Part 763.85. A copy of the inspection report will be added to this management plan.

The inspector will need to obtain a copy of Document 2 (drawings), Document 3 (homogeneous area descriptions), and Document 6 (response actions) from the management plan for the building.

Reference will be made to Document 6 which lists the homogeneous areas with known or assumed ACBM. Documents 2 and 3 define the location and limits of each homogeneous area in the school building.

The reinspection inspector will:

1. Visually inspect and reassess the condition of all friable known or assumed ACBM.
2. Visually inspect materials that were previously considered nonfriable ACBM. The inspector will touch these materials to determine whether they have become friable since the last inspection.
3. Identify any homogeneous areas with materials that have become friable since the last inspection.
4. Collect and analyze bulk samples from each homogeneous area of newly friable material that was assumed to be ACBM, but was not previously sampled.
5. Assess the condition of the newly friable materials in areas where samples are collected or newly friable materials in areas that are assumed to be ACBM.
6. Reassess the condition of friable known or assumed ACBM previously identified.

40CFR763.88(b) Assessment Categories

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

40CFR763.90 Response Actions

(b) If damaged or significantly damaged thermal system insulation ACM is present in a building, the local education agency shall:
(1) At least repair the damaged area.
(2) Remove the damaged material if it is not feasible, due to technological factors, to repair the damage
(3) Maintain all thermal system insulation ACM and its covering in an intact state and undamaged condition.

(c) If damaged friable surfacing ACM or damaged friable miscellaneous ACM is present in a building, the local education agency shall select from among the following response actions:
(1) encapsulation,
(2) enclosure,
(3) removal, or
(4) repair of the damaged material.

(d) If significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building the local education agency shall:
(1) Immediately isolate the functional space and restrict access, unless isolation is not necessary to protect human health and the environment.
(2) Remove the material in the functional space or, depending upon whether enclosure or encapsulation would be sufficient to protect human health and the environment,
(3) enclose or
(4) encapsulate.

(e) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in a building, the local education agency shall at least implement an operations and maintenance (O & M) program, as described under 763.91.

(f) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for significant damage is present in a building, the local education agency shall:
(1) Implement an O & M program, as described under 763.91.
(2) Institute preventive measures appropriate to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated or delaminated.
(3) Remove the material as soon as possible if appropriate preventive measures cannot be effectively implemented, or unless other response actions are determined to protect human health and the environment. Immediately isolate the area and restrict access if necessary to avoid an imminent and substantial endangerment to human health or the environment.

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF COMMERCE

3600 West Broad Street, Richmond, VA 23230

Telephone: 1 (804) 367-8500

VIRGINIA ASBESTOS LICENSE
INSPECTOR LICENSE

EXPIRES

11-30-92

NUMBER

3303
001408

GEORGE F FAIN

141 BRENTWOOD

GREENWOOD, SC 29646

Milton K. Brown, Jr.
Milton K. Brown, Jr., Director

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

3303001408

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF COMMERCE

3600 West Broad Street, Richmond, VA 23230

Telephone: 1 (804) 367-8500

VIRGINIA ASBESTOS LICENSE
MANAGEMENT PLANNER

EXPIRES
07-31-92

NUMBER
3304
000105

R I. POWELL
DAVIS & FLOYD, INC
POST OFFICE DRAWER 428

GREENWOOD, SC 29648

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

Milton K. Brown, Jr.
Milton K. Brown, Jr., Director

3304000105

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
3600 West Broad Street, Richmond, VA 23230
Telephone: 1 (804) 367-8500

EXPIRES ON
10-31-95

LICENSE NUMBER
3303 001865

VIRGINIA ASBESTOS LICENSE
INSPECTOR LICENSE

ROBERT D HYLER
2604 MILAN PASS

WEST COLUMBIA, SC 29170

Ray Allen, Jr., Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

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DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA
3600 West Broad Street Richmond, VA 23230
Telephone : (804) 367-8500

EXPIRES ON
07-31-95

LICENSE NUMBER
3304 000105

VIRGINIA ASBESTOS LICENSE
MANAGEMENT PLANNER LICENSE

R L POWELL
POST OFFICE DRAWER 428

GREENWOOD, SC 29648

Ray Allen
Ra

OF THIS DOCUMENT, USE AFTER EXPIRATION OR USE BY PERSONS OR FIRMS OTHER
THAN MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 04 Quantity: _____

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1986 92	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y___ N ✓	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N ~~✓~~ BH ✓	D ✓ N___
4a. Type: Deterioration Water Physical	Y ✓ N___ Y___ N ✓ Y ✓ N___	Y ✓ N___ Y___ N ✓ Y ✓ N___
4b. Extent: Percent Damage Localized Distributed	02 % Y___ N ✓ Y ✓ N___	02 % Y___ N ✓ Y ✓ N___
4c. Accessibility: Low/Med./High	L M H ✓	L M H ✓
4d. Disturbance Potential L/M/H	L M H ✓	L M H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: _____
DATE: 6.6.95 Licence No: 00265
LEA AHERA DESIGNATD PERSON

SIGNED: Claudette Dean DATE: 7/12/95

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 08 Quantity: 14,400 SF

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes:____ No: ✓

B. If (A) is yes, Explain:____

ASSESSMENT SECTION	1988 92	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y___ N ✓	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N___	D___ N ✓
4a. Type: Deterioration Water Physical	Y ✓ N___ Y___ N ✓ Y ✓ N___	Y___ N ✓ Y___ N ✓ Y___ N ✓
4b. Extent: Percent Damage Localized Distributed	02 % Y___ N ✓ Y ✓ N___	NA % Y___ N ✓ Y___ N ✓
4c. Accessibility: Low/Med./High	L___ M___ H ✓	L___ M___ H ✓
4d. Disturbance Potential L/M/H	L___ M___ H ✓	L___ M___ H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments:____

INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 6/6/95 Licence No: 00025
LEA AHERA DESIGNATD PERSON

SIGNED: Claudette Sears DATE: 7/12/95

TRAINING:____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 09 Quantity: _____

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988 92	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y___ N ✓	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N___	D ✓ N___
4a. Type: Deterioration Water Physical	Y ✓ N___ Y___ N ✓ Y ✓ N___	Y ✓ N___ Y___ N ✓ Y ✓ N___
4b. Extent: Percent Damage Localized Distributed	02 % Y___ N ✓ Y ✓ N___	02 % Y___ N ✓ Y ✓ N___
4c. Accessibility: Low/Med./High	L M H ✓	L M H ✓
4d. Disturbance Potential L/M/H	L M H ✓	L M H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: _____
DATE: 6.16.95 Licence No: 000195
LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Deans DATE: 7/12/95

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 11 Quantity: _____

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: _____ No: ✓

B. If (A) is yes, Explain: _____

ASSESSMENT SECTION	1988 92	NOW
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed	Y___ N ✓	Y___ N ✓
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N___	D ✓ N___
4a. Type: Deterioration Water Physical	Y ✓ N___ Y___ N ✓ Y ✓ N___	Y ✓ N___ Y___ N ✓ Y ✓ N___
4b. Extent: Percent Damage Localized Distributed	02 % Y___ N ✓ Y ✓ N___	02 % Y___ N ✓ Y ✓ N___
4c. Accessibility: Low/Med./High	L M H ✓	L M H ✓
4d. Disturbance Potential L/M/H	L M H ✓	L M H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: _____
DATE: 6.6.95 Licence No: 00025

LEA AHERA DESIGNATD PERSON

SIGNED: Gaudell W. Sears DATE: 7/12/95

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 17 Quantity: _____

Material: HARD JOINT

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: ABATED

ASSESSMENT SECTION	1988/92	NOW
1. Assumed ACBM	Y___ N___	Y___ N___
2. Sampled/Analyzed	Y___ N___	Y___ N___
3. Friable/Nonfriable	F___ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	___ % Y___ N___ Y___ N___	___ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L M H	L M H
4d. Disturbance Potential L/M/H	L M H	L M H
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	NA COMPLETED	
6. Recommended Response Action Mark Number from 40CFR763.90	NA	COMPLETE
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: _____

INSPECTOR SIGNED: Bob Hayler
DATE: 05-19-95 Licence No: 3303-001866

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 6-6-95 Licence No: 00105
LEA AHERA DESIGNATD PERSON

SIGNED: David W. Sears DATE: 7/18/95

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 18 Quantity: _____

Material: PIPE AIR CELL (INSULATION

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: ABATED

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N___	Y___ N___
2. Sampled/Analyzed	Y___ N___	Y___ N___
3. Friable/Nonfriable	F___ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	_____ % Y___ N___ Y___ N___	_____ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L___ M___ H___	L___ M___ H___
4d. Disturbance Potential L/M/H	L___ M___ H___	L___ M___ H___
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	NA COMPLETED	_____
6. Recommended Response Action Mark Number from 40CFR763.90	NA	COMPLETE
7. LEA Selected Response Action Mark Number from 40CFR763.90	_____	_____

C. Comments: REINSPECTION NOT NEEDED

INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 6.6.95 Licence No: 000195
LEA AHERA DESIGNATD PERSON

SIGNED: Claude W. Scott DATE: 7/12/95

TRAINING: _____

A H E R A - REINSPECTION FORM (Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: RICHMOND PUBLIC SCHOOLS

School: ELIZABETH D REDD ELEMENTARY

Buildings: ALL Building Number: 353

Homogeneous Area # : 21 Quantity: _____

Material: BOILER INSULATION

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed? Yes: ✓ No: _____

B. If (A) is yes, Explain: ABATED

ASSESSMENT SECTION	1988	NOW
1. Assumed ACBM	Y___ N___	Y___ N___
2. Sampled/Analyzed	Y___ N___	Y___ N___
3. Friable/Nonfriable	F___ N___	F___ N___
4. Damaged/No Damage	D___ N___	D___ N___
4a. Type: Deterioration Water Physical	Y___ N___ Y___ N___ Y___ N___	Y___ N___ Y___ N___ Y___ N___
4b. Extent: Percent Damage Localized Distributed	___ % Y___ N___ Y___ N___	___ % Y___ N___ Y___ N___
4c. Accessibility: Low/Med./High	L M H	L M H
4d. Disturbance Potential L/M/H	L M H	L M H
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	NA COMPLETED	
6. Recommended Response Action Mark Number from 40CFR763.90	NA	COMPLETE
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C. Comments: REINSPECTION NOT NEEDED

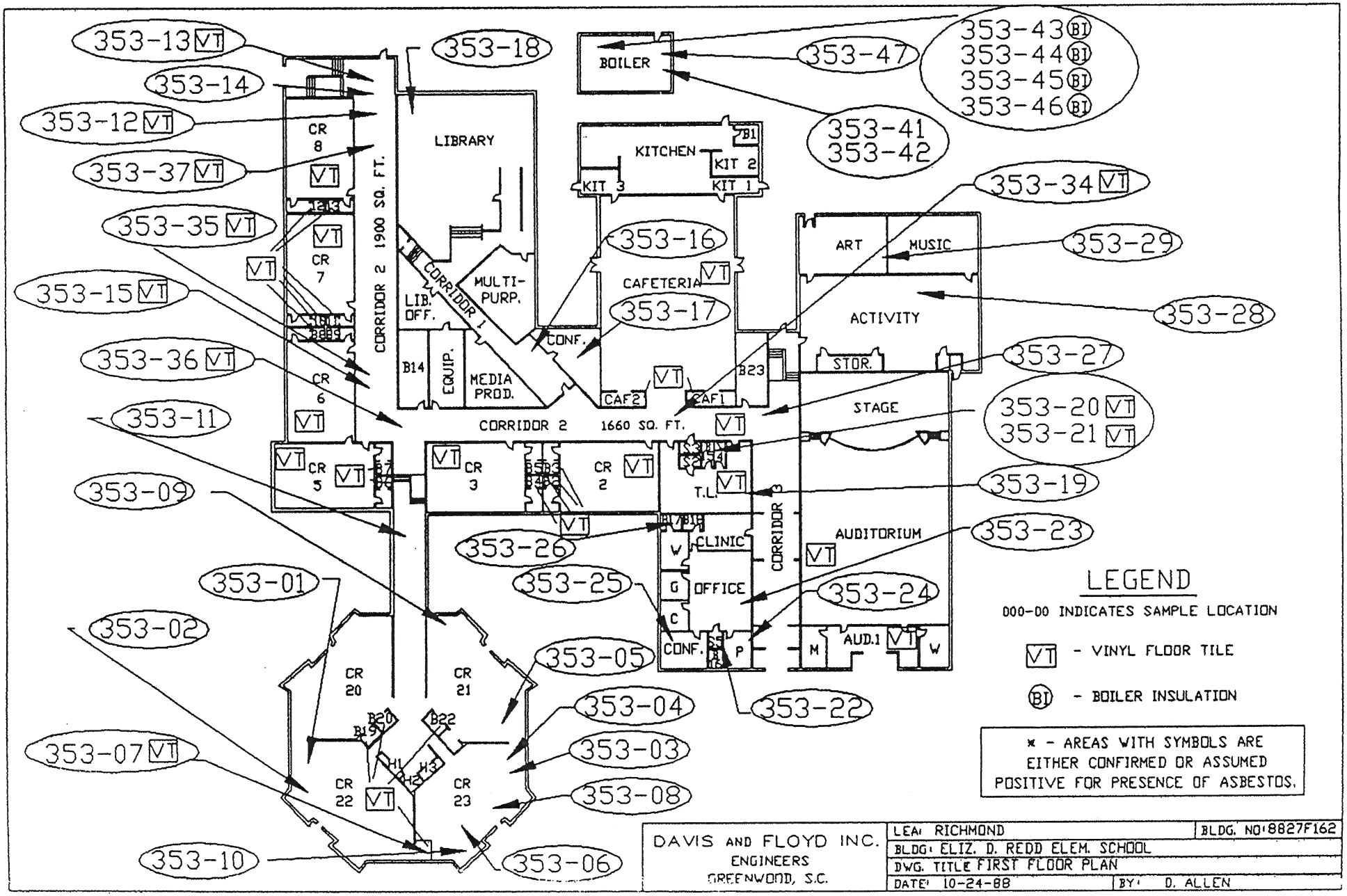
INSPECTOR SIGNED: Bob Hyler
DATE: 05-19-95 Licence No: 3303-001865

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 6.6.95 Licence No: 00965

LEA AHERA DESIGNATD PERSON

SIGNED: Claudette W. Sears DATE: 7/12/95

TRAINING: _____


353-13 VT
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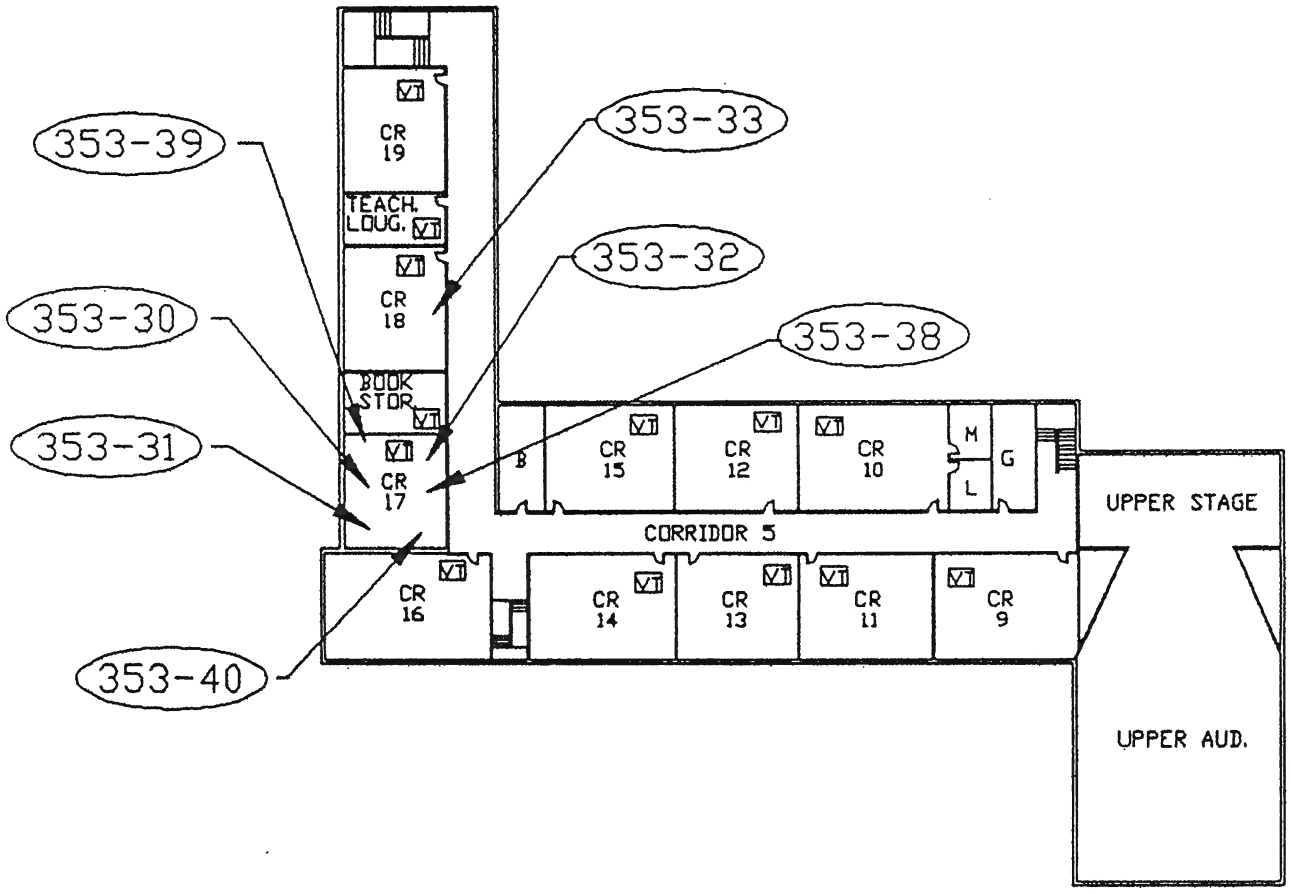
353-04
353-03
353-08
353-06
BOILER
LIBRARY
KITCHEN
KIT 1
KIT 2
KIT 3
CR 8
CR 7
CR 6
CR 5
CR 3
CR 2
CR 20
CR 21
CR 22
CR 23
CORRIDOR 2 1900 SQ. FT.
CORRIDOR 1
LIB. OFF.
MULTI-PURP.
CONF.
CAFETERIA
ART
MUSIC
ACTIVITY
STOR.
B14
EQUIP.
MEDIA PROD.
CAF 2
CAF 1
B23
CORRIDOR 2 1660 SQ. FT.
STAGE
T.L.
CLINIC
OFFICE
CONF.
CORRIDOR 3
AUDITORIUM
AUD.1
B20
B21
B22
H1
H2
H3
LEGEND
000-00 INDICATES SAMPLE LOCATION
VT - VINYL FLOOR TILE
BI - BOILER INSULATION
* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.
DAVIS AND FLOYD INC.
ENGINEERS
GREENWOOD, S.C.
LEA: RICHMOND
BLDG. NO: 8827F162
BLDG: ELIZ. D. REDD ELEM. SCHOOL
DWG. TITLE FIRST FLOOR PLAN
DATE: 10-24-88
BY: D. ALLEN



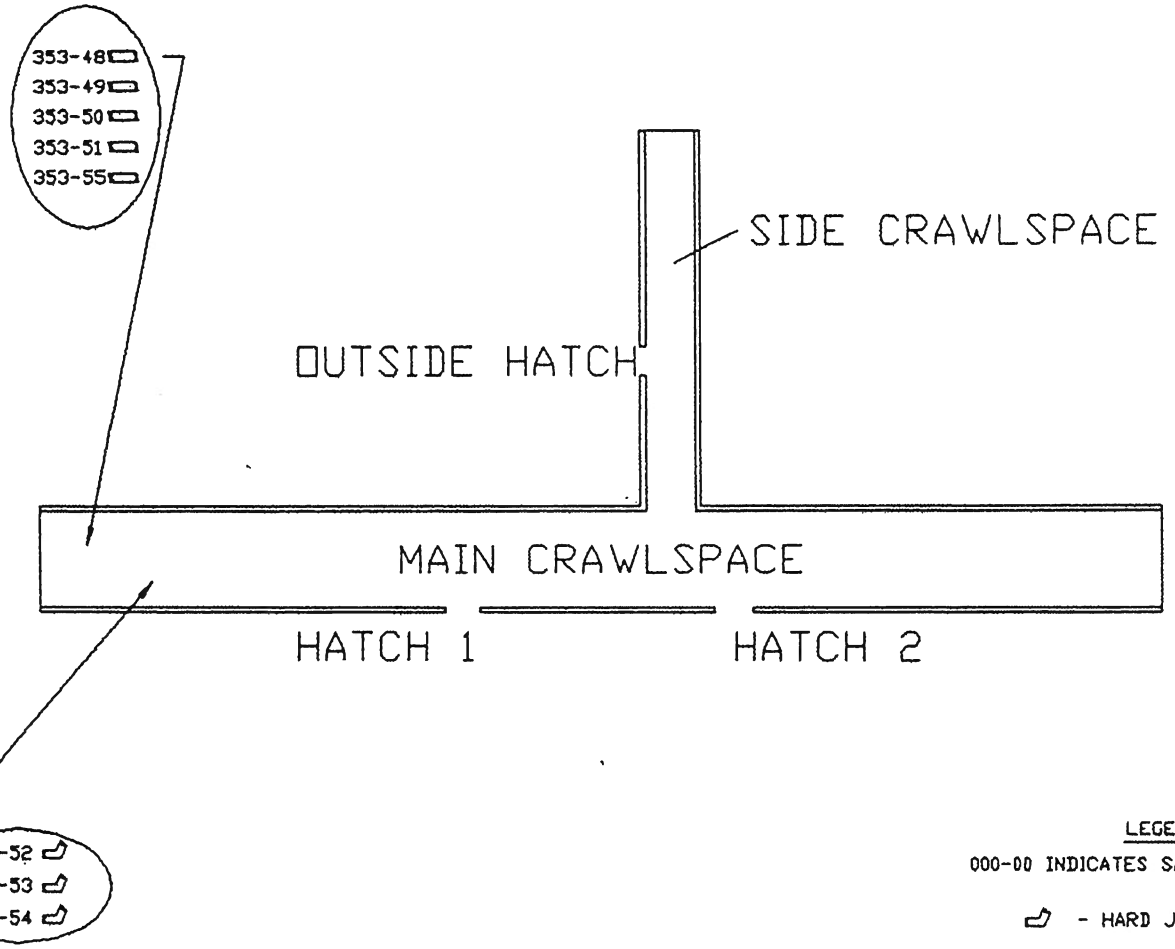
* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.

LEGEND

000-00 INDICATES SAMPLE LOCATION

VT - VINYL FLOOR TILE

DAVIS AND FLOYD INC. ENGINEERS GREENWOOD, S.C.	LEA: RICHMOND	BLDG. NO: 8827F262
	BLDG: ELIZ. D. REDD ELEM. SCHOOL	
	DWG. TITLE SECOND FLOOR PLAN	
	DATE: 10-25-88	BY: D. ALLEN



LEGEND

000-00 INDICATES SAMPLE LOCATION

- HARD JOINT

- PIPE INSULATION

* - AREAS WITH SYMBOLS ARE EITHER CONFIRMED OR ASSUMED POSITIVE FOR PRESENCE OF ASBESTOS.

DAVIS AND FLOYD INC. ENGINEERS GREENWOOD, S.C.	LEA: RICHMOND	BLDG. NO:
	BLDG: ELIZ. D. REDD ELEM. SCHOOL	
	DWG. TITLE CRAWLSPACE	
	DATE: 10-24-88	BY: D. ALLEN

REINSPECTION OUTLINE

Reinspections shall be made of all friable or nonfriable known or assumed ACBM in each school building that is leased, owned, or otherwise used as a school building. Each inspection will be made by an AHERA accredited and state (SCDHEC) licensed inspector. The reinspection shall be done in accordance with EPA 40 CFR Part 763.85. A copy of the inspection report will be added to this management plan.

The inspector will need to obtain a copy of Document 2 (drawings), Document 3 (homogeneous area descriptions), and Document 6 (response actions) from the management plan for the building.

Reference will be made to Document 6 which lists the homogeneous areas with known or assumed ACBM. Documents 2 and 3 define the location and limits of each homogeneous area in the school building.

The reinspection inspector will:

1. Visually inspect and reassess the condition of all friable known or assumed ACBM.
2. Visually inspect materials that were previously considered nonfriable ACBM. The inspector will touch these materials to determine whether they have become friable since the last inspection.
3. Identify any homogeneous areas with materials that have become friable since the last inspection.
4. Collect and analyze bulk samples from each homogeneous area of newly friable material that was assumed to be ACBM, but was not previously sampled.
5. Assess the condition of the newly friable materials in areas where samples are collected or newly friable materials in areas that are assumed to be ACBM.
6. Reassess the condition of friable known or assumed ACBM previously identified.

40CFR763.88(b)	Assessment Categories
	(1) Damaged or significantly damaged thermal system insulation ACM.
	(2) Damaged friable surfacing ACM.
	(3) Significantly damaged friable surfacing ACM.
	(4) Damaged or significantly damaged friable miscellaneous ACM.
	(5) ACBM with potential for damage.
	(6) ACBM with potential for significant damage.
	(7) Any remaining friable ACBM or friable suspected ACBM.

40CFR763.90 Response Actions.

(b) If damaged or significantly damaged thermal system insulation ACM is present in a building, the local education agency shall:

(1) At least repair the damaged area.

(2) Remove the damaged material if it is not feasible, due to technological factors, to repair the damage.

(3) Maintain all thermal system insulation ACM and its covering in an intact state and undamaged condition.

(c) If damaged friable surfacing ACM or damaged friable miscellaneous ACM is present in a building, the local education agency shall select from among the following response actions:

(1) encapsulation,

(2) enclosure,

(3) removal, or

(4) repair of the damaged material.

(d) If significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building the local education agency shall:

(1) Immediately isolate the functional space and restrict access, unless isolation is not necessary to protect human health and the environment.

(2) Remove the material in the functional space or, depending upon whether enclosure or encapsulation would be sufficient to protect human health and the environment,

(3) enclose or

(4) encapsulate.

(e) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in a building, the local education agency shall at least implement an operations and maintenance (O & M) program, as described under 763.91.

(f) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for significant damage is present in a building, the local education agency shall:

(1) Implement an O & M program, as described under 763.91.

(2) Institute preventive measures appropriate to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated or delaminated.

(3) Remove the material as soon as possible if appropriate preventive measures cannot be effectively implemented, or unless other response actions are determined to protect human health and the environment. Immediately isolate the area and restrict access if necessary to avoid an imminent and substantial endangerment to human health or the environment.

AHERA - REINSPECTION FORM

(Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: Richmond Public Schools

School: Elizabeth D. Redd Elementary

Buildings: ALL Building Number: 353

Homogeneous Area #: 04 Quantity:

Material: Vinyl Floor TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed?
Yes: No: ✓

B. If (A) is yes, Explain:

ASSESSMENT SECTION	1995	1998
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed Previously	Y ✓ N___	Y ✓ N___
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N___	D___ N ✓
4a. Type: Deterioration	Y ✓ N___	Y___ N ✓
Water	Y___ N ✓	Y___ N ✓
Physical	Y ✓ N___	Y___ N ✓
4b. Extent: Percent Damage	02 %	N/A %
Localized	Y___ N ✓	Y___ N___
Distributed	Y ✓ N___	Y___ N___
4c. Accessibility: Low/Medium/High	L___ M___ H ✓	L___ M___ H ✓
4d. Disturbance Potential: L/M/H	L___ M___ H ✓	L___ M___ H ✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C: Comments:

INSPECTOR SIGNED: John W. Hyslop
DATE: 06-25-98 License No.: 3303-001864

MANAGEMENT PLANNER SIGNED: [signature]
DATE: 7.21.98 License No.: 3204 00005

LEA AHERA DESIGNATED PERSON: MICHAEL H. GRIFFIN
SIGNED: [signature] DATE 8/4/98
TRAINING: CERTIFIED INSPECTOR/MANAGEMENT PLANNER

AHERA - REINSPECTION FORM

(Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: Richmond Public Schools

School: Elizabeth D. Redd Elementary

Buildings: ALL Building Number: 353

Homogeneous Area # : 08 Quantity:

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed?
Yes: No: ✓

B. If (A) is yes, Explain:

ASSESSMENT SECTION	1995	1998
1. Assumed ACBM	Y___ N✓	Y___ N✓
2. Sampled/Analyzed Previously	Y✓ N___	Y✓ N___
3. Friable/Nonfriable	F___ N✓	F___ N✓
4. Damaged/No Damage	D___ N✓	D___ N✓
4a. Type: Deterioration	Y___ N✓	Y___ N✓
Water	Y___ N✓	Y___ N✓
Physical	Y___ N✓	Y___ N✓
4b. Extent: Percent Damage	N/A %	N/A %
Localized	Y___ N___	Y___ N___
Distributed	Y___ N___	Y___ N___
4c. Accessibility: Low/Medium/High	L___ M___ H✓	L___ M___ H✓
4d. Disturbance Potential: L/M/H	L___ M___ H✓	L___ M___ H✓
5. Assessment Category, Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C: Comments: CARPET OVER VFT IN TEACHERS LOUNGE

INSPECTOR SIGNED: John W. Hyslop

DATE: 06-25-98 License No.: 3303 - 00 1864

MANAGEMENT PLANNER SIGNED:

DATE: 7.21.98 License No.: 3304 00010S

LEA AHERA DESIGNATED PERSON: MICHAEL H. GRIFFIN

SIGNED: DATE: 8/4/98

TRAINING: CERTIFIED INSPECTOR/MANAGEMENT PLANNER

AHERA - REINSPECTION FORM

(Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: Richmond Public Schools

School: Elizabeth D. Redd Elementary

Buildings: ALL Building Number: 353

Homogeneous Area # : 09 Quantity:

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed?
Yes: No: ✓

B. If (A) is yes, Explain:

ASSESSMENT SECTION	1995	1998
1. Assumed ACBM	Y___ N ✓	Y___ N ✓
2. Sampled/Analyzed Previously	Y ✓ N___	Y ✓ N___
3. Friable/Nonfriable	F___ N ✓	F___ N ✓
4. Damaged/No Damage	D ✓ N___	D ✓ N___
4a. Type: Deterioration	Y ✓ N___	Y ✓ N___
Water	Y___ N ✓	Y___ N ✓
Physical	Y ✓ N___	Y ✓ N___
4b. Extent: Percent Damage	02 %	02 %
Localized	Y___ N ✓	Y___ N ✓
Distributed	Y ✓ N___	Y ✓ N___
4c. Accessibility: Low/Medium/High	L___ M___ H ✓	L___ M___ H ✓
4d. Disturbance Potential: L/M/H	L___ M___ H ✓	L___ M___ H ✓
5. Assessment Category. Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C: Comments: CR3 & CR16 HAVE CARPET OVER

INSPECTOR SIGNED: John W. Hughes

DATE: 06-25-98 License No.: 3303 - 021864

MANAGEMENT PLANNER SIGNED:

DATE: 7-21-98 License No.: 3304 000105

LEA AHERA DESIGNATED PERSON: MICHAEL H. GRIFFIN

SIGNED: DATE: 8/4/98

TRAINING: CERTIFIED INSPECTOR/MANAGEMENT PLANNER

AHERA - REINSPECTION FORM

(Use for reinspecting all homogenous areas with known or assumed ACBM.)

LEA: Richmond Public Schools

School: Elizabeth D. Redd Elementary

Buildings: ALL Building Number: 353

Homogeneous Area #: 11 Quantity:

Material: VINYL FLOOR TILE

A. Has the ACBM in place been removed, encapsulated, repaired, or enclosed?
Yes: No: ✓

B. If (A) is yes. Explain:

ASSESSMENT SECTION	1995	1998
1. Assumed ACBM	Y N ✓	Y N ✓
2. Sampled/Analyzed Previously	Y ✓ N	Y ✓ N
3. Friable/Nonfriable	F N ✓	F N ✓
4. Damaged/No Damage	D ✓ N	D N ✓
4a. Type: Deterioration	Y ✓ N	Y N ✓
Water	Y N ✓	Y N ✓
Physical	Y ✓ N	Y N ✓
4b. Extent: Percent Damage	02 %	N/A %
Localized	Y N ✓	Y N
Distributed	Y ✓ N	Y N
4c. Accessibility: Low Medium/High	L M H ✓	L M H ✓
4d. Disturbance Potential. L M/H	L M H ✓	L M H ✓
5. Assessment Category. Mark 1-8 or N/A per 40CFR763.88b	8	8
6. Recommended Response Action Mark Number from 40CFR763.90	O&M	O&M
7. LEA Selected Response Action Mark Number from 40CFR763.90		

C: Comments: ABATED CAFTERIA & REAR SECTION OF CORRIDOR #2

INSPECTOR SIGNED: John W. Humphries

DATE: 06-25-98 License No.: 3303-001864

MANAGEMENT PLANNER SIGNED:

DATE: 7-21-98 License No.: 3304 000105

LEA AHERA DESIGNATED PERSON: MICHAEL H. GRIFFIN

SIGNED: DATE: 8/4/98

TRAINING: ~~CERTIFIED INSPECTOR/MANAGEMENT PLANNER~~

RECORDKEEPING

The O&M plan contains the specifications and forms for keeping records regarding any repair or removal work involving ACBM. The recordkeeping procedure assures that:

1. Major repair work carried out by outside contractors is documented.

2. Minor repair work by qualified in-house worker is documented.

3. Monitoring of remaining asbestos is recorded.

4. Personnel records for training and medical monitoring are kept.

In general, this recordkeeping system must track two types of data: data on the physical condition of the ACBM's and actions taken on those ACBM's; the data associated with the personnel involved with the asbestos management program.

Tracking of the ACBM's may be thought of as the tracking of physical inventory. The condition of the material recorded at intervals (record of the inspection and surveillance), the recording of substantive changes in material status (removal, enclosure or encapsulation), various required reports to governing bodies (notices of abatement and disposal actions to the EPA) and the recording of a new audited inventory in the context of the 3 year reinspection.

Personnel tracking requires: identity; training; medical monitoring; and exposure of the individual to be recorded on a form (which is to be on file for a period of at least 30 years).

The following record formats and descriptions are intended as generalized basic examples of the type of records required for daily use.

LIST OF REQUIRED RECORDKEEPING (763.94)

A. Records location

   1. Removal records retention

   2. Records as part of the management plan.

B. For each preventive measure and response action:

   1. Detailed written description of measure or action including:

      - o Location of measure or action.
      - o Methods used.
      - o Reasons for selecting the measure of action.

Names and addresses of all contractors involved.

2. Identification of person taking clearance air samples,

- o Locations where samples were collected,
- o Date of collection
- o Name and address of analysis lab,
- o Date of analysis
- o Method of analysis
- o Name and signature of person performing the analysis,
- o Statement that lab meets 763.90(1)(2)(ii),

C. For each person required to be trained under 763.92(a)(1) and (2):

- o Name and job title.
- o Date training completed
- o Location of training
- o Hours of training

D. For each periodic surveillance under 763.91(c):

- o Name of person performing surveillance,
- o Date of surveillance
- o Any changes in the conditions of materials.

E. For each cleaning under 763.91(d):

- o Name of each person performing cleaning,
- o Start and completion dates,
- o Locations,
- o Description of activity,
- o Method used,

F. For each time an O&M activity is performed under 763.91(d):

- o Name of each person performing activity.
- o Start and completion dates,
- o Locations,
- o Description of activity.
- o Measure used,
- o Locations of storage/disposal site,

G. For each time that a major asbestos activity under 763.91(a) is performed:

- o Name and signature and ID of each person performing activity.
- o Start and completion dates,
- o Locations,
- o Description of activity.
- o Methods used.
- o Location of storage disposal site.

H. For each fiber release episode under 763.91(f):

- Date and location of the episode,
- Method of repair,
- Preventive measures or response action taken.
- Name of each person performing work.
- Location of storage/disposal site.

DESCRIPTION OF FORMS

The Asbestos Work Order specifically identifies where the work is to be done, what ACBM-spaces(s) are affected, what work is to be done, who is to perform the work, how the work will be performed, and what additional documentation will be required.

If the building owner's employees or agents are involved in the work to be performed, then those employees are to be explicitly identified, and additional reporting requirements are imposed on them for personnel recordkeeping purposes. If a contractor is used, then the contractor is to be clearly identified, and that contractor is held responsible for recordkeeping with regard to his employees. However, the LEA must obtain and keep copies of these records, also.

Abatement Project Notice. The data required by the Abatement Project Notice to be sent to the EPA and state and a checklist reminder to send this document is contained on this part of the form.

In addition, a reminder is included that if removal is involved, an Asbestos-Containing Building Materials Disposal Document will be needed.

If detailed work conditions and specifications are required or documented elsewhere, then these controlling documents should be specifically cited under "Other Conditions of Work".

Note that the signature and specific title and date of signing by the Asbestos Program Manager are required. The EPA and possibly state agencies must be notified of all abatement action, the notice postmarked at least 10 days or more, (depending on state regulations and project size), in advance of the commencement of work. If it is an emergency action, then notice must be postmarked no later than 48 hours after the commencement of work. The Abatement Project Notice should provide to the EPA all required information.

Note that if removal is undertaken, the Abestos-Containing Building Materials Disposal Document must be on file with the Asbestos Program Manager, and the name and location of the landfill used for disposal must be provided to the EPA. In all cases, this document must be signed by the authorized Asbestos Program Manager.

Asbestos-Containing Building Materials Disposal Document. The building owner will forever retain ownership of the ACBM removed from the building. It is extremely important that the chain of custody for the materials be clearly documented. The Abestos-Containing Building Materials Disposal Document is needed to establish a chain of custody by identifying the source and quantity of the materials, a description of the materials, who

had custody of the materials at any given point in time, and under what authority the materials were removed in the first place (i.e., the Asbestos Work Order Number).

The Abestos Program Manager must ensure that all of the needed Asbestos-Containing Building Materials Disposal Documents required for a particular abatement project are accounted for and the originals properly filled out and returned for recordkeeping.

The sample documentation scheme and forms presented here should provide adequate record of any cleaning, repair, maintenance, renovation, or remodeling work undertaken during the life of the O&M program. It should be noted that the forms are provided as samples only, and use of these specific forms is not required.

Two sample forms are provided to illustrate the types of information needed for the management of personnel records. These include the Asbestos Worker's Monthly Activity Summary and Worker Medical Surveillance Record.

GENERAL BUILDING WORK AUTHORIZATION

DOCUMENT CONTROL NUMBER: _____ DATE: _____ ___, 19__

Building Number

Building Name

Building Location

DESCRIBE THE WORK TO BE PERFORMED

IDENTIFY THE ORGANIZATION OR INDIVIDUAL(S) WHO WILL PERFORM THE WORK

IDENTIFY THE ACM-space(s) INVOLVED IN THIS WORK

ACM-space(s) Number and Name

ASBESTOS PROGRAM MANAGER'S AUTHORIZATION MUST BE SIGNED PRIOR TO COMMENCEMENT OF WORK.

I HEREBY CERTIFY THAT, ACCORDING TO THE RECORDS, THE ABOVE DESCRIBED ACM-space(s) DO NOT CONTAIN ASBESTOS-CONTAINING BUILDING MATERIALS

SIGNATURE _____ TITLE _____ DATE: _____ ___, 19__

THE ABOVE IDENTIFIED ACM-space(s) CONTAIN ASBESTOS CONTAINING BUILDING MATERIALS, AND THE WORK MUST BE UNDERTAKEN IN ACCORDANCE WITH ALL APPLICABLE HEALTH AND SAFETY RULES AND REGULATIONS AND ATTACHED *ASBESTOS WORK ORDER* REQUIREMENTS.

ASBESTOS WORK ORDER NUMBER:

SIGNATURE

ABATEMENT PROJECT NOTICE

BUILDING NUMBER

BUILDING NAME

BUILDING LOCATION AND OWNER

NOTICES TO EPA MUST BE POSTMARKED:

PLANNED ABATEMENT:
AT LEAST 10 DAYS BEFORE ABATEMENT BEGINS.

EMERGENCY ABATEMENT:
NO MORE THAN 48 HOURS AFTER PROJECT BEGINS.

SUBJECT TO CIVIL & CRIMINAL PENALTIES.

NOTICE SENT TO:

As required by 40 CFR 763.124 Toxic Substances; Asbestos Abatement Project, we wish to notify you of the following asbestos abatement project in the above idetified building

DATE OF NOTICE:

_____ _____, 19_____

PROJECT CLASS: PLANNED ABATMENT ☐ EMERGENCY ☐

PROJECT SIZE: LESS THAN ☐ or MORE THAN ☐ 3 LINEAR FEET OR 3 SQUARE FEET

DATE WORK (TO BE) STARTED: _____ _____, 19_____

DATE WORK (TO BE) COMPLETED: _____ _____, 19____

COVERING WORK ORDER (OR CONTRACT) ID

ACM space(s) INVOLVED: Number and name

TYPE OF WORK:

REMOVAL ☐ REPAIR ☐ ENCAPSULATION ☐ ENCLOSURE ☐ CLEANED UP ☐

OTHER: _____

IF REMOVAL UNDERTAKEN, THEN COMPLETE THIS SECTION

DISPOSTION OF ACBM, NAME OF LANDFILL

LOCATION OF LANDFILL

ASBESTOS CONTAINING MATERIAL DISPOSAL CHAIN OF CUSTODY DOCUMENT MUST BE ON FILE.

REPORT PREPARED BY: (SIGNATURE, DATE AND TITLE)

ASBESTOS WORK ORDER
Page 1 of 2

DOCUMENT CONTROL NUMBER: ASB

DATE: _____ ___, 19__

REFERENCE GENERAL BUILDING WORK AUTHORIZATION NO.

Building Number

Building Name

Building Location and Owner

ACM-space(s) INVOLVED

ACM-space(s) Number and Name

DESCRIPTION OF WORK TO BE PERFORMED:

WORK TO BE PERFORMED BY: (Identify contractor or, if Building Owner's employee's or agents are to perform the work, then the individual's names and employee identification numbers.

Employee Name and ID Number

CONTRACTOR IDENTIFICATION
(Name, Address, Phone Number, Cert. No. and State)

CONDITIONS OF WORK PERFORMANCE

It is an explicit condition of this work order that all work be performed in strict accordance with all applicable health and safety standards, and state of the art work practices.

If the Building Owner's employees or agents are involved in the work in any phase, then they are required to complete the WORKER'S DAILY LOG, and return this LOG to their supervisor at the end of work, daily.

WORK TO BE PERFORMED, AND ANY APPLICABLE TERMS AND CONDITIONS THEREOF ARE MORE FULLY DESCRIBED ON PAGE 2 OF THIS FORM, AND SAID PAGE IS HEREBY MADE A PART HEREOF.

ASBESTOS WORK ORDER – CONTINUATION

DOCUMENT CONTROL NUMBER: ASB DATE: _____ ___, 19__

GENERAL WORK CONDITIONS

TYPE OF MATERIAL

SURFACING
- FLOOR ☐
- WALL ☐
- CEILING
  - VISIBLE ☐
  - HIDDEN ☐

MISCELLANEOUS
- DESCRIBE: _____

THERMAL SYSTEMS
- PIPE LAGGING ☐
- BOILER COVER ☐
- DUCTING
  - INTAKE ☐
  - EXHAUST ☐
- FITTINGS, VALVES, ETC. ☐

ESTIMATED QUANTITY OF MATERIALS

Square Feet	Linear Feet	No. of Places

TYPE OF GENERAL PROTECTION

GENERAL OCCUPANT AND PUBLIC
- POLY ON FLOOR ☐
- MINI-ENCLOSURE ☐
- GLOVE BAG ☐
- NEGATIVE AIR ENCLOSURE ☐
- HEPA VACUUM ☐
- HVAC SHUTDOWN ☐
- POWER SHUTDOWN ☐
- WET CLEANING ☐
- OTHER (Describe): _____

GENERAL WORKER PROTECTION
- AIR-LOCK, CLEAN ROOM ☐
- TYPE C AIR ☐
- FULL BODY SUITS ☐

CLEARANCE APPROVAL METHOD

START OF WORK DATE: _____ ___, 19___

IF REMOVAL IS INVOLVED, THEN THE ASBESTOS CONTAINING MATERIALS DISPOSAL DOCUMENT IS MADE A PART HEREOF.

"ABATEMENT PROJECT NOTICE" SENT TO EPA. YES ☐

OTHER CONDITIONS OF WORK

ASBESTOS WORK ORDER APPROVAL BY ASBESTOS PROGRAM MANAGER

SIGNATURE _____ TITLE _____

ASBESTOS WORKER'S MONTHLY ACTIVITY SUMMARY

DOCCUMENT CONTROL NUMBER [AWS] DATE:____ _____

EMPLOYER NAME AND ADDRESS

EMPLOYEE NUMBER

EMPLOYEE NAME

EMPLOYEE HOME ADDRESS, PHONE AND EMERGENCY CONTACT

DAY OF MONTH	HOURS BY CATEGORY FROM WORKER'S DAILY LOG						NOTES
	PERSONAL AIR MONITOR	OFF DUTY	RESPIRATOR	TYPE C AIR	AIR LOCK	ON-DUTY NO ASBESTOS	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

TOTALS

I HEREBY CERTIFY THAT THE ABOVE IS A TRUE AND CORRECT SUMMARY OF THIS WORKERS DAILY LOGS.

PERIODIC SURVEILLANCE REPORT

RETURN COMPLETED FORM TO ASBESTOS PROGRAM MGR.

PAGE___ OF____ DATE: ____ ___-_____

Building Number and Name

ROOM Number and Name

Building Location

IF THE STATUS OF THE ACBM HAS CHANGED. THEN PHOTOGRAPH THE AREA AND RECORD THE PHOTOGRAPH NUMBER IN THE SPACE PROVIDED. NOTIFY THE ASBESTOS PROGRAM MANAGER CONCERNING THE CHANGE.

SAMPLE AREA/LOT OR SALIENT ID	SAMPLE AREA/LOT OR SALIENT DESCRIPTION	LAST MAT. COND.			CHANGE ?		NEW PHOTO NUMBER	NOTES
		T	DC	PD	YES	NO		

Signature of Person Completing Report

Title of Person Completing Report

* REFERS TO MATERIAL TYPE AND DAMAGE CATEGORIES
. T – MATERIAL TYPE AS:
. S – SURFACING
. M – MISCELLANEOUS
. T – THERMAL SYSTEM

DC – DAMAGE CONDITION
. ND – NO DAMAGE
. D – DAMAGE
. SD – SIGNIFICANT DAMAGE

PD – POTENTIAL DAMAGE CATEGORIES
. NPD – NO POTENTIAL DAMAGE
. PD – POTENTIAL DAMAGE
. PSD – POTENTIAL SIG. DAMAGE

WORKER MEDICAL SURVEILLANCE RECORD

INDIVIDUAL'S NAME

INDIVIDUAL'S IDENTIFICATION NUMBER

PERMANENT STREET ADDRESS

EMERGENCY CONTACT PERSON

PERMANENT CITY, STATE AND ZIP

EMERGENCY CONTACT PHONE NUMBER

HOME PHONE NUMBER

ATTENDING PHYSICIAN

ATTENDING PHYSICIAN'S PHONE NUMBER

RESPIRATOR FIT TESTING

MEDICAL APPROVALS		TEST CONDUCTED BY:	DATE	MANUFACTURER'S DATA:	
DATE	PHYSICIAN			MAKE	MODEL

MEDICAL EXAMINATION HISTORY

DATE	PHYSICIAN	TYPE OF EXAMINATION	PERSON	RESULTS ON FILE AT LOCATION

ASBESTOS CONTAINING MATERIALS DISPOSAL DOCUMENT

DOCUMENT CONTROL NUMBER: _____ DATE: _____ ___, 19__

Building Number

Building Name

Building Location and Owner

PICK UP SITE: ESTIMATED QUANTITY OF ACBM:

DISPOSAL SITE: NUMBER OF CONTAINERS:

TRANSPORTED BY: TYPE OF CONTAINERS:

DESCRIPTION OF THE ACBM (S) TO BE DISPOSED OF:

REMOVED UNDER THE AUTHORITY OF THE WORK ORDER (OR CONTRACT) IDENTIFIED AS:

THE FOLLOWING SIGNATURES ESTABLISH THE CHAIN OF CUSTODY OF THE ABOVE DESCRIBED ACBM(S).

ACBM(S) PACKED UNDER THE SUPERVISION OF:

SIGNATURE TITLE:

EMPLOYED BY: DATE:

ACBM(S) TRANSPORTED BY:

SIGNATURE TITLE:

EMPLOYED BY: DATE: TRANSPORT MANIFEST NUMBER

ACBM(S) DISPOSAL SITE:

SITE LOCATION (CITY, STATE) SITE NAME

RECEIVED BY SIGNATURE: DATE OF RECEIPT

EMPLOYED BY: RECEIVING DOCUMENT NUMBER

REPORT PREPARED BY:

SIGNATURE DATE:

EMPLOYED BY: DATE:

THE ORIGINAL OF THIS DOCUMENT MUST BE RETURNED TO THE ASBESTOS PROGRAM MANAGER AT THE BUILDING OWNER'S LOCATION NAMED ABOVE.

FIBER RELEASE EPISODE REPORT

1. Building and room number (s) where episode occurred:
_____
_____
_____
_____

2. The release episode was reported by:_____
_____on _____(date).

3. Describe the episode:_____
_____
_____
_____
_____
_____

4. The asbestos-containing material was _____/was not _____ cleaned according to approved procedures. Describe the cleanup:_____
_____
_____
_____
_____
_____
_____

SIGNED:_____DATE:_____
(Asbestos Control Manager)

OPERATIONS AND MAINTENANCE ACTIVITIES

PERSON PERFORMING ACTIVITY_____

START DATE_____

COMPLETION DATE_____

LOCATIONS

_____
_____
_____
_____

DESCRIPTION OF THE ACTIVITY

_____
_____
_____
_____

PREVENTIVE MEASURES USED

_____
_____
_____
_____

NAME AND LOCATION OF DISPOSAL SITE

_____
_____
_____
_____

I certify that all O&M procedures were performed in accordance with 40 CFR Part 763.91(D).

_____

NAME DATE

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(Periodic Surveillance)

Location of asbestos-containing material(s) (building name):

_____

_____

_____

Type of asbestos-containing material:

VINYL FLOOR TILE_____
THERMAL INSULATION_____

Assessment:

1. Evidence of physical damage:_____
   _____
   _____

2. Evidence of water damage:_____
   _____
   _____

3. Evidence of delamination or other deterioration:_____
   _____
   _____

4. Other observations:_____
   _____
   _____
   _____
   _____

SIGNED:_____DATE:_____

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF COMMERCE

3600 West Broad Street, Richmond, VA 23230

Telephone: 1 (804) 257-8500

VIRGINIA ASBESTOS LICENSE
MANAGEMENT PLANNER

EXPIRES
10-31-89

NUMBER
000251

GARY PELLETIER
DAVIS & FLOYD INC
POST OFFICE DRAWER 428

GREENWOOD, SC 29648

DIRECT INQUIRIES AND COMPLAINTS TO:

1—800—552—3016

DAVID R. HATHCOCK, DIRECTOR

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF COMMERCE

3600 West Broad Street, Richmond, VA 23230

Telephone: 1 (804) 257-8500

VIRGINIA ASBESTOS LICENSE
INSPECTOR LICENSE

EXPIRES
10-31-89

NUMBER
000421

SALAH ABO-SIDO
DAVIS & FLOYD INC
POST OFFICE DRAWER 428

GREENWOOD, SC 29648

DIRECT INQUIRIES AND COMPLAINTS TO:

1—800—552—3016

DAVID R. HATHCOCK, DIRECTOR

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF COMMERCE

3600 West Broad Street, Richmond, VA 23230

Telephone: 1 (804) 257-8500

VIRGINIA ASBESTOS LICENSE
INSPECTOR LICENSE

EXPIRES	NUMBER
07-31-89	000234

DAVID NEUENSCHWANDER
DAVIS & FLOYD INC
POST OFFICE DRAWER 428

GREENWOOD, SC 29648

DIRECT INQUIRIES AND COMPLAINTS TO:

1—800—552—3016

DAVID R. HATHCOCK, DIRECTOR

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

MANAGEMENT PLAN RESPONSE

ELIZABETH REDD SCHOOL

On August 7, 1989 and continuing for several weeks, WACO, Inc., removed all Asbestos-contining Hard Joint and Pipe Insulation and Asbestos Debris in the crawl spaces and Boiler Room at Redd School. This was recommended in Document G (The First Two Paragraphs) by Davis and Floyd, Inc. Documentation will follow. This method was selected because of the severity of the recommendation and because our maintenance personnel need regular access to these areas.

Analytics Laboratory

a subsidiary of Roche Biomedical Laboratories, Inc.

POST OFFICE BOX 25249 RICHMOND VIRGINIA 23260
TELEPHONE 804 353 8973

June 12, 1989

Mr. Mike Griffin
Richmond Public Schools
2907 North Boulevard
Richmond, Virginia 23230

Dear Mr. Griffin:

RE: Asbestos Removal Plans by WACO, Inc.
(a) Reid Elementary School
(b) Redd Elementary School
(c) Mumford Elementary School

I have reviewed the enclosed asbestos removal plans developed by WACO, Inc., and I am satisfied that they meet today's standard of accepted removal practices by the industry. If followed, they will meet all pertinent local, state, and federal regulations.

Yours truly,

James A. Calpin, CIH
Laboratory Director

JAC/cjm
A:Griffin

Waco Inc.

RICHMOND DIVISION • 5450 Lewis Road • P O Box 836 • Sandston, Virginia 23150-0836 • 804/222-8440

REDD ELEMENTARY SCHOOL - SELECTED ABATEMENT PLAN

CRAWL SPACE

This abatement project consists of the removal of approximately 1900 lf of asbestos-containing pipe insulation and debris from crawl space areas. A decontamination enclosure, complete with shower and air locks, will be constructed at the entrance to the crawl space. All personnel will shower and all contaminated equipment and clothing will remain inside the containment, to be cleaned or double-bagged at the completion of the job. Asbestos warning signs will be posted in the vicinity of the work. All vents will be sealed with 6 mil polyethylene sheeting and sufficient negative air HEPA filtration units will be installed so as to provide a minimum of four air changes in the work area per hour.

Personnel will don full body coveralls, gloves, and HEPA filtered, powered-air purifying respirators. Asbestos-containing pipe covering and debris will be thoroughly wet down with a 0.2% solution of Triton X-100 surfactant in water and carefully removed and double bagged in properly marked 6 mil red asbestos waste bags for later disposal at the Pulaski landfill in Somerset, KY. Personal and area air monitoring will be conducted by Waco, Inc. during the abatement, in accordance with OSHA 1926.58, Appendix A.

Once all asbestos-containing pipe insulation has been removed from the crawl space, affected pipes will be fine cleaned, wet wiped, and HEPA vacuumed to remove any remaining contamination. Areas where asbestos debris was found will also be fine cleaned to remove all visible contamination. After a final inspection by Analytics Laboratories, revealing no visible contamination, Mon-Eco 44-15 penetrating encapsulant, in a 100% concentration, will be sprayed on all exposed areas within the crawl space. Upon completion of encapsulation, AHERA clearance air monitoring will be conducted by Analytics Laboratories to establish final air fiber concentrations of less than 0.01 f/cc in all abatement areas.

Developed by:

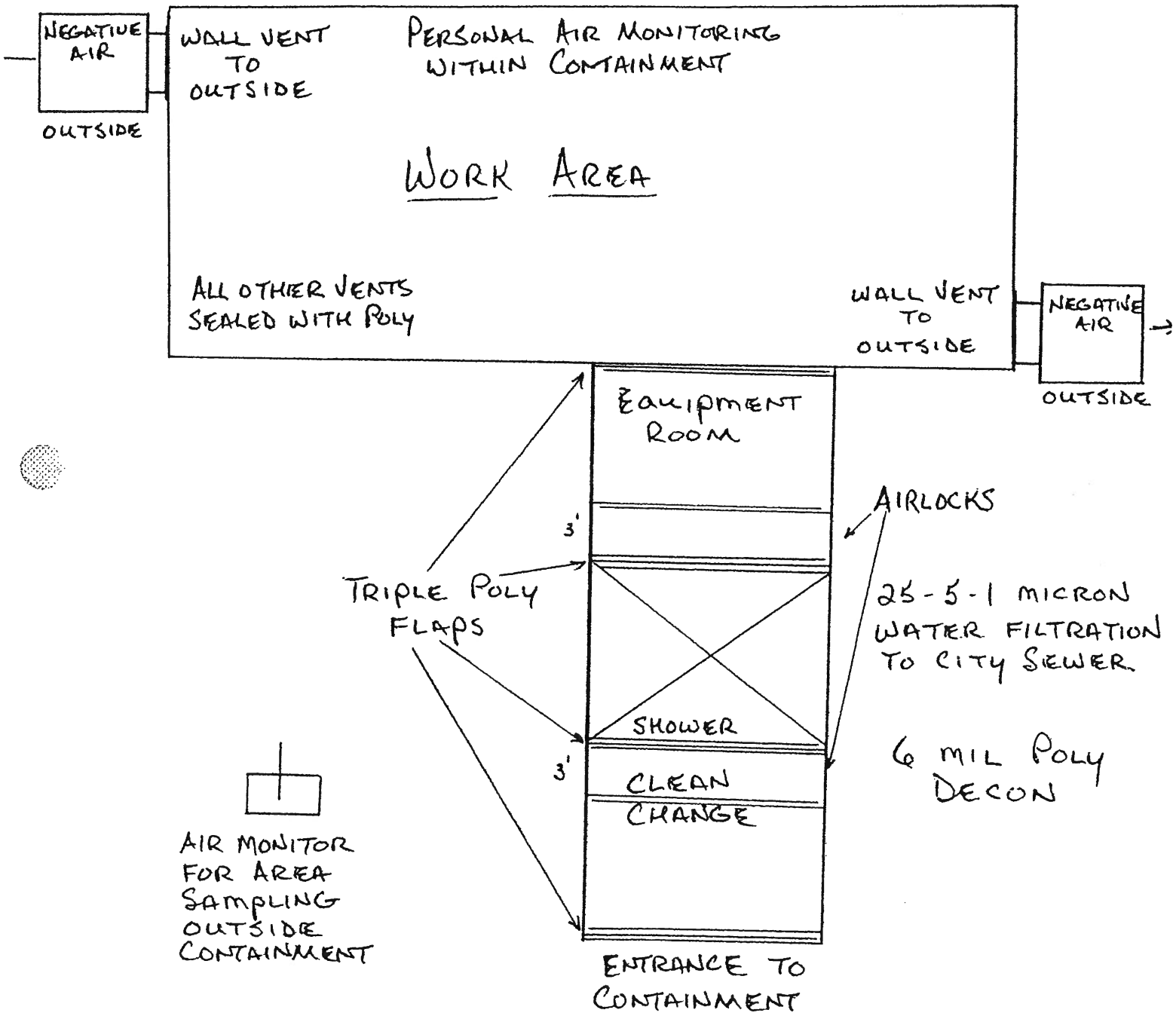
J. Kevin Nissley
Project Manager
Asbestos Supervisor # 115

Approved by:

Joseph W. Crockett
Vice President
Project Designer # 150

Waco Inc.

CRAWL SPACE/TUNNEL CONTAINMENT



DRAWN BY: T. KEVIN NISSLEY

MATERIAL SAFETY DATA SHEET PG 1

T336 REVISION OF:01-10-89

RITON X-100

REQUESTED FOR:

82136462
UACO INC
5450 LEWIS ROAD
PO BOX 836
SANDSTON VA 23150

ORDER NO:
PROD NO: 04160381

VAN WATERS & ROGERS INC. 1600 NORTON BLDG. SEATTLE, WA 98104-1564

EMERGENCY ASSISTANCE

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC (800) 424-9300.

FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

RODUCT NAME: TRITON (R) X-100 SURFACTANT
OMMON NAMES/SYNONYMS: AN OCTYLPHENOXY-
OLYETHOXYETHANOL NONIONIC SURFACTANT

CAS NO.: 9036-19-5
VW&R CODE: T1336

LA: UNKNOWN
AZARD RATING (NFPA 704)
HEALTH: 3
FIRE: 1
REACTIVITY: 0
SPECIAL: NONE

DATE ISSUED: 12/88
SUPERCEDES: 07/86
HAZARD RATING SCALE:
0=MINIMAL 3=SERIOUS
1=SLIGHT 4=SEVERE
2=MODERATE

HAZARDOUS INGREDIENTS

COMPONENT	%	EXPOSURE LIMITS, PPM OSHA PEL	ACGIH TLV	OTHER LIMIT	HAZARD
RITON (R) X-100	>99	NONE	NONE	NONE	IRRITANT

R) TRADEMARK OF ROHM AND HAAS COMPANY.

PHYSICAL PROPERTIES

OILING POINT, DEG F: 520
ELTING POINT, DEG F: 45 (POUR POINT)
PECIFIC GRAVITY (WATER=1): 1.07
PPEARANCE AND ODOR:
LEAR, LIGHT-COLORED LIQUID; MILD ODOR

VAPOR PRESSURE, MM HG/20 DEG C: NIL
VAPOR DENSITY (AIR=1): N/A
WATER SOLUBILITY, %: 100
EVAPORATION RATE (BUTYL ACETATE=1): <1

FIRST AID MEASURES

F INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT REATHING. GET IMMEDIATE MEDICAL ATTENTION.

N CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING ATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. ET IMMEDIATE MEDICAL ATTENTION.

SE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND . REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET EDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

MEI®
ADHESIVES • MASTICS
SEALANTS • COATINGS

PENETRATING ASBESTOS SEALANT 44-15

COLOR
Milky White, dries clear

SERVICE TEMPERATURE
0°F to 160°F.

COVERAGE.
2 to 8 gallons per 100 sq./ft.
Coverage varies with insulation absorbency, condition and thickness.

WEIGHT PER GALLON
8.5 pounds.

DRYING TIME
1 to 48 hours depending on insulation and drying conditions

SAFETY
Wet: Water based, non-flammable.
Dry: 5 to 10 over mineral wool insulation (ASTM-E-162)

CAUTION
Although 44-15 is water based, use it with adequate ventilation. Avoid prolonged contact with the skin. Do not take internally. In an emergency, call a physician. Keep out of reach of children.

LIMITATIONS
Keep from freezing. Indoor use only
Apply between 40°F and 120°F.

ASBESTOS FREE.

ODOR
Wet: Mild
Dry: None

DESCRIPTION
Penetrating Asbestos Sealant, 44-15, is a penetrating type encapsulation coating for retaining asbestos insulation. 44-15 is water based. It is safe, easy and economical to use. 44-15, although a thin, white milky liquid during application, drys to form a tough clear seal.

SPECIFICATION COMPLIANCE
There are no regulatory specification compliances, nor approvals required for this type of product.

MATERIAL PREPARATION
Stir before using.
Do not thin

APPLICATION METHOD
Airless spray equipment.

APPLICATION
This product is for industrial use only. It should be applied by trained and qualified craftspeople

PREPARATION
Follow the procedures described in E.P.A. guidance documents. Observe all precautions mandated by these documents

Apply a gentle saturating coat of 44-15 using airless spray equipment. If more than one coat is required, allow a few hours of drying time before applying the second coat.

CLEANUP
Wet: Clean Water.
Dry: 1-1-1 Trichloroethane

ASBESTOS FREE

WARRANTY TERMS: The physical and chemical properties of this product are representative of the typical average values derived in accordance with test methods deemed acceptable, and can vary when subjected to normal manufacturing methods. These values are supplied only as a technical service and are subject to change without notice. To be sure information is current call Mon-Eco Industries, Inc.

Terms of Warranty: Warrantor, Mon-Eco Industries, Inc. warrants satisfactory results of this product only when recommendations herein established are followed. The recommendations for use are established upon tests and information deemed reliable. We recommend that adequate testing be made by the user to determine if the product is suitable for the intended purpose and use. Warrantor assumes no responsibility beyond replacement or refund of the purchase price of this product, since warrantor has no control over the methods and application of its product, methods and conditions of transportation, handling and storage of the product. WARRANTOR EXPLICITLY DISCLAIMS ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE. No agent or representative of Mon-Eco Industries, Inc. has the authority to change or extend these conditions.

MON-ECO INDUSTRIES INC., 5 JOANNA COURT
EAST BRUNSWICK, N.J. 08816 (201) 257-7942 TELEX NO: 3762777

DATE: 7/28/89

COMMONWEALTH OF VIRGINIA
ASBESTOS PROJECT 20 DAY NOTIFICATION
DEPARTMENT OF LABOR AND INDUSTRY
ATTN: ASBESTOS CONTROL CLERK
205 N. 4TH STREET, ROOM 1006
RICHMOND, VA 23219

FAX NUMBER (804) 371-7634

(MUST BE DELIVERED 20 DAYS BEFORE COMMENCING WORK)

1. **Name & Address of Contractor**
WACO, INC.
5450 Lewis Road, P.O. Box 836
Sandston, VA 23150

Telephone No. (804) 222 - 8440

VA license # 000065

2. **Name & Address of owner/operator**
Richmond Public Schools
2907 N. Blvd.
Richmond, VA 23230

Telephone No. (804) 780 - 6133

3. **Type:** Amended X Emergency ___ Renovation ___ Demolition ___ *
SCHEDULE CHANGE - NEW SET-UP AND START DATES

4. **Description of facility, structure, etc.**

a. **Present Use** Redd Elementary School

b. **Site Address** 5601 Jahnke Road

c. **City and State** Richmond, VA

d. **Prior Use** Same **Age** 20+ years

5. **Estimate of the amount of friable asbestos* and estimation method.**

a. **Linear feet pipe** 1,900 b. **Square feet surface** _____

Estimation method Physical Measure

Type material and estimated volume Pipe Insulation

6. **Set-up date** 8/7/89 **Removal date** 8/7/89 **Finish date** 8/26/89

7. **Name and VA license # of project supervisor on site** J. Kevin Nissley
Lic. #115

8. **Name and address of disposal site.**
Pulaski Landfill, Inc.
4140 S. Hwy. 27
Somerset, Kentucky 42501

Contact Person and Telephone # C. V. Weddle (606) 679-7517

Landfill Permit # 100.08

* For renovation involving 160 square feet or 260 linear feet and all demolition a copy of this form must also be sent to U.S. Environmental Protection Agency Region III, Philadelphia, PA

9. **Detailed description of Demolition/Removal Methods (wet removal, negative air, glove bag, etc.)**

Polyethylene enclosure, negative air HEPA filtration, wet removal.

10. **Procedures and equipment to control emissions and protect public health.**

a. **During removal:** Poly enclosure, negative air HEPA filtration, wet removal.

b. **During transit:** Double poly bags in an enclosed truck.

c. **During loading and unloading** Hand loading and unloading with personal protection.

d. **Monitoring plan:** In accordance with contract specifications.

CC: DEPT. OF AIR POLLUTION CONTROL
U.S.E.P.A., REGION III, PHIL., PA.

Only this form may be used. However it may be reproduced locally. Failure to answer all questions may constitute improper notification.

TRI # 48148

A.W.S. OF VA INC.

4936 Cleveland St., Suite 125
Virginia Beach, Virginia 23462
(804) 490-4454

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Generator Name WACC INC
Address 5450 LEWIS ROAD
SANDSTON VA 23150
Phone No. 804-226-3257

Shipping Location REED ELEMENTARY SCH
JANKE ROAD
RICHMOND VA
Phone No 804-226-5257

Description of Waste
RQ HAZARDOUS SUBSTANCE (9508AB)
SOLID, NOS, (PCM-E)
NA 9188 (ASBESTOS)

Quantity	Units	Containers No	Containers Type
00950			B

Codes: D - Drum; C - Carton; B - Bag; T - Truck; P - Pounds; Y - Yards; O - Other

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

WACC INC — Generator Authorized Agent Name
Signature
08/21/89 — Shipment Date

TRANSPORTER

Transporter Name SUPER SERVICE
Address P.O. BOX 3070
SOMERSET, KY 42564

Driver Name (Print) COLLIN L. WINN
Vehicle License No./State 017055 TN
Vehicle Certification IPT02DAHOJ900557O5

I hereby certify that the above named material was picked up at the generator site listed above

Collin L. Winn — Driver's Signature
08/21/89 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below

Driver's Signature
08/23/89 — Delivery Date

DESTINATION

Site Name Pulaski Sanitation Landfill
Phone No 606-679-7517
Address 4140 So Hwy 27 Somerset, Ky 42501

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate

Bob Kidner — Name of Authorized Agent
Bob Kidner — Signature
8-23-89 — Receipt Date

48' X 5' X 99"

TRK # 5702-HY
TRA # 017705 S

Analytics Laboratory

a subsidiary of Roche Biomedical Laboratories, Inc.

ANALYSIS REPORT

ANALYTICS LABORATORY, INC.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYTICS NO: 237-WMA-0001
ACCOUNT NO:
DATE: September 8, 1989

Griffin
ichmond Public Schools
2907 North Boulevard
ichmond, Virginia 23230

SAMPLE TYPE: 5 Cassettes for TEM

ATE RECEIVED: 8/29/89

REMARKS: See Attachment for Results.

James A. Calpin, CIH
Laboratory Director
Industrial Hygiene

F:cm071789\237WMA01

SciLab

A Transmission Electron Microscopy Laboratory

SCIENTIFIC LABORATORIES, INC.

463 Southlake Boulevard Richmond, Virginia 23236 804/379-1084 FAX: 804/379-1087

August 29, 1989

ANALYTICS LABORATORY, INC.
1415 Rhoadmiller Street
Richmond VA 23220

RE: ANALYTICS LABORATORY, INC. ASBESTOS RESULTS
FOR REDD ELEMENTARY SCHOOL PROJECT
SCILAB JOB NUMBER 08-89-894

Enclosed are the results for asbestos particulate analyses of the following ANALYTICS LABORATORY, INC. samples received at Scientific Laboratories on August 26, 1989, for a 12 hour turnaround:

WMA-237-1, WMA-237-2, WMA-237-3, WMA-237-4, WMA-237-5

The samples were collected on MCE (25mm diameter) filters on location and sent to SCILAB via courier (hand delivered). These samples were prepared according to AHERA protocol, discussed in the Analytical Procedure section of this report.

TABLE I represents a summary of all pertinent information used for the calculations, the size of each structure counted, the fiber density and concentration and type of asbestosform material detected. TABLE II lists the analytical sensitivity, which represents the concentration by the detection of 1 fiber in the TEM fiber count. Appendix A contains copies of the Fiber Count sheets, showing the raw data for examination. These data sheets contain information for fiber length/width, fiber type, fiber morphology and pertinent information on EDS, SAED and photography. A summary of analytical results is discussed on the last page of the text portion of this report.

SCILAB appreciates this opportunity to serve your organization. Please contact us for any further assistance or questions.

Sincerely,

Robert E. Tompkins, Ph.D.
President

/smh

INTRODUCTION

The samples, received from ANALYTICS LABORATORY, INC. via courier (hand delivered), were wiped down, examined for damage and logged in. Each sample was cross-referenced by your designation and a simple SCILAB internal code, to ensure proper, consistent handling through the chain of custody. Once logged in and properly cleaned in the bulk decontamination laboratory, the samples were carried to the designated "clean room," which contains a HEPA filter clean bench, to provide Class 100 air.

ANALYTICAL PROCEDURES

SCIENTIFIC LABORATORIES, INC. uses the NIOSH 7402 method and AHERA Mandatory Method (40 CFR 763) for analyzing air samples by Transmission Electron Microscopy (TEM). The following represents the detailed procedures used at SCILAB for MCE filter membranes analyzed for this project:

(1) Approximately 25% of the 25mm membrane is cut, to represent the air filtered sample.

(2) Each sample is placed, sample face upward, on top of a glass slide that has 30 microliter aliquots of dilute dimethyl formamide (DMF), (50% water, 35% DMF, 15% glacial acetic acid).

(3) The entire slide, with 5 samples and 1 lab blank, is placed on a thermostatically controlled slide warmer at 70°C for 10 minutes.

(4) The "cleared" filters are etched in our low-temperature BIO-RAD plasma system to collapse the MCE filter. (This system has been calibrated for proper power (watts) and oxygen flow).

(5) The etched filter is placed into a Hitachi HU5A vacuum evaporator, to deposit a thin film of carbon onto the sample.

(6) Following the carbon coat, the sample is placed back onto the clean bench and cut into (3) 1 millimeter sections, placed on a 200-mesh, copper or gold, grid and put into the Jaffe-wash for dissolution (straight DMF).

(7) The sample is then placed into a condenser washer system (with vaporized acetone) to complete the replica process, dried and stored.

TRANSMISSION ELECTRON MICROSCOPY

SCIENTIFIC LABORATORIES, INC. uses a Hitachi H-7000 electron microscope, (STEM) equipped with a Gatan 622 fiber optically coupled TV system, used for remote CRT viewing and video tape capabilities for legal documentation. In conjunction, SCILAB uses a Kevex Delta Class Level II x-ray microanalyzer for elemental determination.

For TEM, SCILAB performs EPA Levels I, II, III and AHERA. The TEM Level II/AHERA analysis for this project provides information on fiber concentration (structures/mm^2 and structures/cc air), size distribution (microns), visual selected area electron diffraction (SAED) for fiber crystallographic identification and x-ray microanalysis (energy dispersive - EDS) for semi-quantitative chemical composition.

The prepared TEM grid is first scanned at low magnification, to ensure replica integrity, and then increased to 20,000X magnification for the counting procedure. SCILAB uses 100Kv accelerating voltage to count 10 grid openings from a 200-mesh copper grid at 20,000X. In order to ensure proper operating conditions, SCILAB undertakes a complete system check, alignment check and EDS calibration (using a copper line) daily. As mentioned above, a typical sample analysis consists of the identification, measurement and quantification of asbestosform structures. The identification is accomplished by crystal morphology, chemical composition and selected area electron diffraction (SAED) patterns. These SAED patterns are photographed and the EDS printouts / spectrographs are printed and filed, to document proper identification. FIGURE 1 shows the counting guidelines used at SCILAB, which were set up by the EPA to standardize "structure" procedure identification between laboratories.

SUMMARY OF ANALYTICAL RESULTS

TEM examination of this clearance set by AHERA PROTOCOL demonstrates the presence of low (SAMPLE WMA-237-1) to moderate (SAMPLE WMA-237-2) chrysotile concentrations (see TABLE I). The range is from NO ASBESTOS STRUCTURES DETECTED in SAMPLE WMA-237-4 to 148.1 structures/mm^2 in SAMPLE 237-2. The AREA PASSES with 59.3 structures/mm^2 as a Mean Clearance Concentration. The Analytical Sensitivity was calculated at 0.005 fibers/cc air.

FIGURES 2 and 3 illustrate examples of amosite and chrysotile identified in this sample set.

SCILAB JOB #: 08-89-894
CLIENT NAME: ANALYTICS LABORATORY, INC.

TABLE I
SUMMARY OF ANALYTICAL RESULTS

SCILAB Sample #	Client Sample #	Volume Air (liter)	Area Analyzed (sq.mm.)	ASBESTOS STRUCTURES DETECTED (Microns) 0.5 - 5.0	> 5.0	TOTAL	Structure Density (Str/Sq.mm.)	Structure Concentration (Str/cc)	Type of Asbestos
(001)	WMA-237-1	2400	0.041	-	1	1	24.7	N/A	AMOSITE
(002)	WMA-237-2	2400	0.041	5	1	6	148.1	N/A	CHRYSOTILE
(003)	WMA-237-3	2400	0.041	2	-	2	49.4	N/A	CHRYSOTILE
(004)	WMA-237-4	2400	0.041	-	-	NSD	NSD	N/A	N/A
(005)	WMA-237-5	2400	0.041	3	-	3	74.1	N/A	CHRYSOTILE

MEAN CLEARANCE CONCENTRATION: 59.3 STRUCTURES / SQ MM

TABLE II
ANALYTICAL SENSITIVITY

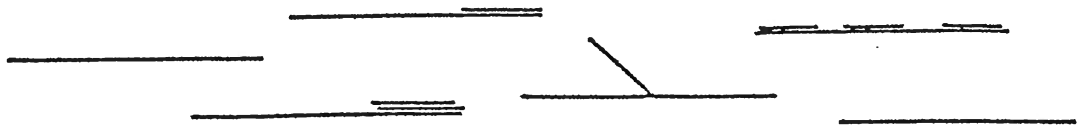
(Concentration represented by the detection of 1 structure)

Sample #		Analytical Sensitivity (structures/cc air)
(001)	WMA-237-1	0.005
(002)	WMA-237-2	0.005
(003)	WMA-237-3	0.005
(004)	WMA-237-4	0.005
(005)	WMA-237-5	0.005

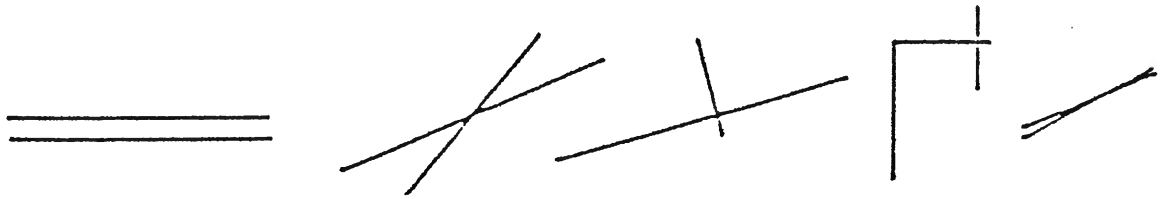
FIGURE 1

(Counting Guidelines Used in Determining Asbestos Structures)

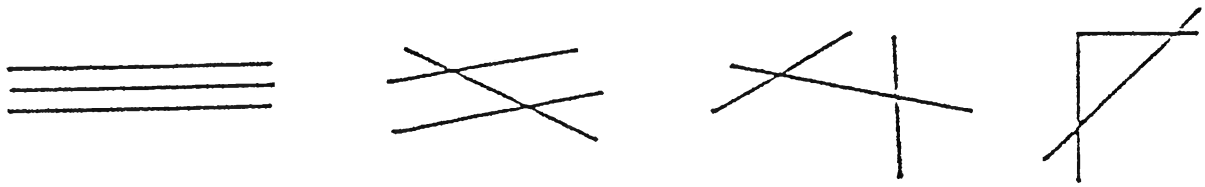
Count as 1 Fiber:
1 structure, no intersections.



Count as 2 Fibers *if space between fibers is greater than width of 1 fiber diameter -or- number of intersections is equal to or less than 1.*



Count as 3 Structures *if space between fibers is greater than the width of 1 fiber diameter -or- if the number of intersections is equal to or less than 2.*



Count bundles as 1 structure:
three or more parallel fibrils having <1 fiber diameter separation.

Count clusters as 1 structure:
fibers having greater than or equal to 3 intersections.

Count matrix as 1 structure.

FIGURE 2

TEM photomicrograph showing
a high magnification view of an amosite fiber
found in SAMPLE WMA-237-1

(20,000X)

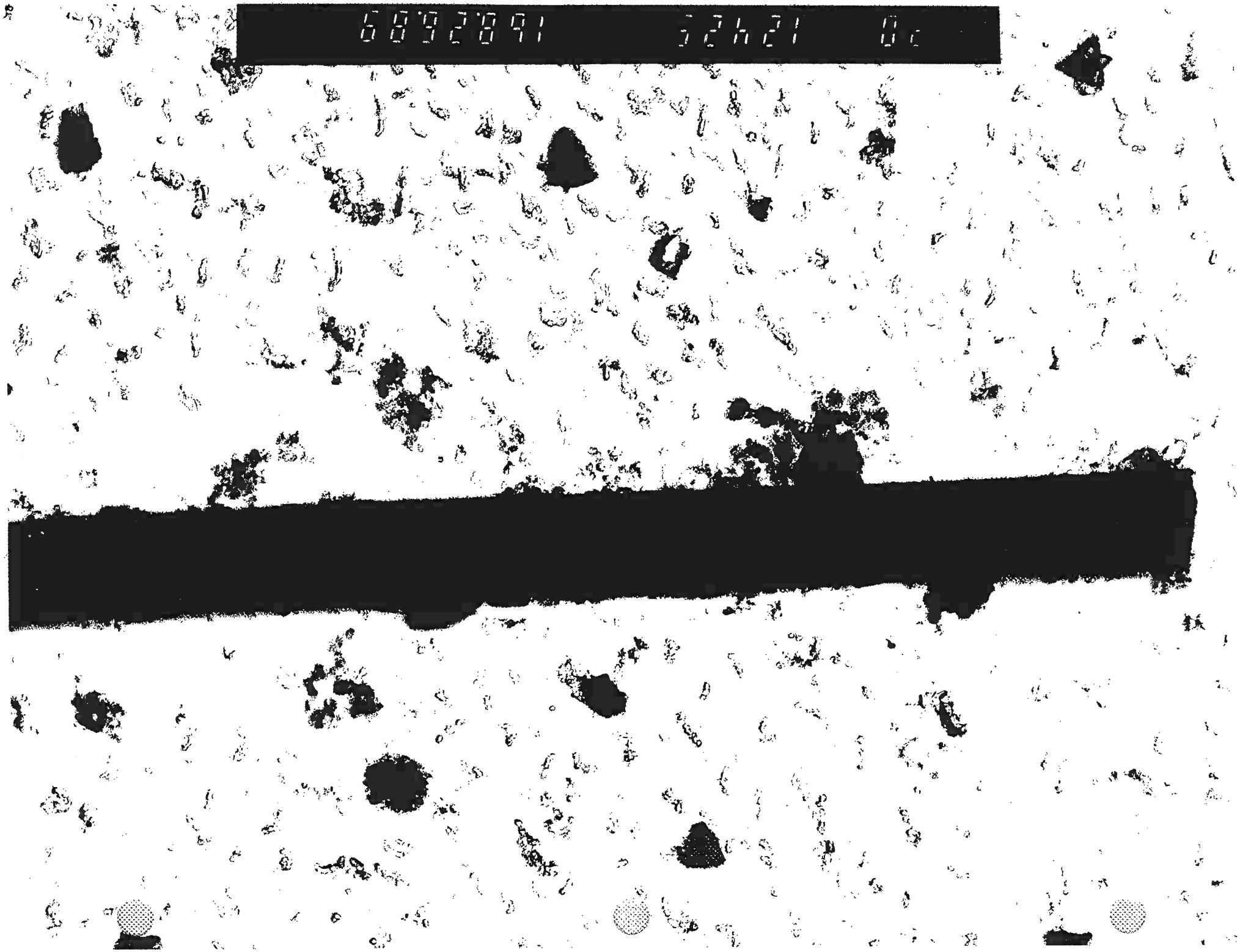
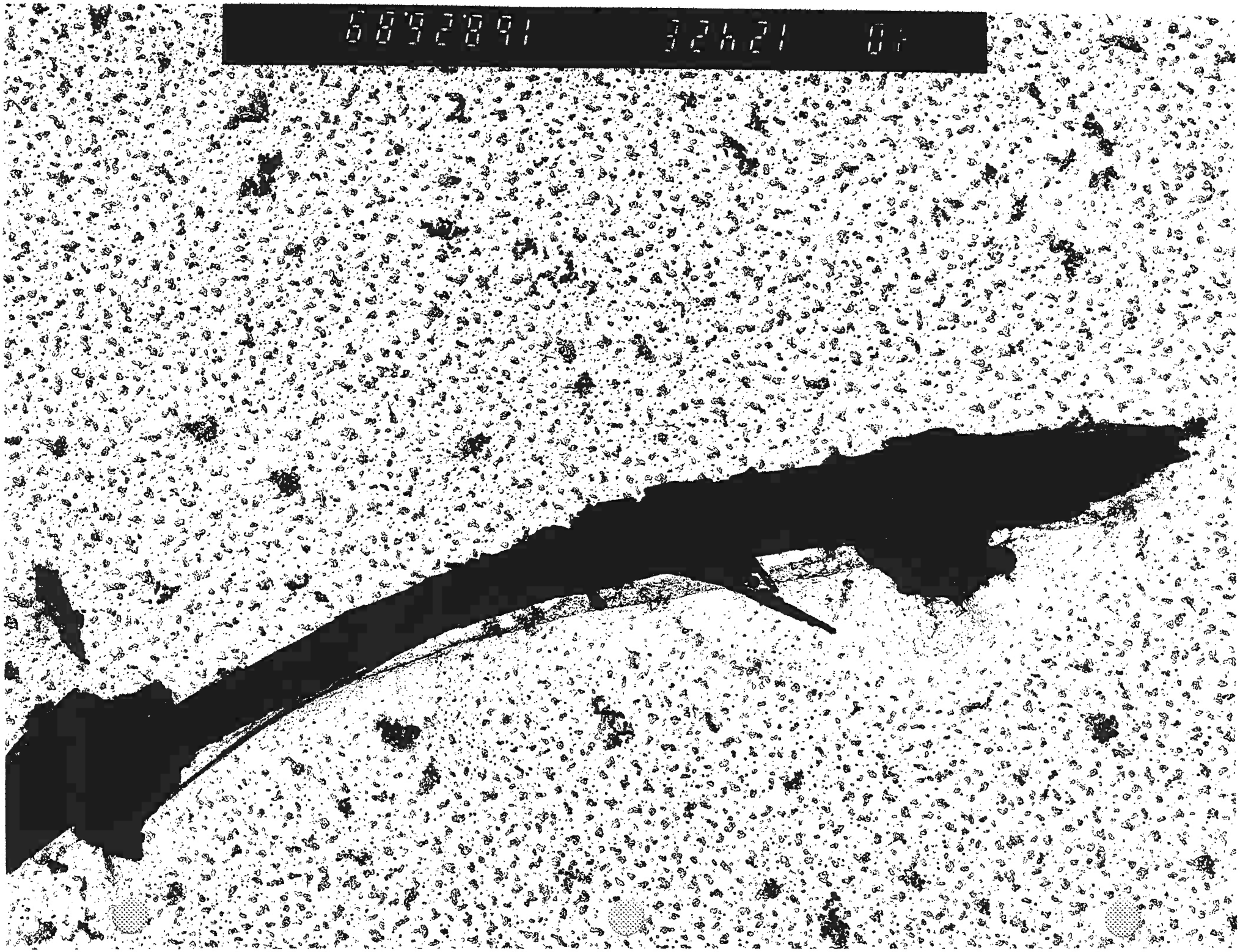

6892891 32h21 8c

FIGURE 3

Another TEM view
illustrating a chrysotile bundle
located in SAMPLE WMA-237-2

(8,000X)


68 28 91
32h21

A P P E N D I X A

FIBER COUNT SHEETS

C O U N T S H E E T

Client Name: ANALYTICS LABORATORY, INC.

SCILAB Job #: 08-89-894

SCILAB Sample #: 001

Client Sample #: WMA-237-1

Volume (liters): 2400

Filter Type: MCE

Filter Area: 385 sq mm

Area Examined: 0.041 sq mm

Performed by: Barry L. Browder
BARRY L. BROWDER

Grid Opening	Fiber	Length	Width	Fiber Type	Morphology*	EDS	SAED	Photo	Comment:
1	1	5.2	0.4	AMOSITE	F	X	X	2425	
2	NSD								
3	NSD								
4	NSD								
5	NSD								
6									
7									
8									
9									
10									

* B=BUNDLE F=FIBER
C=CLUSTER M=MATRIX
NSD=NO STRUCTURES DETECTED

Concentration:	N/A str/cc air	Total Grid Openings: 5
Structure Density:	24.7 str/sq mm	Total Fibers: -
Analytical Sensitivity:	0.005 str/cc air	Asbestos Structures: 1

C O U N T S H E E T

Client Name: ANALYTICS LABORATORY, INC.
SCILAB Job #: 08-89-894
SCILAB Sample #: 002
Client Sample #: WMA-237-2

Volume (liters): 2400
Filter Type: MCE
Filter Area: 385 sq mm
Area Examined: 0.041 sq mm

Performed by: Barry L. Browder
BARRY L. BROWDER

Grid Opening	Fiber	Length	Width	Fiber Type	Morphology*	EDS	SAED	Photo	Comment:
1	1	0.8	0.08	CHRYSOTILE	M	X			
	2	1.6	0.05	CHRYSOTILE	M	X	X		
2	1	1.6	0.10	CHRYSOTILE	M	X	X		
	2	0.4	0.03	CHRYSOTILE	M	X			
3	1	4.4	0.03	CHRYSOTILE	F	X			
4	1	12.0	0.50	CHRYSOTILE	B	X	X	2426	
5	NSD								
6									
7									
8									
9									
10									

* B=BUNDLE F=FIBER C=CLUSTER M=MATRIX NSD=NO STRUCTURES DETECTED

Concentration:	N/A str/cc air	Total Grid Openings:	5
Structure Density:	148.1 str/sq mm	Total Fibers:	-
Analytical Sensitivity:	0.005 str/cc air	Asbestos Structures:	6

C O U N T S H E E T

Client Name: ANALYTICS LABORATORY, INC.

SCILAB Job #: 08-89-894

SCILAB Sample #: 003

Client Sample #: WMA-237-3

Volume (liters): 2400

Filter Type: MCE

Filter Area: 385 sq mm

Area Examined: 0.041 sq mm

Performed by: Barry L. Browder
BARRY L. BROWDER

Grid Opening	Fiber	Length	Width	Fiber Type	Morphology*	EDS	SAED	Photo	Comment:
1	NSD								
2	NSD								
3	1	2.0	0.10	CHRYSOTILE	F	X	X		
4	NSD								
5	1	1.6	0.08	CHRYSOTILE	M	X			
6									
7									
8									
9									
10									

* B=BUNDLE F=FIBER C=CLUSTER M=MATRIX
NSD=NO STRUCTURES DETECTED

Concentration: N/A str/cc air
Structure Density: 49.4 str/sq mm
Analytical Sensitivity: 0.005 str/cc air

Total Grid Openings: 5
Total Fibers: -
Asbestos Structures: 2

C O U N T S H E E T

Client Name: ANALYTICS LABORATORY, INC.
SCILAB Job #: 08-89-894
SCILAB Sample #: 004
Client Sample #: WMA-237-4

Volume (liters): 2400
Filter Type: MCE
Filter Area: 385 sq mm
Area Examined: 0.041 sq mm

Performed by: Barry L. Browder
BARRY L. BROWDER

Grid Opening	Fiber	Length	Width	Fiber Type	Morphology*	EDS	SAED	Photo	Comment:
1	NSD								
2	NSD								
3	NSD								
4	NSD								
5	NSD								
6									
7									
8									
9									
10									

GYPSUM COMMON

* B=BUNDLE F=FIBER
C=CLUSTER M=MATRIX
NSD=NO STRUCTURES DETECTED

Concentration: N/A str/cc air
Structure Density: NSD str/sq mm
Analytical Sensitivity: 0.005 str/cc air

Total Grid Openings: 5
Total Fibers: -
Asbestos Structures: NSD

C O U N T S H E E T

Client Name: ANALYTICS LABORATORY, INC.
Volume (liters): 2400

SCILAB Job #: 08-89-894
Filter Type: MCE

SCILAB Sample #: 005
Filter Area: 385 sq mm

Client Sample #: WMA-237-5
Area Examined: 0.041 sq mm

Performed by: Barry L. Browder
BARRY L. BROWDER

Grid Opening	Fiber	Length	Width	Fiber Type	Morphology*	EDS	SAED	Photo	Comment:
1	NSD								
	1	2.0	0.1	CHRYSOTILE	F	X	X		
3	NSD								
4	1	3.6	0.1	CHRYSOTILE	B	X	X		
5	1	4.4	0.1	CHRYSOTILE	B	X	X		
6									
7									
8									
9									
10									

GYPSUM COMMON

* B=BUNDLE F=FIBER
C=CLUSTER M=MATRIX
NSD=NO STRUCTURES DETECTED

Concentration: N/A str/cc air
Structure Density: 74.1 str/sq mm
Analytical Sensitivity: 0.005 str/cc air

Total Grid Openings: 5
Total Fibers: -
Asbestos Structures: 3

Analytics Laboratory

a subsidiary of Roche Biomedical Laboratories, Inc.

ANALYSIS REPORT

ANALYTICS LABORATORY, INC.
P.O. BOX 25249
RICHMOND, VA. 23260

ANALYTICS NO: 238-WMA-0001
ACCOUNT NO: 4580-6565
DATE: October 2, 1989

ike Griffin
ichmond Public Schools
907 North Boulevard
ichmond, VA 23230

AMPLE TYPE: 5 Cassette (s) Total Fiber Counts

ATE RECEIVED: 9/26/89

EMARKS: Field Area: 0.0079 mm^2 = millimeter squared
Method-NIOSH Procedure 7400-A
cc = cubic centimeter of air
PROJECT NAME: ELIZABETH REDD ELEMENTARY SCHOOL
PO# 238-WMA-0001

ample #	Analytics #	Total Fields Counted	# of Fibers Counted	Total Fibers per Filter	Sample Volume (Liters)	Fibers/cc
	238WMA0001-001	100	4.5	< 2,440	2250	< 0.005
oiler room PCM clearance						
	-002	100	4.5	< 2,440	2250	< 0.005
oiler room PCM clearance						
	-003	100	0.5	< 2,440	2250	< 0.005
oiler room PCM clearance						
	-004	100	1	< 2,440	2250	< 0.005
oiler room PCM clearance						
	-005	100	0	< 2,440	2250	< 0.005
oiler room PCM clearance						

Analyzed by: Mike Anstett

James A. Calpin, CIH
Laboratory Director
Industrial Hygiene

:ca093089\238wma01

Abatement Monitoring & Inspection Services, Inc.

2531 Turner Road
Goochland, Virginia 23063

Phone (804) 556-2647
Fax (804) 556-2647

Mr. Mike Griffin
Richmond City Public Schools
Department of Plant Services
2907 N. Boulevard
Richmond, Virginia 23230

April 12, 1997

Re: Air Monitoring Results
Elizabeth Redd Elementary
5601 Jahnke Road
Richmond, Virginia
Floor tile & Mastic Abatement
AMIS Job No. 2907-001

Dear Mr. Griffin:

The following is a synopsis of the industrial hygiene monitoring of the asbestos abatement project conducted in Elizabeth Redd Elementary located at 5601 Jahnke Road, Richmond, Virginia on March 31 through April 1, 1997. On-site personnel logs also are attached.

Project Summary

Waco Incorporated performed the asbestos abatement. AMIS's role was that of an independent third party industrial hygienist representing Richmond City Public Schools. Work practices observed were performed in a manner consistent with the requirements of the U.S. Occupational Safety and Health Administration (OSHA) Asbestos Construction Standard. Abatement involved the removal of asbestos-containing floor tile and black mastic.

Sampling and Analytical Protocol

AMIS performed air monitoring and provided industrial hygiene oversight. Air samples were collected during and after abatement activities from various locations inside and outside the work area. AMIS collected and analyzed all air samples following the National Institute of Occupational Safety and Health (NIOSH) Method 7400, which utilizes 25 millimeter (mm), 0.8 micrometer (μm) mixed cellulose ester filters (MCEFs), calibrated sampling pumps, and phase contrast microscopy (PCM). The microscopist that

participated in this air monitoring event has completed a NIOSH 582 equivalent course and is an active participant in the AIHA proficiency analytical testing (PAT) program.

Final air samples were collected and analyzed on 25mm, 0.45 micron MCEF's per AHERA protocol.

Summary of Results

A summary of sampling results is provided below. Sampling/PCM reports are provided as Attachment 1 of this report.

- Samples collected inside and outside the work area during abatement activities revealed fiber concentrations of less than 0.005 to 0.011 f/cc.

- Final inspection of the work area revealed that the work area was free of visible asbestos debris. Five final TEM clearance air samples collected inside the work area revealed an average concentration of less than 16.6 structures per square millimeter (struc/mm^2). This meets the Asbestos Hazard Emergency Response Act (AHERA) criteria of less than 70 struc/mm^2 for re-occupancy following asbestos abatement. Samples were taken to Scientific Laboratories, Inc., 477 Southlake Blvd., Richmond, Virginia, under chain of custody for TEM/AHERA analysis.

AMIS is pleased to have had the opportunity to provide these services. Should you have any questions, please do not hesitate to contact me at (804) 556-2647.

Yours truly,

Robert A. Worrell
Senior Industrial Hygienist

Attachment:

ATTACHMENT 1

Asbestos Sampling/Analysis Reports

ABATEMENT MONITORING & INSPECTION SERVICES, INC.
2531 TURNER ROAD - GOOCHLAND, VA 23063 • PHONE/FAX (804) 556-2647

PCM FIBER COUNT ANALYSIS

Client:	Richmond City Public Schools	Analyst:	Robert A . Worrell
	2907 N. Blvd.	Date Sampled:	3/31/97
	Richmond, Virginia 23230	Date Analyzed:	3/31/97
Contact:	Mike Griffin	Project/PO #:	Elizabeth Redd Elem.

NIOSH 7400 (Issue 2)
Counting Rules: A

Filter Size (mm): 25
Field Area (mm2): 0.00785

SAMPLE NUMBER	LOCATION	FIBERS / FIELDS	FIBERS/ FILTER	VOLUME (L)	FIBERS/ CC
33197RAW1	Inside Containment	11. / 100	5395	510	0.011
33197RAW2	Clean Room	5. / 100	< 2943	510	< 0.006
33197RAW3	Outside Containment	3. / 100	< 2943	510	< 0.006
33197RAW4	Inside Containment	7. / 100	3434	300	0.011
33197RAW5	Clean Room	4. / 100	< 2943	300	< 0.01
33197RAW6	Outside Containment	3. / 100	< 2943	300	< 0.01
33197RAW7	Blank	0. / 100	< 2943	Blank	
33197RAW8	Blank	0. / 100	< 2943	Blank	
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			
		# /			

L = Liters cc = Cubic Centimeters OL = Over Loaded

SCIENTIFIC LABORATORIES, INC.

477 Southlake Blvd.
Richmond, Virginia 23236
Phone #: 804/379-1084
Fax #: 804/379/1087

117 East 30th Street
New York, New York 10016
Phone #: 212/679-8600
Fax #: 212/679-9392

0497-1006

Company: AMIS	Address: 2531 TURNER ROAD Goochland, VA. 23063	P.O.#:

Project Information

Name: ELIZABETH REDD ELEMENTARY 5601 JANKE RD. RICHMOND, VA.

Number:

Manager: ROBERT A. WORRELL

Site (City/State): RICHMOND, VA.

Analysis Type	Turnaround Time 6-8hr	12hr	24hr	48hr	72hr	5day	other
TEM/AHERA	X						
TEM/Level II							
TEM/Chatfield							
TEM/Dust							
TEM/Water							
PCM							
PLM							
Lead							
Other							

Air Filter Information

MCE		0.45µm	
PC		0.80µm	
25mm		other:	
37mm			

Results to: ROBERT A. WORRELL II 3106 GHENT DRIVE, CHESTERFIELD, VA. 23832

Return Samples Yes ___ No X

Invoice to: SEAN COSTELLO 2531 TURNER RD., GOOCHLAND, VA. 23063

Phone 804 1675-1815 (VERBAL)
Fax 804 1556-AMIS
Pager 804 1576-1709

Written report to: SAME AS RESULTS

COMMENTS: CALL (804) 675-1815 WITH VERBAL RESULTS TO ROBERT WORRELL

Sample I.D.	Sample Location (I)nside/(O)utside/(B)lank/(P)ersonal/(E)xcursion		Start Time	Stop Time	Total Time	x Liters / Min.	= AIR Volume	Date Collected
4197RAW-1	I	TEM CLEARANCE	0800	1000	120	10	1200	4/1/97
4197RAW-2	I	TEM CLEARANCE						
4197RAW-3	I	TEM CLEARANCE						
4197RAW-4	I	TEM CLEARANCE						
4197RAW-5	I	TEM CLEARANCE						
4197RAW-6	B	BLANK (FIELD)						
4197RAW-7	B	BLANK (FIELD)						
4197RAW-8	B	BLANK (SEALED)						

RECEIVED BY
APR 1 1997
Sci Lab

Relinquished By (Signature)	Date	Received By (Signature)	Date
	4/1/97		

Asbestos Sampling/Analysis Report

Client: Richmond City Schools

Contact: Mike Griffin

Site Address: 5601 Jahnke Road, Richmond, Virginia

Project: Floor tile and mastic abatement

Contractor: Waco Inc., Sandston, Virginia **Telephone Number:** (804) 222-8440

Industrial Hygienist: Robert A. Worrell **Sampling Dates:** March 31 & April 1, 1997

Sampling/Analytical Method: NIOSH 7400, Issue 2

Sample I.D.	Sample Date	Location	Fibers/Field	Volume (L)	Fibers/ Filter	Fibers/cc (f/cc)
33197-RAW-01	3/31/97	Inside Containment	11/100	510	5390	0.010
33197-RAW-02	3/31/97	Clean Room	5/100	510	<2890	<0.006
33197-RAW-03	3/31/97	Outside Containment	3/100	510	<2890	<0.006
33197-RAW-04	3/31/97	Inside Containment	7/100	300	3430	0.011
33197-RAW-05	3/31/97	Clean Room	4/100	300	<2890	<0.009
33197-RAW-06	3/31/97	Outside Containment	3/100	300	<2890	<0.009
33197-RAW-07	3/31/97	Blank	0/100	—	<2940	—
33197-RAW-08	3/31/97	Blank	0/100	—	<2940	—
4197-RAW-1	4/1/97	TEM Clearance	<16.6 Struc/mm^2	1200	N/A	<.0053 struc/cc
4197-RAW-2	4/1/97	TEM Clearance	<16.6 struc/mm^2	1200	N/A	<0.0053 struc/cc
4197-RAW-3	4/1/97	TEM Clearance	<16.6 Struc/mm^2	1200	N/A	<0.0053 struc/cc
4197-RAW-4	4/1/97	TEM Clearance	<16.6 Struc/mm^2	1200	N/A	<0.0053 struc/cc
4197-RAW-5	4/1/97	TEM Clearance	<16.6 Struc/mm^2	1200	N/A	<0.0053 struc/cc

Sample I.D.	Sample Date	Location	Fibers/Field	Volume (L)	Fibers/ Filter	Fibers/cc (f/cc)
4197-RAW-6	4/1/97	Blank (Field)	—	—	—	—
4197-RAW-7	4/1/97	Blank (Field)	—	—	—	—
4197-RAW-8	4/1/97	Blank (Lab)	—	—	—	—

ATTACHMENT 2

On-site Personnel Site Documentation

On-site Personnel Site Documentation

Month: March/April **Year:** 1997

Client: Richmond City Schools
Department of Plant Services
Richmond, VA 23230

Contractor: Waco Inc.
5450 Lewis Road
Sandston, VA 23150

Client Contact: Mike Griffin

Project: Floor tile and mastic abatement

Employee/SSN	03/31	04/01
AMIS		
Robert Worrell	X	X
Waco Inc.		
Buck Disse / 4613	X	
Raul Flores / 7130	X	
Ruben Flores / 3694	X	
Arturo Bedoya / 3818	X	
Carl Smith / 4613	X	
Jose Gurrero / 4222	X	
Jesus Collazo / 5379	X	

Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.

477 Southlake Blvd. Richmond, Virginia 23236 804/379-1084 Fax 804/379-1087

April 1, 1997

AMIS Industrial Hygiene Consulting
Attn: Mr. Costello
2531 Turner Road
Goochland, VA 23063

RE: AMIS Industrial Hygiene Consulting
Job Number 04971006
P.O. # Costello
Elizabeth Redd Elementary, 5601 Janke Rd., Richmond, VA

Dear Mr. Costello:

Enclosed are the results for TEM asbestos analysis of the following AMIS Industrial Hygiene Consulting samples received at Scientific Laboratories on Tuesday, April 1, 1997, for a 6-8 hour turnaround:

4197RAW-1, 4197RAW-2, 4197RAW-3, 4197RAW-4, 4197RAW-5, 4197RAW-6, 4197RAW-7, 4197RAW-8

The 8 air samples were sent to SciLab via Hand Delivered. These samples were prepared and analyzed according to AHERA Protocol as contained in 40 CFR, Part 763, Subpart E, Appendix A.

Table I represents a summary of all pertinent information used for the structure (fiber) density and concentration calculations. Included are the size of each structure counted, the structure density and concentration, type of asbestiform material detected and the analytical sensitivity, which represents the concentration by the detection of one structure in the TEM structure count. Copies of the Asbestos Count Sheets are included. These data sheets contain information for structure (fiber) length/width, structure type, structure morphology and pertinent information on EDS, SAED and photography.

This report relates ONLY to the sample analysis expressed as structure density. SciLab assumes no responsibility for customer supplied data such as "sample location" or "air volume sampled". This report must not be used to claim product endorsement by SciLab, NVLAP or any agency of the U. S. Government.

SciLab appreciates this opportunity to serve your organization. Please contact us for any further assistance or questions.

Sincerely,

Maria Calcaterra
Customer Service

SciLab Job #: **04-97-1006**

Client Name: AMIS Industrial Hygiene Consulting

Table I
Summary of Transmission Electron Microscopy (TEM) Results for Asbestos (air)

Elizabeth Redd Elementary, 5601 Janke Rd., Richmond, VA

SciLab Sample #	Client Sample #	Dilution Factor	Air Filtered (liters)	Area Analyzed (sq. mm.)	* Analytical Sensitivity (struc/cc air)	Asbestos Structures Detected (Microns) 0.5-5.0	>5.0	Total	Structure Density (struc/sq. mm.) >5.0	Total	Structure Concentration (struc/cc air) >5.0	Total	Type of Asbestos
01 inside	4197RAW-1		1200	.060	0.0053	0	0	0	<16.6	<16.6	<0.0053	<0.0053	NSD
	TEM Clearance												
02 inside	4197RAW-2		1200	.060	0.0053	0	0	0	<16.6	<16.6	<0.0053	<0.0053	NSD
	TEM Clearance												
03 inside	4197RAW-3		1200	.060	0.0053	0	0	0	<16.6	<16.6	<0.0053	<0.0053	NSD
	TEM Clearance												
04 inside	4197RAW-4		1200	.060	0.0053	0	0	0	<16.6	<16.6	<0.0053	<0.0053	NSD
	TEM Clearance												
05 inside	4197RAW-5		1200	.060	0.0053	0	0	0	<16.6	<16.6	<0.0053	<0.0053	NSD
	TEM Clearance												
06 blank**	4197RAW-6												
	BLANK												
07 blank**	4197RAW-7												
	BLANK												
08 blank**	4197RAW-8												
	BLANK												

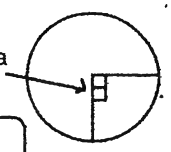
* concentration represented by the detection of 1 structure

** not analyzed

NSD: No Asbestos Structures Detected

Reviewed By: _____

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 04971006
Lab Sample #: 01
Client Sample #: 4197RAW-1
Received: 4/1/97 10:37:47
Date Analyzed: 4/1/97
Scope #: 3

Volume (liters): 1200
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Scot Cooke

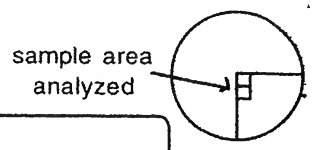
Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
B6-G5/1	1	NSD						☐		
B6-H5/1	2	NSD						☐		
B6-K5/1	3	NSD						☐		
B7-C5/1	4	NSD						☐		
B7-E5/1	5	NSD						☐		
B7-F5/1	6	NSD						☐		

NSD: No Asbestos Structures Detected

Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)	Grid Evaluation
Total Grid Openings:	6			☒ Grid Openings Covered > 50%
Chrysotile Asbestos Structures:	0	<16.6	<0.0053	☒ Intact Grid Opening > 50%
Amphibole Asbestos Structures:	0	<16.6	<0.0053	☒ Undissolved Filter < 10%
Asbestos Structures >=5 microns:	0	<16.6	<0.0053	☒ Folded Replica < 50%
Total Asbestos Structures:	0	<16.6	<0.0053	☒ Filter Loading < 25%
Analytical Sensitivity:		16.6	0.0053	☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 04971006
Lab Sample #: 02
Client Sample #: 4197RAW-2
Received: 4/1/97 10:37:47
Date Analyzed: 4/1/97
Scope #: 3

Volume (liters): 1200
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Scot Cooke

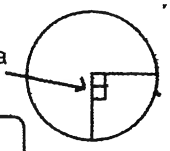
Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
B8-G4/4	1	NSD						☐		
B8-H4/4	2	NSD						☐		
B8-K4/4	3	NSD						☐		
B9-G4/3	4	NSD						☐		
B9-H4/3	5	NSD						☐		
B9-K4/3	6	NSD						☐		

NSD: No Asbestos Structures Detected

Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)	Grid Evaluation
Total Grid Openings:	6			☒ Grid Openings Covered > 50%
Chrysotile Asbestos Structures:	0	<16.6	<0.0053	☒ Intact Grid Opening > 50%
Amphibole Asbestos Structures:	0	<16.6	<0.0053	☒ Undissolved Filter < 10%
Asbestos Structures >=5 microns:	0	<16.6	<0.0053	☒ Folded Replica < 50%
Total Asbestos Structures:	0	<16.6	<0.0053	☒ Filter Loading < 25%
Analytical Sensitivity:		16.6	0.0053	☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 04971006
Lab Sample #: 03
Client Sample #: 4197RAW-3
Received: 4/1/97 10:37:47
Date Analyzed: 4/1/97
Scope #: 3

Volume (liters): 1200
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Scot Cooke

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
B10-F4/1	1	NSD						☐		
B10-G4/1	2	NSD						☐		
B10-H4/1	3	NSD						☐		
C6-G4/3	4	NSD						☐		
C6-H4/3	5	NSD						☐		
C6-K4/3	6	NSD						☐		

NSD: No Asbestos Structures Detected

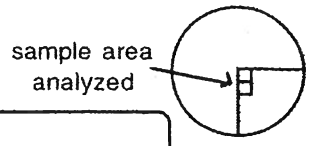
Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	0	<16.6	<0.0053
Amphibole Asbestos Structures:	0	<16.6	<0.0053
Asbestos Structures >=5 microns:	0	<16.6	<0.0053
Total Asbestos Structures:	0	<16.6	<0.0053
Analytical Sensitivity:		16.6	0.0053

Grid Evaluation

- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 04971006
Lab Sample #: 05
Client Sample #: 4197RAW-5
Received: 4/1/97 10:37:47
Date Analyzed: 4/1/97
Scope #: 3

Volume (liters): 1200
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Scot Cooke

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
C9-G4/3	1	NSD						☐		
C9-H4/3	2	NSD						☐		
C9-K4/3	3	NSD						☐		
C10-F3/3	4	NSD						☐		
C10-G3/3	5	NSD						☐		
C10-H3/3	6	NSD						☐		

NSD: No Asbestos Structures Detected

Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)	Grid Evaluation
Total Grid Openings:	6			☒ Grid Openings Covered > 50%
Chrysotile Asbestos Structures:	0	<16.6	<0.0053	☒ Intact Grid Opening > 50%
Amphibole Asbestos Structures:	0	<16.6	<0.0053	☒ Undissolved Filter < 10%
Asbestos Structures >=5 microns:	0	<16.6	<0.0053	☒ Folded Replica < 50%
Total Asbestos Structures:	0	<16.6	<0.0053	☒ Filter Loading < 25%
Analytical Sensitivity:		16.6	0.0053	☒ Particulate Even

Abatement Monitoring & Inspection Services, Inc.

2531 Turner Road
Goochland, Virginia 23063

Phone (804) 556-2647
Fax (804) 556-2647

Mr. Mike Griffin
Richmond City Public Schools
Department of Plant Services
2907 N. Boulevard
Richmond, Virginia 23230

July 11, 1997

Re: Air Monitoring Results
Elizabeth Redd Elementary
5601 Jahnke Road
Richmond, Virginia
Floor tile & Mastic Abatement
AMIS Job No. 2907-004

Dear Mr. Griffin:

The following is a synopsis of the industrial hygiene monitoring of the asbestos abatement project conducted in Elizabeth Redd Elementary located at 5601 Jahnke Road, Richmond, Virginia on July 7, 1997 through July 10, 1997. On-site personnel logs also are attached.

Project Summary

Waco Incorporated performed the asbestos abatement. AMIS's role was that of an independent third party industrial hygienist representing Richmond City Public Schools. Work practices observed were performed in a manner consistent with the requirements of the U.S. Occupational Safety and Health Administration (OSHA) Asbestos Construction Standard. Abatement involved the removal of asbestos-containing floor tile and black mastic from the school cafeteria.

Sampling and Analytical Protocol

AMIS performed air monitoring and provided industrial hygiene oversight. Air samples were collected prior to, during and after abatement activities from various locations inside and outside the work area. AMIS collected and analyzed air samples following the National Institute of Occupational Safety and Health (NIOSH) Method 7400, which utilizes 25 millimeter (mm), 0.8 micrometer (μm) mixed cellulose ester filters (MCEFs), calibrated sampling pumps, and phase contrast microscopy (PCM). The microscopist that participated in this air monitoring event has completed a NIOSH 582

equivalent course and is an active participant in the AIHA proficiency analytical testing (PAT) program.

Final air samples were collected and analyzed on 25mm, 0.45 micron MCEF's per AHERA protocol.

Summary of Results

A summary of sampling results is provided below. Sampling (PCM/TEM) reports are provided as Attachment 1 of this report.

- Samples collected inside the work area during abatement activities revealed fiber concentrations as high as 0.026 f/cc.

- All fiber concentrations from samples collected outside the work area remained below detection.

- Five final TEM clearance air samples were collected inside the work area using the aggressive sampling technique on 7/10/97. The final samples were taken to Scientific Laboratories, Inc., 477 Southlake Blvd., Richmond, Virginia, under chain of custody for TEM/AHERA analysis. The average concentration was less than 16.6 structures per square millimeter (struc/mm^2). This meets the Asbestos Hazard Emergency Response Act (AHERA) criteria of less than 70 struc/mm^2 for re-occupancy following asbestos abatement in schools.

AMIS is pleased to have had the opportunity to provide these services. Should you have any questions, please do not hesitate to contact me at (804) 556-2647.

Yours truly,

Sean Costello, CIH

Sean Costello, CIH
President
AMIS, Inc.

Attachment:

ATTACHMENT 1

Asbestos Sampling/Analysis Reports

ABATEMENT MONITORING & INSPECTION SERVICES, INC.
2531 TURNER ROAD - GOOCHLAND, VA 23063 • PHONE/FAX (804) 556-2647

PCM FIBER COUNT ANALYSIS

Client: Richmond City Public Schools
2907 N. Blvd.
Richmond, Virginia 23230
Contact: Mike Griffin

Analyst: Robert Worrell
Date Sampled: 7/7/97
Date Analyzed: 7/7/97
Project/PO #: Elizabeth Redd Elem. Cafeteria

NIOSH 7400 (Issue 2)
Counting Rules: A

Filter Size (mm): 25
Field Area (mm2): 0.00785

SAMPLE NUMBER	LOCATION	FIBERS / FIELDS	FIBERS/ FILTER	VOLUME (L)	FIBERS/ CC
7797RAW1	Pre-Air	8. / 100	3924	1200	< 0.005
7797RAW2	Pre-Air	4. / 100	< 2943	1200	< 0.005
7797RAW3	Blank	0. / 100	< 2943	Blank	
7797RAW4	Blank	0. / 100	< 2943	Blank	
		# /			
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L = Liters cc = Cubic Centimeters OL = Over Loaded

ABATEMENT MONITORING & INSPECTION SERVICES, INC.
2531 TURNER ROAD - GOOCHLAND, VA 23063 • PHONE/FAX (804) 556-2647

PCM FIBER COUNT ANALYSIS

Client: Richmond City Public Schools
2907 N. Blvd.
Richmond, Virginia 23230
Contact: Mike Griffin

Analyst: Sean Costello
Date Sampled: 7/8/97
Date Analyzed: 7/8/97
Project/PO #: Elizabeth Redd Elem. Cafeteria

NIOSH 7400 (Issue 2)
Counting Rules: A

Filter Size (mm): 25
Field Area (mm2): 0.00785

SAMPLE NUMBER	LOCATION	FIBERS / FIELDS	FIBERS/ FILTER	VOLUME (L)	FIBERS/ CC
7897-1	Inside Containment	10.5 / 100	5150	444	0.012
7897-2	Clean Room	4.5 / 100	< 2943	464	< 0.006
7897-3	Kitchen	4. / 100	< 2943	530	< 0.006
7897-4	Neg. Air Exhaust	4. / 100	< 2943	1006	< 0.005
7897-5	Inside Containment	6.5 / 100	3188	440	0.007
7897-6	Clean Room	3. / 100	< 2943	300	< 0.01
7897-7	Hallway	1.5 / 100	< 2943	374	< 0.008
7897-8	Blank	0. / 100	< 2943	Blank	
7897-9	Blank	0. / 100	< 2943	Blank	
		# /			
		# /			
		# /			
		# /			
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		# /			
		# /			

L = Liters cc = Cubic Centimeters OL = Over Loaded

ABATEMENT MONITORING & INSPECTION SERVICES, INC.
2531 TURNER ROAD - GOOCHLAND, VA 23063 • PHONE/FAX (804) 556-2647

PCM FIBER COUNT ANALYSIS

Client:	Richmond City Public Schools	Analyst:	Sean Costello
	2907 N. Blvd.	Date Sampled:	7/8/97
	Richmond, Virginia 23230	Date Analyzed:	7/8/97
Contact:	Mike Griffin	Project/PO #:	Elizabeth Redd Elem. Cafeteria

NIOSH 7400 (Issue 2)
Counting Rules: A

Filter Size (mm): 25
Field Area (mm2): 0.00785

SAMPLE NUMBER	LOCATION	FIBERS / FIELDS	FIBERS/ FILTER	VOLUME (L)	FIBERS/ CC
7997-1	Kitchen	3.5 / 100	< 2943	984	< 0.005
7997-2	Neg. Air Exhaust	1. / 100	< 2943	914	< 0.005
7997-3	Inside Containment	56. / 100	27466	1076	0.026
7997-4	Clean Room	3. / 100	< 2943	920	< 0.005
7997-5	Blank	0. / 100	< 2943	Blank	
7997-6	Blank	0. / 100	< 2943	Blank	
		# /			
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L = Liters cc = Cubic Centimeters OL = Over Loaded

SCIENTIFIC LABORATORIES, INC.

477 Southlake Blvd.
Richmond, Virginia 23236
Phone #: 804/379-1084
Fax #: 804/379/1087

117 East 30th Street
New York, New York 10016
Phone #: 212/679-8600
Fax #: 212/679-9392

Company: AMIS, Inc.

Address: 2531 Turner Rd. Goochland, VA

P.O.#:

Project Information

Name: Elizabeth Redd Elem. Cafeteria

Number:

Manager:

Site (City/State):

Analysis Type	Turnaround Time 6-8hr	12hr	24hr	48hr	72hr	5day	other
TEM/AHERA		X					
TEM/Level II							
TEM/Chatfield							
TEM/Dust							
TEM/Water							
PCM							
PLM							
Lead							
Other							

Air Filter Information

MCE	X
PC	
25mm	X
37mm	
0.45µm	X
0.80µm	
other:	

Results to: Sean Costello

Return Samples Yes ___ No ✓

Invoice to: Same

Written report to: Same

Phone /
Fax 804 / 556-2647
Pager 804 / 755-3132

COMMENTS: FAX Results

Sample I.D.	Sample Location (I)nside/(O)utside/(B)lank/(P)ersonal/(E)xcursion		Start Time	Stop Time	Total Time x	Liters / Min. =	AIR Volume	Date Collected
710-1	I	Cafeteria	1026	1246	140	9.0	1260	7-10-97
710-2	I	↓	1027	1247	140	9.0	1260	↓
710-3	I		1028	1244	136	9.5	1292	
710-4	I		1029	1245	136	9.5	1292	
710-5	I	↓	1030	1238	128	10.0	1280	↓
710-6	B	Field						
710-7	B	Sealed						
710-8	B	Sealed						

Relinquished By (Signature)	Date	Received By (Signature)	Date
Sean Costello	7-10-97	[illegible]	7/10/97

SciLab Job #: **07-97-1196**

Client Name: AMIS Industrial Hygiene Consulting

Table I
Summary of Transmission Electron Microscopy (TEM) Results for Asbestos (air)

Elizabeth Redd Elem.; Cafeteria

SciLab Sample #	Client Sample #	Dilution Factor	Air Filtered (liters)	Area Analyzed (sq. mm.)	* Analytical Sensitivity (struc/cc air)	Asbestos Structures Detected (Microns)			Structure Density (struc/sq. mm.)		Structure Concentration (struc/cc air)		Type of Asbestos
						0.5-5.0	>5.0	Total	>5.0	Total	>5.0	Total	
01 inside Cafeteria	710-1		1260	.060	0.0051	0.0	0.0	0.0	<16.6	<16.6	<0.0051	<0.0051	NSD
02 inside Cafeteria	710-2		1260	.060	0.0051	0.0	0.0	0.0	<16.6	<16.6	<0.0051	<0.0051	NSD
03 inside Cafeteria	710-3		1292	.060	0.0050	0.0	0.0	0.0	<16.6	<16.6	<0.0050	<0.0050	NSD
04 inside Cafeteria	710-4		1292	.060	0.0050	0.0	1.0	1.0	16.6	16.6	0.0050	0.0050	amphibole
05 inside Cafeteria	710-5		1280	.060	0.0050	1.0	0.0	1.0	<16.6	16.6	<0.0050	0.0050	chrysotile
06 blank** Blank	710-6												
07 blank** Blank	710-7												
08 blank** Blank	710-8												

* concentration represented by the detection of 1 structure

** not analyzed

NSD: No Asbestos Structures Detected

Reviewed By: _____

ATTACHMENT 2

On-site Personnel Site Documentation

On-site Personnel Site Documentation

Month: July **Year:** 1997

Client: Richmond City Schools
Department of Plant Services
Richmond, VA 23230

Contractor: Waco Inc.
5450 Lewis Road
Sandston, VA 23150

Client Contact: Mike Griffin

Project: Floor tile and mastic abatement/Elizabeth Redd Elem. (Cafeteria)

Employee/SSN	7/7	7/8
AMIS		
Sean Costello-7611	X	X
Robert Worrell-1737	X	
Waco Inc.		
Randall Hopkins-7865	X	X
Ubaldo Pelaez-9763	X	X
Santos Flores Ortega-6892	X	X
Ruben Balcarcel-2348	X	X
Alberto Peleaz-4523	X	X
Ramon Balcarcel-	X	X

DATE – 7/7/97 (MONDAY)

Client –
Richmond City Schools

Location of Work –
Elizabeth Redd Elementary
5601 Jahnke Rd.
Richmond, VA.

Contractor –
WARD INC.
5950 Lewis Rd.
Sandston, VA. 23150

POC – Kevin Nissley
Supervisor – Randall Hopkins

Scope of Work –
Removal of floor tile and mastic from School cafeteria.

Activity log

0800 - Arrive on site, meet w/ Kevin Nissley and Randall Hopkins (WACO Inc.) and go over the Scope of Work. Workers will be prep work area containment Today and Begin Removal Tommorow. Workers will be Removing floor tile and Mastic from School Cafeteria.
0930 - Pre-Air samples are started in work Area while workers continue prepping.
1030 - Pre-Air samples are collected then Read. Results are less than .01 f/cc.
1100 - Leave Job site.

Sample Data

Sample #	Area	Start	Stop	Min	Vol.	F/Field	F/cc
7797RAW1	Pre-Air	0830	1030	120	1200	0/100	<.005
2	Pre-Air	↓	↓	↓	↓	4/100	<.005
3	Blank	———	———	———	———	0/100	———
4	Blank	———	———	———	———	0/100	———

Pumps cal with Rotameter To 10 LPM (High vols)

Rotameter cal. Using Bubble Tube (Primary Standard)

Post cal. - 10 LPM (High Vols)

Scope Field Area - .00785 mm^2

Date - 7/8/97 (Tuesday)

Client -
Richmond City Schools

Location of Work -
Elizabeth Redd Elementary
5601 Jahnke Road
Richmond, VA.

Contractor -
WACO Inc.
5450 Lewis Rd.
Sandston, VA. 23150

POC - Kevin Nissley
Supervisor - Randall Hopkins

Scope of Work -
Removal of floor tile and mastic from school cafeteria under neg. pressure containment.

Sample Data for 7-8-97

Sample #	Location	Start/Stop	LPM pre/post	Vol.
7897-1	inside area	800 / 11:42	2.0 / 2.0	444
2	clean change	8:00 / 11:58	2.0 / 2.0	484
3	Kitchen	8:00 / 12:45	2.0 / 2.0	530
4	neg air exhaust	800 / 4:23	2.0 / 2.0	1006
5	inside pm	12:55 / 4:35	2.0 / 2.0	440
6	clean change pm	12:57 / 4:48	2.0 / 2.0	458
7	hallway	1:12 / 4:19	2.0 / 2.0	374
8	Blank			
9	Blank			

7/8/97 Activity Log Continued

2:00 pm Bagging continues. I am preparing the portable lab in the kitchen to read samples collected this morning.

2:45 Ruben Balcarcel and Ramon leave site. R. Hopkins goes in to help remaining three workers - I will read samples

4:30 Randall comes out of containment. Mastic removal done in one of the small rooms. All debris (Tile) has been bagged.

4:45 Workers coming out

5:00 I leave site.

7-8-97

sample #	Fibers / Fields	Results Fibers / cc
7897-1	10.5 / ~~100~~	0.012
-2	4.5 / ~~100~~	< 0.007
-3	4 / ~~100~~	< 0.006
-4	4 / 100	< 0.005
-5	6.5 / 100	0.007
-6	1 / 100	< 0.007
-7	1.5 / 100	< 0.008

WACO EMplayee on site @ Elizabeth Redd Elem. for 7-8-97:

1) Randall Hopkins (7865)
2) Ubaldo T. Pelaez 673-10-9763
3) Santos Flores Ortega 051-30-6892
4) Ruben Balcarcel 227-63-2348
5) Alberto Pelaez 649-57-4523
6) Ramon Balcarcel

Dean Costello
7/8/97

DATE: 7-9-97 Pg 1 of 2

Job Site: Elizabeth Redd Elem.
5601 Johnke Rd.
Richmond, VA
contact → Mike Griffin

Contractor: WACO, INC.
P.O. Box 836
Sandston, VA 23150
contact → Kevin Nissley

Scope of Work: Removal of asbestos-containing floor tile mastic from the school cafeteria. All asbestos floor tile was removed & bagged on 7-8-97

7:35 am – I arrived on site as WACO employees are taking asbestos waste bags from containment to WACO truck.

8:00 – Bag out complete. Workers preparing to enter containment. Mastic will be removed with solvent, buffer and rags. I start air samples and read last four samples from 7-8-97.

9:00 Mastic Removal continues. Randall Hopkins (foreman) and same 5 workers (see 7-8-97 log).

10:00-10:30 Marshall Taylor on site delivering scrapers & solvent

10:45-11:40 I leave site to deliver a sample to EHS (LAB)

11:40-12:40 Lunch break

12:40 Randall & I inspect floor. Randall also re-starts the extra air machine because one had stopped. There is much mastic removal left to do. 3 air machines running on low. Seams to be more than adequate neg. pressure.

2:00 pm Kevin Nissley (WACO) drops off 10 gals of solvent

3:00 pm I inspect work area and find large areas which are unsatisfactory. I also told Randall & workers to clean under all radiators

Sample #	Location	start	stop	Lpm pre / post	VOL. (L)
7997-1	Kitchen	7:38	3:50	2.0 / 2.0	984
-2	Neg. Air exhaust	8:08	3:45	2.0 /	914
-3	Inside Work Area	8:12	5:10	2.0 /	1076
-4	Clean Change	8:24	4:59	2.0 / 2.0	920
-5	Blank				
-6	Blank				

sample #	fibers / field	fibers / cc
7997-1	3.5 / 100	< 0.005
-2	1 / 100	< 0.005
-3	56 / 100	0.026
-4	3 / 100	< 0.005
-5	0 / 100	N/A
-6	0 / 100	N/A

4:00 I inspect work area again and ~~stay~~ in containment until areas are satisfactory

5:15pm I leave site after telling MACO that they can encapsulate the cafeteria.

Pg 2 of 2

Dean Costello

7/9/97

Date 7-10-97 page 1 of 1 Sean Costello

Site: Elizabeth Redd Elem. School
Client: Richmond City Public Schools

Scope of Work: Collect TEM Clearance Samples in Cafeteria.

Contractor: WACO (not on-site)
P.O. BOX 836
Sandston, VA 23150

9:00 a.m. Arrived, found custodian to unlock kitchen.

10:30 Started five TEM air samples after calibrating and setting up pumps

Sample #	Location	start / stop		Lpm	Vol (L)
7/0-1	Cafeteria	10:26	1246	9.0	1260
2	↓	10:27	1247	9.0	1260
3		10:28	1244	9.5	1292
4		10:29	1245	9.5	1292
5		10:30	1238	10.0	1280
6	Field Blank				
7	Sealed Blank				
8	↓				

Left school @ 1:15 p.m. Left TEM LAB @ 2:00 p.m. Sean

Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.

477 Southlake Blvd. Richmond, Virginia 23236 804/379-1084 Fax 804/379-1087

July 11, 1997

AMIS Industrial Hygiene Consulting
Attn: Mr. Costello
2531 Turner Road
Goochland, VA 23063

RE: AMIS Industrial Hygiene Consulting
Job Number 07971196
P.O. # Costello
Elizabeth Redd Elem.; Cafeteria

Dear Mr. Costello:

Enclosed are the results for TEM asbestos analysis of the following AMIS Industrial Hygiene Consulting samples received at Scientific Laboratories on July 10, 1997, for a 12 hour turnaround:

710-1, 710-2, 710-3, 710-4, 710-5, 710-6, 710-7, 710-8

The 8 air samples were sent to SciLab via Hand Delivered. These samples were prepared and analyzed according to AHERA Protocol as contained in 40 CFR, Part 763, Subpart E, Appendix A.

Table I represents a summary of all pertinent information used for the structure (fiber) density and concentration calculations. Included are the size of each structure counted, the structure density and concentration, type of asbestiform material detected and the analytical sensitivity, which represents the concentration by the detection of one structure in the TEM structure count. Copies of the Asbestos Count Sheets are included. These data sheets contain information for structure (fiber) length/width, structure type, structure morphology and pertinent information on EDS, SAED and photography.

This report relates ONLY to the sample analysis expressed as structure density. SciLab assumes no responsibility for customer supplied data such as "sample location" or "air volume sampled". This report must not be used to claim product endorsement by SciLab, NVLAP or any agency of the U. S. Government.

SciLab appreciates this opportunity to serve your organization. Please contact us for any further assistance or questions.

Sincerely,

Barry Browder
Operations Manager

SciLab Job #: **07-97-1196**

Client Name: AMIS Industrial Hygiene Consulting

Table I
Summary of Transmission Electron Microscopy (TEM) Results for Asbestos (air)

Elizabeth Redd Elem.; Cafeteria

SciLab Sample #	Client Sample #	Dilution Factor	Air Filtered (liters)	Area Analyzed (sq. mm.)	* Analytical Sensitivity (struc/cc air)	Asbestos Structures Detected (Microns)			Structure Density (struc/sq. mm.)		Structure Concentration (struc/cc air)		Type of Asbestos
						0.5-5.0	>5.0	Total	>5.0	Total	>5.0	Total	
01 inside Cafeteria	710-1		1260	.060	0.0051	0.0	0.0	0.0	<16.6	<16.6	<0.0051	<0.0051	NSD
02 inside Cafeteria	710-2		1260	.060	0.0051	0.0	0.0	0.0	<16.6	<16.6	<0.0051	<0.0051	NSD
03 inside Cafeteria	710-3		1292	.060	0.0050	0.0	0.0	0.0	<16.6	<16.6	<0.0050	<0.0050	NSD
04 inside Cafeteria	710-4		1292	.060	0.0050	0.0	1.0	1.0	16.6	16.6	0.0050	0.0050	amphibole
05 inside Cafeteria	710-5		1280	.060	0.0050	1.0	0.0	1.0	<16.6	16.6	<0.0050	0.0050	chrysotile
06 blank** Blank	710-6												
07 blank** Blank	710-7												
08 blank** Blank	710-8												

* concentration represented by the detection of 1 structure

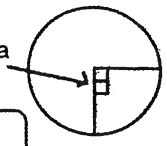
** not analyzed

NSD: No Asbestos Structures Detected

Reviewed By: _____

APPENDIX

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 07971196
Lab Sample #: 01
Client Sample #: 710-1
Received: 7/10/97 13:45:33
Date Analyzed: 7/10/97
Scope #: 2

Volume (liters): 1 260.0
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Rob Fleet

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
C1-E4/1	1	NSD						☐		
C1-F4/1	2	NSD						☐		
C1-G4/1	3	NSD						☐		
C2-E4/1	4	NSD						☐		
C2-F4/1	5	NSD						☐		
C2-G4/1	6	NSD						☐		

NSD: No Asbestos Structures Detected

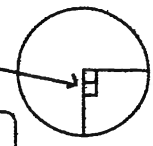
Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	0	<16.6	<0.0051
Amphibole Asbestos Structures:	0	<16.6	<0.0051
Asbestos Structures >=5 microns:	0	<16.6	<0.0051
Total Non-Asbestos Structures:			
Total Asbestos Structures:	0	<16.6	<0.0051
Analytical Sensitivity:		16.6	0.0051

Grid Evaluation

- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name:	AMIS Industrial Hygiene Consulting		
Job #:	07971196	Volume (liters):	1 260.0
Lab Sample #:	02	Filter Type / Filter Area:	MCE 385 mm2
Client Sample #:	710-2	Grid Opening Size:	0.01003
Received:	7/10/97 13:45:33	Area Examined:	0.06018 mm2
Date Analyzed:	7/10/97	Magnification:	20,000
Scope #:	2	Accelerating Voltage:	100 KeV

Analysis Performed by: Rob Fleet

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
C4-C4/4	1	NSD						☐		
C4-E4/4	2	NSD						☐		
C4-F4/4	3	NSD						☐		
C3-C4/6	4	NSD						☐		
C3-E4/6	5	NSD						☐		
C3-F4/6	6	NSD						☐		

NSD: No Asbestos Structures Detected

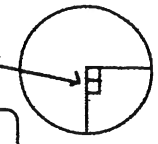
Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	0	<16.6	<0.0051
Amphibole Asbestos Structures:	0	<16.6	<0.0051
Asbestos Structures >=5 microns:	0	<16.6	<0.0051
Total Non-Asbestos Structures:			
Total Asbestos Structures:	0	<16.6	<0.0051
Analytical Sensitivity:		16.6	0.0051

Grid Evaluation

- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 07971196
Lab Sample #: 03
Client Sample #: 710-3
Received: 7/10/97 13:45:33
Date Analyzed: 7/10/97
Scope #: 2

Volume (liters): 1 292.0
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Rob Fleet

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
C5-C4/6	1	NSD						☐		
C5-E4/6	2	NSD						☐		
C5-F4/6	3	NSD						☐		
D1-E4/4	4	NSD						☐		
D1-F4/4	5	NSD						☐		
D1-G4/4	6	NSD						☐		

NSD: No Asbestos Structures Detected

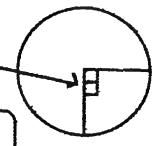
Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	0	<16.6	<0.0050
Amphibole Asbestos Structures:	0	<16.6	<0.0050
Asbestos Structures >=5 microns:	0	<16.6	<0.0050
Total Non-Asbestos Structures:			
Total Asbestos Structures:	0	<16.6	<0.0050
Analytical Sensitivity:		16.6	0.0050

Grid Evaluation

- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 07971196
Lab Sample #: 04
Client Sample #: 710-4
Received: 7/10/97 13:45:33
Date Analyzed: 7/10/97
Scope #: 2

Volume (liters): 1 292.0
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Rob Fleet

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
D3-C4/4	1	1	5.5	0.3	Amosite	Bundle	Mg, Si, Mn, F	☒		
D3-E4/4	2	NSD						☐		
D3-F4/4	3	NSD						☐		
D2-C4/1	4	NSD						☐		
D2-E4/1	5	NSD						☐		
D2-F4/1	6	NSD						☐		

NSD: No Asbestos Structures Detected

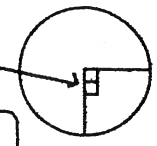
Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	0	<16.6	<0.0050
Amphibole Asbestos Structures:	1	16.6	0.0050
Asbestos Structures >=5 microns:	1	16.6	0.0050
Total Non-Asbestos Structures:			
Total Asbestos Structures:	1	16.6	0.0050
Analytical Sensitivity:		16.6	0.0050

Grid Evaluation

- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

TEM Asbestos (air) Count Sheet



Client Name: AMIS Industrial Hygiene Consulting
Job #: 07971196
Lab Sample #: 05
Client Sample #: 710-5
Received: 7/10/97 13:45:33
Date Analyzed: 7/10/97
Scope #: 2

Volume (liters): 1 280.0
Filter Type / Filter Area: MCE 385 mm2
Grid Opening Size: 0.01003
Area Examined: 0.06018 mm2
Magnification: 20,000
Accelerating Voltage: 100 KeV

Analysis Performed by: Rob Fleet

Location	Grid Opening	Fiber	Length µM	Width µM	Fiber Type	Morphology	EDS	SAED	Photo	Mag
D4-C4/4	1	NSD						☐		
D4-E4/4	2	NSD						☐		
D4-F4/4	3	NSD						☐		
D5-C4/4	4	NSD						☐		
D5-E4/4	5	1	2.5	0.06	Chrysotile	Fiber	Mg, Si, Fe	☒		
D5-F4/4	6	NSD						☐		

NSD: No Asbestos Structures Detected

Comments:

		Structure Density (str/mm2)	Concentration (str/cc air)
Total Grid Openings:	6		
Chrysotile Asbestos Structures:	1	16.6	0.0050
Amphibole Asbestos Structures:	0	<16.6	<0.0050
Asbestos Structures >=5 microns:	0	<16.6	<0.0050
Total Non-Asbestos Structures:			
Total Asbestos Structures:	1	16.6	0.0050
Analytical Sensitivity:		16.6	0.0050

Grid Evaluation
- ☒ Grid Openings Covered > 50%
- ☒ Intact Grid Opening > 50%
- ☒ Undissolved Filter < 10%
- ☒ Folded Replica < 50%
- ☒ Filter Loading < 25%
- ☒ Particulate Even

SCIENTIFIC LABORATORIES, INC.

477 Southlake Blvd.
Richmond, Virginia 23236
Phone #: 804/379-1084
Fax #: 804/379/1087

117 East 30th Street
New York, New York 10016
Phone #: 212/679-8600
Fax #: 212/679-9392

0497-1196

Company: AMIS, INC.	Address: 2531 Turner Rd. Goochland, VA	P.O.#:

Project Information

Name: Elizabeth Redd Elem. Cafeteria

Number:

Manager:

Site (City/State):

Analysis Type	Turnaround Time 6-8hr	12hr	24hr	48hr	72hr	5day	other
TEM/AHERA		X					
TEM/Level II							
TEM/Chatfield							
TEM/Dust							
TEM/Water							
PCM							
PLM							
Lead							
Other							

Air Filter Information	
MCE	X
PC	
25mm	X
37mm	
0.45µm	X
0.80µm	
other:	

Results to: Sean Costello

Return Samples Yes ___ No ✓

Invoice to: Same

Written report to: Same

Phone /
Fax 804 / 556-2647
Pager 804 / 755-3132

COMMENTS: FAX Results

Sample I.D.	Sample Location (I)nside/(O)utside/(B)lank/(P)ersonal/(E)xcursion		Start Time	Stop Time	Total Time	x Liters / Min.	= AIR Volume	Date Collected
710-1	I	Cafeteria	1026	1246	140	9.0	1260	7-10-97
710-2	I	↓	1027	1247	140	9.0	1260	↓
710-3	I		1028	1244	136	9.5	1292	
710-4	I		1029	1245	136	9.5	1292	
710-5	I	↓	1030	1238	128	10.0	1280	✓
710-6	B	Field						
710-7	B	sealed						
710-8	B	sealed						

Relinquished By (Signature)	Date	Received By (Signature)	Date
Sean Costello	7-10-97	Walter Hughes	7/10/97

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(PERIODIC SURVEILLANCE)

Location of asbestos-containing materials(s) (building name):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

Vinyl Floor Tile X
Thermal insulation X

Assessment:

1. **Evidence of physical damage:** Tile worn in stairwell.

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** There appears to be no changes in the hazard assessment factors since the last inspection.

SIGNED _____ **DATE** 8/16/90

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(PERIODIC SURVEILLANCE)

Location of asbestos-containing materials(s) (building name):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

Vinyl Floor Tile X
Thermal insulation X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** There appears to be no changes in the hazard assessment factors since the last inspection.

SIGNED _____ **DATE** 1/9/91

Comment(s): None

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** Thermal insulation torn in boiler room. No changes since the last inspection.

SIGNED: _____ **DATE:** 7/22/91

Comment(s): None

>

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

AP.E-15

(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 2/6/92

Comment(s): None

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 8/19/92

Comment(s): AHERA book not available.

AP.E-15

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:
VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 2/16/93

Comment(s): AHERA book in order.

AP.E-15

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:
VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 7/20/93

Comment(s): AHERA book in order.

AP.E-15

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 2/3/94

Comment(s): AHERA book in order.

AP.E-15

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:
VINYL FLOOR TILE X
THERMAL INSULATION X

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 6/28/94

Comment(s): Needs all materials 1989-93.

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS
(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth D. Redd Elementary School

Type of asbestos-containing material:

VINYL FLOOR TILE _X_
THERMAL INSULATION _X_

Assessment:

1. **Evidence of physical damage:** None

2. **Evidence of water damage:** None

3. **Evidence of delamination or other deterioration:** None

4. **Other observations:** No changes since the last inspection.

SIGNED: _____ **DATE:** 1/20/95

Comment(s): AHERA book in order.

AP.E-15

REASSESSMENT OF ASBESTOS-CONTAINING MATERIALS

(Periodic Surveillance)

Location of asbestos-containing material(s) (building):

Elizabeth Redd School

Type of asbestos-containing material:

Vinyl Floor Tile X
Thermal Insulation ___
Others ___

Assessment:

1. **Evidence of physical damage:**

2. **Evidence of water damage:**

3. **Evidence of delamination or other deterioration:**

4. **Other observations:** No change since last inspection

SIGNED:	DATE:
Michael H Gill	7/8/95
Michael H Gill	1/12/96
Michael H Gill	7/16/96
Michael H Gill	1/8/97
Edward J Mahan	7/28/97
E J Mahan	1/18/98
E J Mahan	7/30/98
Michael H Gill	1-4-99
"	7/6/99
"	1/31/00
"	7/6/00
"	1/31/01

Comment(s): Rear Corridor Vinyl Tile ABATED During Spring 1997 (Easter Vacation)