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September 24, 2018

Project No. 631237084

Mr. James G. Bernier, P.E.

Territorial Director of Capital Projects & Facilities
Division of Architectural Engineering
Virgin Islands Department of Education (VIDE)

Re: Report of Project Monitoring – Alexander Henderson Elementary School
73 Estate Concordia
St. Croix, US.V.I 00820

Dear Mr. Bernier:

Aptim Environmental & Infrastructure, Inc. (APTIM) has completed visual observations and air monitoring associated with the abatement of asbestos-containing 2' x 4' ceiling panels, floor tile and associated flooring mastic within the Alexander Henderson Elementary School, located at 73 Estate Concordia, St. Croix, USVI. The abatement was performed prior to scheduled renovations which would disturb these materials. This report presents our visual observations and the results of our air monitoring analyses.

APTIM appreciates the opportunity to serve as your asbestos consultant on this project. Please feel free to call us with any questions regarding the content of this report.

Sincerely,

David Mosher
Environmental Project Manager

1 ASBESTOS ABATEMENT BACKGROUND

As part of the planned renovations of the Alexander Henderson Elementary School campus, the Virgin Islands Department of Education (VIDE) requested that APTIM provide abatement oversight, onsite observations and air monitoring during the removal of identified asbestos-containing materials. Adcon Environmental Services, a licensed USVI abatement contractor, performed the abatement. Daily observation of work practices was performed by an APTIM representative to ensure adherence by the abatement contractor to the Asbestos Work Plan developed by APTIM and all applicable Federal EPA and OSHA regulations, to the most practicable extent.

After the abatement work was completed by the abatement contractor, a visual inspection of the work area was performed by the APTIM representative. The visual inspection was performed to determine the readiness of the work area for clearance sampling. Critical barriers remained in place in the work area until satisfactory visual or sampling clearance results were confirmed by APTIM. Phase Contrast Microscopy (PCM) was used to analyze clearance air samples in floor tile/floor tile mastic work areas exceeding 160 square feet. Visual clearances only were performed for the remaining floor tile/ floor tile mastic areas. Transmission Electron Microscopy (TEM) was used to analyze clearance air samples in the 2'x4' ceiling panels located in the west wing.

On August 20 through August 26, 2018, the following materials were removed from the facility:

Location	Material Description	Approximate Amount
Limited areas throughout the school	FLOOR TILE AND MASTIC	6,497 SF
West Wing of the school	2' X 4' CEILING PANELS	10,325 SF

SF = square feet LF = linear feet EA = each

2 SUMMARY OF ABATEMENT OBSERVATIONS

The abatement contractor's preparation of each work area was accomplished by placing critical barriers; setting up a decontamination station, and where applicable, establishing diminished air pressure within the work area using high efficiency particulate air (HEPA) filtered ventilating machines. Removal of the asbestos-containing materials was performed with the contractor's workers wearing full face, positive pressure air purifying respirators with P100 cartridges, and using HEPA vacuums and wet cleaning methods. Asbestos containing materials were placed in appropriately labeled 6-mil polyethylene bags for disposal. Bagged materials were double bagged for transport to the disposal site.

Following removal of the asbestos-containing materials, an inspection of the abatement area(s) was conducted by an APTIM representative for visual clearance to allow the contractor to proceed with encapsulation or lockdown. Manual cleaning was repeated, as necessary, until no visible dust or debris was present in the work area. Five final clearance samples were collected within each work area exceeding 160 SF. The sampling and subsequent analysis of the floor tile/floor tile mastic clearance samples were performed by a APTIM representative trained in accordance with NIOSH 582, "Sampling and Evaluation of Airborne Asbestos Dust in general accordance with NIOSH Method 7400 for Phase Contrast Microscopy (PCM). PCM results were reported in fibers per cubic centimeter (f/cm³), and were compared to the AHERA clearance criteria of less than 0.01 f/cm³, for each sample. TEM results for the ceiling panel abatement were analyzed by IATL, a NVLP accredited laboratory, and were reported in structures per square millimeter (str/mm²), and were compared to the AHERA clearance criteria of less than 70 str/mm².

Table 1 and Table 2 contain summaries of the air samples and clearance samples collected during the project, including sample numbers, the types of samples, and the result for each sample. All clearance air samples collected and analyzed following the abatement were below 0.01 f/cm³ for PCM and 70 str/mm² for TEM.

The figure, located at the end of the report text, indicates the air sample locations.

QUALIFICATIONS OF THE REPORT

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our client, Virgin Islands Department of Education, and this report is solely for the use and information of our client, unless otherwise noted. Any reliance of this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Table 1
Summary of Air Monitoring by PCM
Alexander Henderson Elementary School, USVI

SAMPLING DATE	SAMPLE ID	SAMPLE LOCATION	SAMPLE TYPE	SAMPLE VOLUME (liters)	FIBER CONCENTRATION (f/cm ³)
8/25/18	H-1	AUDITORIUM/CAFETERIA	CL	1300	<0.01
8/25/18	H-2	AUDITORIUM/CAFETERIA	CL	1300	<0.01
8/25/18	H-3	AUDITORIUM/CAFETERIA	CL	1300	<0.01
8/25/18	H-4	AUDITORIUM/CAFETERIA	CL	1300	<0.01
8/25/18	H-5	AUDITORIUM/CAFETERIA	CL	1300	<0.01
8/26/18	H-6	EAST WING – RM 216	CL	1300	<0.01
8/26/18	H-7	EAST WING – RM 216	CL	1300	<0.01
8/26/18	H-8	EAST WING – RM 216	CL	1300	<0.01
8/26/18	H-9	EAST WING – RM 216	CL	1300	<0.01
8/26/18	H-10	EAST WING – RM 216	CL	1300	<0.01
8/26/18	H-11	WEST WING – RM 102	CL	1300	<0.01
8/26/18	H-12	WEST WING – RM 102	CL	1300	<0.01
8/26/18	H-13	WEST WING – RM 102	CL	1300	<0.01
8/26/18	H-14	WEST WING – RM 102	CL	1300	<0.01
8/26/18	H-15	WEST WING – RM 102	CL	1300	<0.01
8/26/18	H-16	WEST WING – RM 104	CL	1300	<0.01
8/26/18	H-17	WEST WING – RM 104	CL	1300	<0.01
8/26/18	H-18	WEST WING – RM 104	CL	1300	<0.01
8/26/18	H-19	WEST WING – RM 104	CL	1300	<0.01
8/26/18	H-20	WEST WING – RM 104	CL	1300	<0.01
8/26/18	H-BL	FIELD BLANK	BL	-----	0 f/bl

NOTE:	PCM	=	phase contrast microscopy.	CL	=	clearance testing.
	f/bl	=	fibers per blank.	DUP	=	duplicate sample.
	f/cm ³	=	fibers per cubic centimeter.	OWA	=	outside work area.
	BL	=	field blank	IWA	=	inside work area.

Table 2

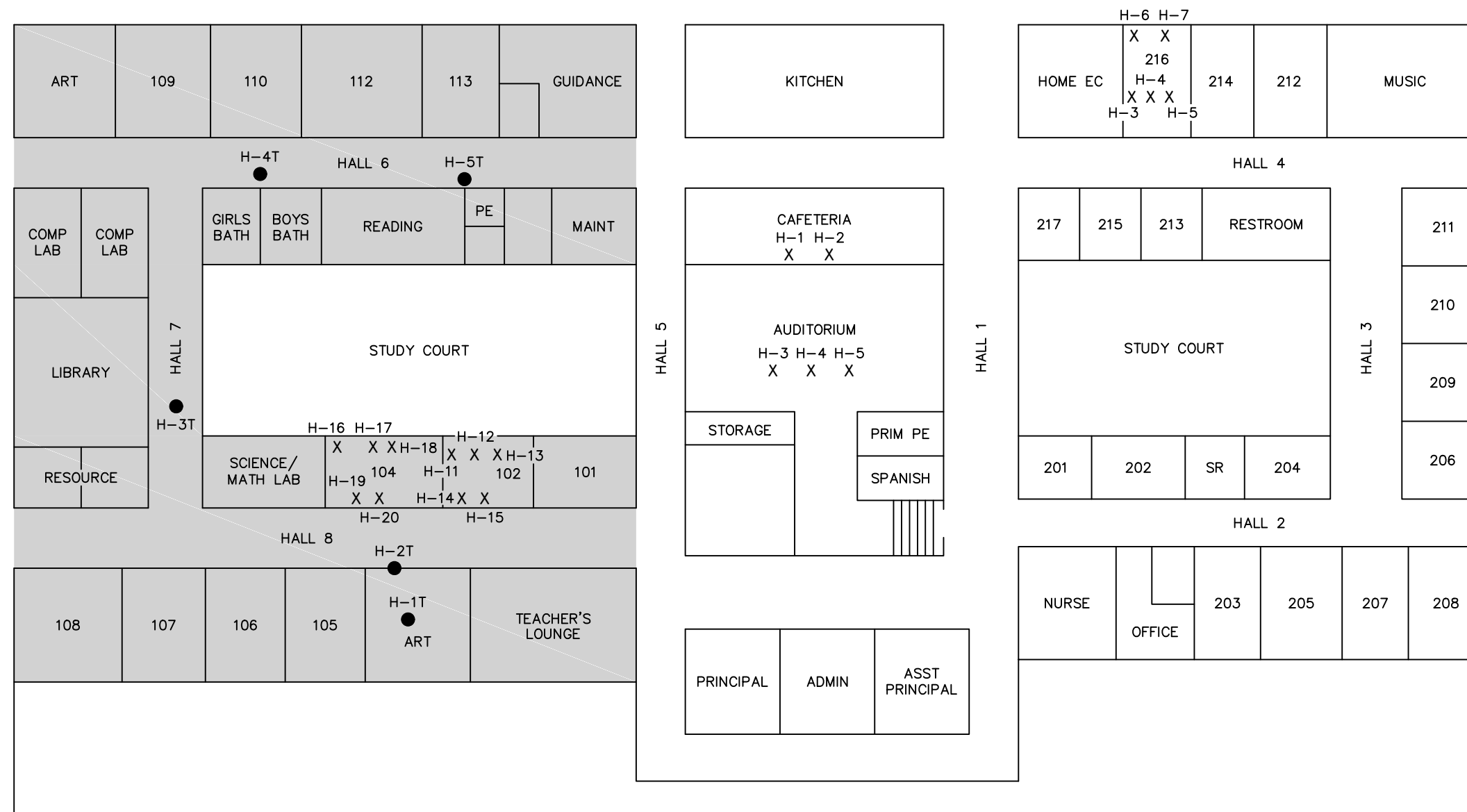
Summary of Air Monitoring by TEM

Alexander Henderson Elementary School, USVI

ANALYSIS DATE	SAMPLE ID	SAMPLE LOCATION	SAMPLE TYPE	SAMPLE VOLUME (liters)	ASBESTOS CONCEN- TRATION (str/mm2)
8/26/18	H-1T	WEST WING – RM 103	CL	1300	15.4
8/26/18	H-2T	WEST WING – HALLWAY 8	CL	1300	30.8
8/26/18	H-3T	WEST WING – HALLWAY 7	CL	1313	<15.4
8/26/18	H-4T	WEST WING – HALLWAY 6	CL	1287	<15.4
8/26/18	H-5T	WEST WING –RM 204	CL	1387	<15.4

NOTE:	TEM	=	transmission electron microscopy.	CL	=	clearance testing.
	str/mm2	=	fibers per cubic centimeter.	DUP	=	duplicate sample.
	BL	=	field blank	OWA	=	outside work area.
				IWA	=	inside work area.

FIGURES



X PCM SAMPLE LOCATION

● TEM SAMPLE LOCATION

ASBESTOS-CONTAINING 2' x 4' CEILING PANELS



OFFICE: JACKSONVILLE	DATE: 9-24-18	ACAD FILE: 7084B24
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ASBESTOS CEILING PANEL, FLOOR
TILE AND MASTIC ABATEMENT
AUGUST 20 - 26, 2018

CLIENT:	ST. CROIX SCHOOL DISTRICT ST. CROIX, U.S. VIRGIN ISLANDS	PM:	DM
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LOCATION:
ALEXANDER HENDERSON ELEMENTARY SCHOOL
73 ESTATE CONCORDIA
ST. CROIX, U.S. VIRGIN ISLANDS 00820

DESIGNED:	DRAWN:	PROJECT NO.:	FIGURE:
DM	SDJF	631237084	1

**AIR MONITORING LOGS
AND
TEM LAB RESULTS**

<p>Client Name: <u>St Cray Schools</u></p> <p>Site Name: <u>Henderson Elementary</u></p> <p>Bldg Name/No.: <u>Room 216</u></p> <p>Site Location/Rooms: _____</p>	<p>APTIM Proj/Task No.: <u>631237084</u></p> <p>Date Sampled: <u>8/26/18</u></p> <p>Technician Name: _____</p>
	

PCM COUNT SHEET

Sample No. <u>HE-6</u>	Sample No. <u>HE-7</u>	Sample No. <u>HE-8</u>	Sample No. <u>HE-9</u>	Sample No. <u>HE-10</u>
Count for 5 fields	Count for 5 fields	Count for 5 fields	Count for 5 fields	Count for 5 fields
Fibers / Fields <u>2 1/2 / 100</u>	Fibers / Fields <u>1 1/2 / 100</u>	Fibers / Fields <u>3 / 100</u>	Fibers / Fields <u>2 1/2 / 100</u>	Fibers / Fields <u>5 / 100</u>

54 Creek School 5

forbesen E1 an

2102

681237 084

8/26/8

Abstract



AIR SAMPLES COLLECTED FOR ANALYSIS FOR AIRBORNE FIBERS BY PCM ANALYSIS

[illegible]

Floor:

2104

Technician Name:

D. M. S. L.





9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

Chain of Custody

—Airborne Asbestos—

Contact Information

Client Company: Aptim Project Number: 631237084
Office Address: 9143 Philips Hwy, 400 Project Name: St Croix Schools
City, State, Zip: Jacksonville FL 32256 Primary Contact: David Mosher
Fax Number: _____ Office Phone: _____
Email Address: david.mosher@aptim.com Cell Phone: 904-509-6303

Matrix/Method:

- ☐ PCM: NIOSH 7400
☐ PCM: OSHA ID-160
☐ TEM: NIOSH 7402
☒ TEM: AHERA 40 CFR 763
☐ TEM: ISO 10312
☐ TEM: ISO 13794
☐ Other _____

Special Instructions: Note the numbering. Only analyze
H-1, 2, 3, 4, 5 - Hold H-6, 7, 8, 9, 10

Turnaround Time

Preliminary Results Requested Date: 8/25/18 ASAP ☒ Verbal ☒ Email ☐ Fax
Specific date / time
☐ 10 Day ☐ 5 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day* ☐ 12 Hour** ☐ 6 Hour** ☒ RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***

Chain of Custody

Relinquished (Name/Organization): <u>D. Mosher</u>	Date: <u>8/24/18</u>	Time: <u>1:30 PM</u>
Received (Name / iATL): _____	Date: _____	Time: _____
Sample Login (Name / iATL): _____	Date: _____	Time: _____
Analysis (Name(s) / iATL): <u>MS</u>	Date: <u>8/25/18</u>	Time: <u>AUG 25 2018</u>
QA/QC Review (Name / iATL): _____	Date: _____	Time: _____
Archived / Released: _____ QA/QC InterLAB Use: _____	Date: _____	Time: _____

Sample Log

—Airborne Asbestos—

Client: APTIM

Project: St Croix Schools

Sampling Date/Time: 8/24/18

631237084, 60031101

Client Sample #	iATL #	Location/Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results ()
H-10 6	6691066	decon area	13	9:10 / 10:51	101		
H-10 7	6691067	decon area	13	9:10 / 10:51	101		
H-10 8	6691068	auditorium	13	9:12 / 10:53	100		
H-10 9	6691069	auditorium	13	9:12 / 10:53	100		
H-10 10	6691070	auditorium	13	9:12 / 10:53	100		
H-11 1	6691061	Rm 103	13	2:30 / 4:10	100		
H-2	6691062	Hall 8	13	2:30 / 4:10	100		
H-3	6691063	Hall 7	13	2:30 / 4:11	101		
H-4	6691064	Hall 6	13	2:32 / 4:11	99		
H-5	6691065	Hall 6	13	2:32 / 4:11	99		

* = Insufficient Sample Provided to Perform QC Reanalysis (<200mg)

** = Insufficient Sample Provided to Analyze (<50mg) *** = Matrix / Substrate Interference Possible

FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.

outside - Don't analyze

INSIDE - ANALYZE

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client: Aptim
9143 Phillips Highway, Suite 400
Jacksonville, FL 32256
Client No.: SHA873

Batch No.: 571480
Project: St Croix Schools
Project No.: 631237084
Turn-Around Time: 6 Hour Rush

Client Contacts:

Contacts: _____
Phone: _____
Fax: _____
Cell/Pager: _____
E-Mail: _____

Laboratory Contacts:

Contacts: Frank E. Ehrenfeld III
Phone: (856) 231-9449
Fax: (856) 231-9818
Cell/Pager: (609) 929-4211
E-Mail: frankehrenfeld@iatl.com

Chain of Custody:

Samples Taken in Field: _____
Samples Rec'd at Laboratory: K. Goedde
Samples Analyzed: M. Stewart
Preliminary Results Faxed: _____
Preliminary Results E-Mail: _____

Date: _____ Time: _____
Date: 8/25/2018 Time: _____
Date: 8/25/2018 Time: _____
Date: _____ Time: _____
Date: _____ Time: _____

Summary Data
Transmission Electron Microscopy
AHERA 40CFR 763

Client Sample ID #	IATL Sample ID #	Volume (L)	Comments	Results s/mm ²	Results s/cc
H-1	6591061	1300	Chrysotile	15.4	0.0046
H-2	6591062	1300	Chrysotile	30.8	0.0091
H-3	6591063	1313	None Detected	< 15.4	< 0.0045
H-4	6591064	1287	None Detected	< 15.4	< 0.0046
H-5	6591065	1287	None Detected	< 15.4	< 0.0046

AHERA Clearance Criteria is 70 s/mm².

Average (s/mm²) = 18.5

Grid Box #: 1167

Z Test Results (see attached, if applicable)

Instrument (I, II, III) I

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TEM.AHERA.001

Revision Date: 06/22/18

CERTIFICATION



M·E·T·A
Mayhew Environmental Training Associates
I N C O R P O R A T E D

Certificate # MEC99B726E8428407

David Mosher

has on 1/17/2018, in Jacksonville, FL
completed the requirements for asbestos accreditation under Section 206 of TSCA Title II, 15 USC 2646

Asbestos Abatement Contractor/Supervisor Refresher

as approved by FL
and the US EPA under 40 CFR 763 (AHERA)
from 1/17/2018 to 1/17/2018 and passed the associated exam on 1/17/2018
with a score of at least 70%



Training Provider #: FL49-0001221
Course #: 180117ASBSRFL

SSN: XXX-XX-6863
Expiration: 1/17/2019

P.O. Box 786 - Lawrence, KS. 66044 - 800.444.6382
www.metaenvironmental.net

Bill Young
Instructor

Thomas Mayhew
President

The Deep South Center for Occupational Health & Safety

Certifies that

David W. Mosher

Has Satisfactorily Completed
NIOSH 582-Sampling & Evaluating
Airborne Asbestos Dust
August 25-29, 1986

And is Hereby Awarded This Certificate.



James M. ...
Course Instructor

Edna ...

Director, Center for Occupational
Health & Safety

Edna ...

Dean, School of Public Health