Asbestos Operations and Maintenance Program

Turner Hall

SHEPHERD UNIVERSITY

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ASBESTOS OPERATIONS AND MAINTENANCE PROGRAM TURNER HALL Shepherd University

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1.0 INTRODUCTION

Boggs Environmental Consultants, Inc. (BEC) was retained by Shepherd University to develop an Operations and Maintenance (O&M) program for all known asbestos-containing building construction and insulating materials throughout the Turner Hall Student Residence building located on the campus of Shepherd University in Shepherdstown, West Virginia.

Between September 28, 2004 and February 1, 2005 BEC conducted visual inspections of all accessible areas throughout Turner Hall known to contain asbestos-containing materials. The purpose of the inspections were to locate materials identified as asbestos-containing materials (ACM) based on information from building survey data, visually inspect the ACM, assess the condition of the ACM, visually verify areas where previous asbestos removal operations occurred and develop an O&M program including recommendations for remedial actions to reduce the possibility of asbestos fibers being released into occupied areas of the building. BEC also inspected, sampled, assessed, and quantified previously unidentified suspect ACM and is included in the O&M program. The inspections, hazard assessments and development of the O&M program were conducted by BEC staff members who are accredited Environmental Protection Agency (EPA) and licensed in the State of West Virginia as asbestos building inspectors and management planners. The inspections and management plan development were performed in accordance with the Asbestos Hazard Emergency Response Act (AHERA) Regulations.

2.0 BUILDING SURVEY AND BACKGROUND INFORMATION

Between September 28, 2004 and February 1, 2005 BEC conducted an asbestos material location survey of all accessible interior areas of Turner Hall. Representative samples of suspect friable (easily crumbled under hand pressure) and non-friable materials were collected from plaster wall material, plaster ceiling material, pipe insulation, pipe fitting insulation, floor tile, floor tile mastic, ceiling tiles, vapor barrier material, and carpet mastic. Destructive testing methods, including cutting into fire doors or interior demolition and excavation to examine inaccessible areas, were beyond the scope of this assignment and were therefore not attempted. Inaccessible areas included spaces within enclosed ceilings, columns, walls and pipe chases. The laboratory data from the survey is contained in Appendix B of the O&M program. Laboratory analysis from the samples collected during the survey indicates friable and non-friable asbestoscontaining materials are present within the subject site. Based on the results of the survey data, Shepherd University requested that BEC develop an Operations and Maintenance (O&M) Program to manage and maintain in place the identified asbestos-containing materials throughout Turner Hall.

Although it is not required by law that Shepherd University develop or implement an O&M program for Turner Hall, it is however, the policy of Shepherd University to protect its employees, students, customers, visitors, maintenance personnel and all other occupants from potentially hazardous asbestos-containing materials while employed at or occupying its defined properties. Therefore, the O&M program has been developed in accordance with the EPA Asbestos Hazard Emergency Response Act regulations. The procedures presented in the following O&M Program are intended as a tool to supplement this policy.

As a result of the increasing awareness of the potential health risks associated with the inhalation of asbestos fibers, the U.S. EPA promulgated regulations which require all public and private schools, as defined in Section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2854), to inspect all buildings for the presence of asbestos-containing building materials (ACBM). The Asbestos Hazard Emergency Response Act (AHERA) is detailed in Volume 40

of the Code of Federal Regulations (CFR) Part 763. The Act outlines procedures for the location, collection, and analysis of suspected ACBM. The building inspections and management plans are required to be performed and are developed by accredited inspectors and management planners. The management plan details how to maintain the ACBM in buildings until abatement can be efficiently accomplished. Schools are required to train essential personnel to oversee the O&M Program which details procedures to reduce the possibility of the release of asbestos fibers by outlining methods to effectively manage asbestos-containing materials. The Management Plan requires personnel training and the notification of building occupants, contractors or others involved in charge of maintaining the school building, regarding the location of the ACBM, its condition, and the proper procedures for addressing each type of ACBM. This document is based upon data obtained from the survey data dated September 28, November 23-24, 2004 and February 1, 2005 performed by BEC.

3.0 SURVEY FINDINGS

As part of the development of the O&M Plan, BEC staff reviewed previous inspection and abatement reports of Turner Hall. Table 3.1 details previously identified ACM, including the following: (1) the location of those materials identified throughout Turner Hall that contain 1% asbestos or greater in homogeneous areas, (2) a physical description of each material, (3) whether any remedial action such as removal, enclosure, or encapsulation has been performed.

TABLE 3.1 Previously Identified Asbestos Containing Materials

LOCATION	PHYSICAL DESCRIPTION	REMEDIAL ACTIONS
Stair Tower	9"x 9"Floor Tile and Mastic	
(North, South, Center)	(1808 SF)	Removed 12/15/2004
	35 LF of TSI	
Basement Laundry Area	4 Pipe Fittings	Removed 6/6/02

During the Asbestos inspections conducted on November 23-24, 2004 and February 1, 2005 BEC staff collected bulk samples of suspect asbestos containing materials. Table 3.2 includes the following: (1) Sample Number, (2) Sample Description (3) Homogenous Area (HA) Number, (4) Homogenous Area Location and (5) Percent and Type of Asbestos:

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA#	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
TUR112304 – B1	9" x 9" Tan Floor Tile & Black Mastic	13	Janitors Closet; First Floor Dining Hall Side (Wing A)	7.1 % Chrysotile
TUR112304 – B8	Black floor tile mastic	15	Basement Hall – Gardiner Side (Wing B)	8 % Chrysotile
TUR112304 – B15	Pipe Fitting insulation	14	Domestic Cold Water Line in Janitors closet Basement Gardiner Side (Wing B)	20% Chrysotile
TUR112304 – B16	9" x 9" White Floor Tile and Black Mastic	13	Under Carpet in Basement Activity Room; Gardiner Side (Wing B)	3 .8% Chrysotile
TUR112304 – B17	Pipe Fitting insulation	14	Domestic Hot Water Line in Crawl Space	25 % Chrysotile
TUR112304 – B18	9" x 9" White Floor Tile and Black Mastic	13	Under Carpet in Hall outside Room 102	4.8 % Chrysotile
TUR112304 – B20	9" x 9" White Floor Tile and Black Mastic	13	1 st Floor Janitors Closet; Gardiner Side of Building (Wing B)	4.1 % Chrysotile
TUR112304 – B22	Valve insulation	14	Janitors closet First Floor Gardiner Side (Wing B)	20 % Chrysotile

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA#	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
TUR112304 – B24	White Floor Tile (bottom layer)	13	First Floor Lobby under 12"x 12" Green Floor Tile	1.8 % Chrysotile
TUR112304 – B27	9" x 9" Tan Floor Tile & Black Mastic	13	Under Carpet, Room 116	5.6 % Chrysotile
TUR112304 – B28	9" x 9" White Floor Tile & Black Mastic	13	Under Carpet in Second Floor Lounge	6.8 % Chrysotile
TUR112304 – B31	9" x 9" Pink Floor Tile & Black Mastic	13	Janitors closet, Third Floor Gardiner Side (Wing B)	6.5 % Chrysotile
TUR112304 – B35	Pipe Fitting insulation	14	Applied to Pump Line #1 in Mechanical Room; Dining Hall Side (Wing A)	10 % Chrysotile
JDTH050201-01	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	20% Chrysotile
JDTH050201-04	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	5.0% Chrysotile
JDTH050201-05	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	10% Chrysotile
JDTH050201-08	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25 % Chrysotile
JDTH050201-11	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25% Chrysotile

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA #	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
JDTH050201-13	Pipe Fitting Insulation on 6" Outside Diameter line	14	Crawl Space	15% Chrysotile
JDTH050201-14	Pipe Fitting Insulation on 6" Outside Diameter line	14	Crawl Space	25% Chrysotile
JDTH050201-17	Pipe Fitting Insulation	14	Basement Hall - Gardiner Side (Wing B)	25% Chrysotile

Table 3.3 lists the materials considered to be asbestos-containing, as they are similar in appearance, color, and texture (homogeneous) with those materials within the building identified, through laboratory analysis, as asbestos containing.

TABLE 3.3 Homogeneous Materials

НА	Description	Location(s)	Homogeneous with Samples Numbers
13	9" x 9" Floor tile and black mastic	Throughout the Building (Hallways, Dorm Rooms, Lobby, Kitchen, Study Lounge, Custodial Closets, Storage Closets, Basement Activity Room)	TUR112304 - B1 TUR112304 - B16 TUR112304 - B18 TUR112304 - B20 TUR112304 - B24 TUR112304 - B27 TUR112304 - B28 TUR112304 - B31
14	Pipe Fitting Insulation	In Crawl Space and Throughout Building	TUR112304 – B3 TUR112304 – B15 TUR112304 – B17 TUR112304 – B21 TUR112304 – B35 JDTH050201-01 JDTH050201-04 JDTH050201-05 JDTH050201-08 JDTH050201-11 JDTH050201-13 JDTH050201-14
15	Black Mastic	Basement Hallway (Gardiner Side)	TUR112304 – B8

The materials listed in Table 3.4 collected during the asbestos inspection were determined, through laboratory analysis to have no detectable level of asbestos..

Table 3.4 Non-Asbestos Containing Materials

HA Number	Homogenous Area Location	Associated Sample Number(s)	Result % Asbestos
1	Wall Plaster Throughout Building	TUR112304-B4 TUR112304-B19 TUR112304-B30 TUR112304-B26	ND
2	Ceiling Plaster Throughout Building	TUR112304 – B13 TUR112304 – B32	ND
3	Pipe Insulation on 2" Outside Diameter lines Throughout Building	TUR112304 – B2 TUR112304 – B29 JDTH050201-15 JDTH050201-18 JDTH050201-19	ND
4	Pipe Insulation on 4" Outside Diameter lines in Crawl Space and Throughout Building	JDTH050201-02 JDTH050201-03 JDTH050201-07 JDTH050201-09 TUR112304 – B33	ND
5	Pipe Insulation on 6" Outside Diameter lines in Crawlspace and Throughout Building	JDTH050201-10 JDTH050201-12 JDTH050201-16 TUR112304 – B10	ND
6	Insulation applied to piping located behind hot water tanks in mechanical room	TUR112304 – B34	ND

Table 3.4 Non-Asbestos Containing Materials

HA Number	Homogenous Area Location	Associated Sample Number(s)	Result % Asbestos
7	Insulation applied to large diameter steam feeder line in mechanical room	TUR112304 – B36	ND
8	1' x 1' interlocking ceiling tile (ICT) Throughout the Building	TUR112304 – B5 TUR112304 – B7 TUR112304 – B12	ND
9	Vapor barrier applied to the underside of the concrete decking throughout building	TUR112304 – B6 TUR112304 – B11 TUR112304 – B14	ND
10	Pipe insulation debris from ground in crawl space	TUR112304 – B9	ND
11	12" x 12" green floor tile (top layer) First Floor Lobby	TUR112304 – B23	ND
12	Yellow carpet mastic Throughout the Building	TUR112304 – B25	ND

ND -No Asbestos Detected

4.0 ASBESTOS-CONTAINING MATERIAL HAZARD ASSESMENT

The table below details the following: (1) Homogeneous sampling area number (HA), (2) a physical description of each material (3),material category (4), type of asbestos (5), quantity (6), friability (6), AHERA assessment category and (7), the location of those materials identified throughout the Turner Hall that contain 1% asbestos or greater.

TABLE 4.1 Hazard Assessment of Asbestos-Containing Material Identified in Turner Hall

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	Friability	AHERA Assessment Category (1-7)	Homogenous Area Location
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	19200 SF	NF	X	Under Carpet in Dorm Rooms, Hallways, and Study Lounges
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	1040 SF	NF	X	Under Floor Tile (1 st Floor Lobby and Kitchen Area)
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	450 SF	NF	X	1 st , 2 nd , 3 rd Floor Custodial Closets
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	200 SF	NF	X	Storage Rooms
14	Pipe Fitting Insulation	TSI	Chrysotile	450 LF	F	1	Crawl Space, Basement Floor

TABLE 4.1 Hazard Assessment of Asbestos-Containing Material Identified in Turner Hall

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	Friability	AHERA Assessment Category (1-7)	Homogenous Area Location
14	Pipe Fitting Insulation	TSI	Chrysotile	75 LF	F	7	1 st , 2 nd , 3 rd Floor Custodial Closets Rooms 101, 103, 119, the Resident Manager's Office, Residence Life Apartment
15	Black Mastic	Misc	Chrysotile	360 SF	NF	X	Basement Hallway (Gardiner Side)

Friability: (F) = Friability, (NF) = non-friable

AHERA Assessment Category:

1 = Damaged or significantly damaged TSI ACBM,

2 = Damaged friable surfacing ACBM

3 = Significantly damaged friable surfacing ACBM

4 = Damaged or significantly damaged friable miscellaneous ACBM

5 = ACBM with potential or damaged

6 = ACBM with potential for significant damage

7 = Any remaining friable ACBM or friable suspected ACBM

X = Not applicable (material is non-ACBM or non-friable surfacing or miscellaneous material)

None = No assessment provided in original inspection

5.0 OPERATIONS AND MAINTENANCE PROGRAM

The purpose of the O&M program is to minimize future risk of contamination and fiber release episodes by controlling access to asbestos-containing materials, and to render the ACBM to a non-harmful state. This approach is intended to be a short to mid-term solution, since all asbestos containing materials should eventually be properly removed so that potential hazards are permanently eliminated.

Shepherd University should periodically review and update the O&M program to incorporate regulatory changes and advancements within the asbestos management field. The outline of specific work practices contained in this O&M program specifies procedures and practices to be employed by all persons required to work in and around ACBM at the Turner Hall Residence Building. The O&M program detail procedures to reduce the possibility of the release of asbestos fibers by outlining methods to effectively manage asbestos-containing materials. The O&M program contains the following elements:

- ! Notification and labeling
- ! Training
- ! Employee protection and medical surveillance
- ! Specialized cleaning procedures
- ! Maintenance and renovation practices
- ! Special maintenance work practices
- ! Special renovation work practices
- ! Emergency response procedures
- ! Periodic surveillance of ACBM
- ! Record keeping requirements
- ! Special precautionary measures

An operations and maintenance program becomes necessary when any friable or non-friable ACBM is identified or assumed to be present within a building to reduce the chances of an asbestos fiber release.

5.1 Notification and Labeling

Assuring that all persons who may come in contact with ACBM within the Turner Hall Residence Building are notified of the presence and location of the material requires an appropriate degree of communication between Shepherd University and the Turner Hall Residence Building occupants. Persons using the facilities should be made aware of the presence of asbestos-containing materials. The locations of these materials must be specifically identified to outside contractors working in the Turner Hall Residence Building. The purpose of this section is to discuss the necessary steps to inform Shepherd University employees and its outside contractors who may perform work in any area where ACBM has been identified throughout Turner Hall about the inspection, periodic re-inspections, and response actions taken by Shepherd University to manage the asbestos-containing materials within Turner Hall.

The essential elements in achieving this objective are the notification of occupants of Turner Hall Residence Building, proper training of key people in the Asbestos Management Program, the periodic surveillance of the asbestos-containing materials (including periodic re-inspections), and the proper implementation of the Operations and Maintenance program. The notification should contain the following information:

- ! Potential health hazards associated with asbestos
- ! The type(s) of material containing asbestos
- ! The condition of the asbestos-containing material(s)
- ! The location of asbestos-containing material(s)

- ! Instructions to avoid disturbing the asbestos-containing materials (e.g., do not puncture the floor, do not grind furniture against the floor tile), and to report any evidence of disturbance or damage of the identified ACBM.
- ! Any action that cleaning and maintenance personnel are taking as special precautions during their work to inspect areas for damage and to guard against disturbing the asbestos-containing materials.
- ! A statement that all asbestos-containing materials are inspected periodically and additional measures will be taken when needed to protect the health of building occupants.
- ! Instructions to report any damaged ACBM; any change in the condition of the asbestos-containing materials; or any improper action of building personnel to the Asbestos Program Manager.
- ! The name and telephone number of the Asbestos Program Manger and
- ! The location and availability of the O&M program for public inspection.

The O&M program must be kept on file in a designated area which is disclosed in the notification (usually the business office) for inspection. The O&M program must be updated as necessary to address any changes, alterations, maintenance activities and/or inspection documents that amend the original document.

Shepherd University should implement the labeling of Building Sketches or Diagrams to indicate areas where asbestos materials are present. Additionally, temporary signs should be posted in repair or renovation areas if the scheduled work may impact asbestos-containing materials.

These signs should denote the exact locations of all asbestos-containing materials in these areas in an effort to minimize accidental disruption of asbestos-containing materials. All workers should be alerted to the type and location of asbestos-containing materials prior to the commencement of work. During abatement or removal of asbestos-containing materials, the following sign should be displayed in accordance with Federal and State of West Virginia regulations:

Danger - Asbestos

Cancer and Lung Disease Hazard

Authorized Personnel Only

Respirators and Protective Clothing

Are Required In This Area

5.2 Training Programs

Asbestos Awareness Training - 2 Hours

Maintenance staff or other service personnel employed by Shepherd University (the Asbestos Program Administrator and others who may come in contact with asbestos-containing materials in the normal course of work) should receive two hours of awareness training which includes training on the requirements of EPA, Occupational Safety & Health Administration (OSHA) and the State of West Virginia regulations and details the Operations and Maintenance program. Currently this type of course is available on videocassette recordings, which present a generic format. This format allows for repetitive training of individuals as it becomes necessary.

Worker Training - 14 Hour Training Supplement

In addition to the two hour Asbestos Awareness Training, any maintenance or service personnel who will conduct activities that disturb asbestos-containing materials should receive an additional 14 hours of training which must include proper methods and procedures necessary for handling asbestos-containing materials, personal protection equipment, and the State of West

Virginia asbestos regulations. Shepherd University should avoid using in-house personnel for asbestos abatement work considering the record keeping, insurance, and other liability issues involved.

If any custodial or maintenance workers are to be used for remedial actions or to clean up asbestos-containing materials, they must be required to undergo an additional 14 hours of training (totaling 16 hours). This training should include the descriptions of the proper methods of handling ACBM, the proper training and use of respiratory protection and personal protective equipment in accordance with EPA, National Institute of Occupational Safety & Health (NIOSH) and OSHA regulations, all appropriate Federal and State regulations regarding asbestos, and proper work techniques, including hands on training.

Trained Shepherd University personnel would be responsible for correcting "small-scale, short-duration" cleanup efforts involving three square feet or less of asbestos-containing material. Small-scale, short-duration projects are defined in 40 CFR Part 763 Appendix B to Subpart E, which is incorporated by reference. OSHA requires a respiratory protection program whenever workers are to be exposed to fiber concentrations above the Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter (f/cc). At the discretion of Shepherd University, a program could be initiated if it is determined that work will be performed in-house by the trained personnel. Shepherd University may elect to have all work performed by outside contractors rather than incur the costs and liability of in-house programs.

The EPA-recommended respiratory program specifies (1) minimum levels of protection for different types of work, (2) requirements for worker training and respirator fit-testing, (3) procedures for respirator care, and (4) medical surveillance of workers who need to wear respirators. An industrial hygienist or health professional should assist the Asbestos Program Manager in designing the respiratory protection and medical surveillance programs if it becomes necessary. The properly trained employee(s) would be capable of responding to ACBM that

requires removal, cleanup, encapsulation, or other remedial action to minimize the potential of asbestos fiber release.

Any removal efforts shall be completed in compliance with all Federal and State of West Virginia regulations. Shepherd University must ensure that all contractor personnel that may impact ACBM have proper training prior to the commencement of any work.

6.0 RESPONSE ACTIONS

6.1 Floor Tile and Black Mastic under Carpet

Vinyl Asbestos Tile (VAT) is considered to be a non-friable material unless it is abraded, sanded, ground or cut. Under these conditions it could become friable causing a potential hazard. The 9"x 9" VAT and the adhesive black mastic located under the carpet in the student occupied residence hall rooms, hallways, and study lounges on the first, second and third floors is in good non-friable condition unless the material is removed, damaged, or broken in which case it could become friable causing a potential hazard. Since all of the aforementioned VAT and black mastic is located under carpeting, it is inaccessible unless the carpeting is removed. No further remedial actions are required at this time.

6.2 Floor Tile and Black Mastic under Floor Tile; First Floor Lobby and Kitchen

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. Under these conditions it could become friable causing a potential hazard. The 9"x 9" VAT and the adhesive black mastic located under the 12" x 12" non-asbestos containing green floor tile in the first floor lobby and Kitchen area is in good non-friable condition unless it is removed, damaged, or broken in which case the material could become friable causing a potential hazard. Since the aforementioned VAT is located under floor tile, it is inaccessible unless the carpeting is removed. No further remedial actions are required at this time.

6.3 Floor Tile and Black Mastic; Custodial Closets

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. The 9" x 9" VAT and the adhesive black mastic located in the custodial closets throughout the building is in fair condition. There is potential for damage to the aforementioned tile due to the frequency (more than once per week), of service personnel contact with these tiled custodial areas. These materials should be removed or covered with an impermeable type barrier before further deterioration of the tile occurs.

6.4 Floor Tile and Black Mastic; Storage Rooms

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. The 9"x 9" VAT and the associated black mastic located in the storage rooms was observed to be in good non-friable condition and can be maintained and kept intact by following these procedures. Wet methods should be used during maintenance activities such as mopping, scrubbing, and waxing of the identified VAT to minimize the likelihood of asbestos fibers becoming airborne. Waxing of the floors to reduce wear of the tile should be performed periodically as an additional precaution. The use of abrasive pads to wax or buff floors should not be permitted. Floor buffing should be performed using the least abrasive pad possible. Any loose tiles should be removed or replaced as noticed to eliminate the possibility of breakage and fiber release. If any doubt exists about the possibility of disturbing the asbestos-containing floor tiles during maintenance activities, adequate precautions should be taken to minimize the chance of fiber release, thus protecting workers and building occupants from exposure. No remedial action is required at this time.

6.5 Floor Tile Mastic

The adhesive mastic located in the basement hallway (Gardiner Side) is considered to be in poor condition. This material should be removed or covered with an impermeable type barrier before further deterioration of the mastic occurs.

6.6 Pipe Fitting Insulation – Crawl Space and Basement Hall Areas

The insulation applied to pipe fittings located in the basement crawl space area and basement hall were observed to be in fair to poor condition were condition. The damaged areas of pipefitting insulation should be repaired or the pipe fitting insulation should be removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel. Any activity which could potentially disturb the pipe fitting insulation must not be permitted.

6.7 Pipe Fitting Insulation – Custodial Closets / Resident Hall Rooms

The insulation applied to pipe fittings in the custodial closets on the first, second, and third floors, and Rooms 101, 103, 119, the Resident Manager's Office, and the Wing A Residence Life Apartment were observed to be in an intact condition. However, the condition of the pipe fitting insulation should be closely monitored for any damage or deterioration. If damage is observed, these areas should be repaired or the pipe fitting insulation removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel. Any activity which could potentially disturb the pipe fitting insulation must not be permitted.

6.8 Pipe Fitting Insulation; Assumed

There may be pipefitting insulation above hard plaster ceilings and other areas inaccessible during the inspection. All pipefitting material should be treated as asbestos containing until laboratory data determines otherwise. Any activity which could potentially disturb pipe fitting insulation must not be permitted. If damage is observed, these areas should be repaired or the pipe fitting insulation removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel.

7.0 FIBER RELEASE EPISODES

At any time, should asbestos materials become detached from a substrate, disturbed or damaged, Shepherd University must restrict entry into affected areas and post signs to prevent the unnecessary entry by persons other than those qualified. Air handling units should be immediately shut down and a technically qualified person should be contacted to remedy the situation. Two types of incidents which can occur are; a minor fiber release episode involving less than three square or linear feet, or a major fiber release episode involving more than three square or linear feet of asbestos-containing materials. In either case, the Asbestos Program Manager must be contacted immediately. If an in house person has received 16 hours of training, a medical examination, has been properly licensed by the State of West Virginia, and has been properly fit tested for a respirator, they can remediate the minor fiber release episode.

A major fiber release episode will require a properly trained asbestos abatement contractor. Shepherd University may elect to make appropriate plans with a contractor for their assistance in the unlikely event that this scenario takes place. In the event of either type of fiber release episode, Shepherd University should record the incident on the "Fiber Release Episode Report" attached to this Plan. This document should be completed by the person reporting the problem and incorporated into the O&M Program. All asbestos removal work must be performed by a qualified, licensed State of West Virginia asbestos contractor in accordance with all applicable federal and West Virginia regulations.

8.0 PERIODIC SURVEILLANCE AND AIR MONITORING

At lease once every six months after the O&M program is implemented, periodic surveillance should be conducted of all identified ACBM. Any newly identified asbestos-containing materials should be sampled and assessed in the same manner as the initial inspection required. An evaluation should be made of all ACBM for its present condition, friability and location. All appropriate records including air monitoring laboratory reports shall be submitted to the Asbestos Program Manager for incorporation into the O&M program within thirty days. Additionally, air samples should be collected within Turner Hall during business hours to determine if asbestos fibers are being released into these areas.

9.0 IMPLEMENTATION

The Asbestos Program Manager becomes directly responsible for the implementation, updating and tracking of the O&M program. The O&M program should be maintained in a centralized location so that any concerned party may examine it and additional required records may be added, amended and included as necessary. The information contained within the O&M program must be easily referenced to effectively address all potential situations associated with the ACBM in the Turner Hall.

All records pertaining to the program must be maintained by Shepherd University. Documents that should be included within the records include, but are not limited to, a copy of the Operations and Maintenance Plan, inspection documentation, procedures relevant to the O&M Plan, cleaning schedules and the location of disposal containers, a copy of an employee handbook (if applicable) and the location map of all asbestos-containing materials.

10.0 LIMITATION

This document has been prepared for use by Shepherd University as a guide in the safe conduct and operating procedures when a potential asbestos exposure is possible. It is based upon existing regulations and generally accepted non-regulatory guidelines. Accordingly, BEC does not accept responsibility for the safety and health of the employees and building occupants of Turner Hall.

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ATTACHMENT I FIBER RELEASE EPISODE REPORT

Fiber Release Episode Report

The second secon	
The release episode was reported by:_	
On: <u>Date</u>	
Describe the episode:	
The asbestos-containing material was_	/ was not cleaned up
eccordance with approved procedures.	Describe the cleanup procedures:

ATTACHMENT II LABORATORY DATA TABLES

ASBESTOS BULK SAMPLE LABORATORY DATA TABLE **Turner Hall**

Shepherd University

Basement - Wing A

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B33	Insulation applied to a vertical pipe in Room L	ND
TUR112304 – B34	Insulation applied to piping located behind hot water tanks in the mechanical room	ND
TUR112304 – B35	Elbow insulation applied to pump line #1 in mechanical room	10 % Chrysotile
TUR112304 – B36	Insulation applied to large diameter steam feeder line in the mechanical room	ND

Basement-Wing B

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B5	1' x 1' interlocking ceiling tile (ICT) from activity room	ND
TUR112304 – B6	Vapor barrier from covering concrete deck from storage room	ND
TUR112304 – B7	1' x 1' ICT from activity room	ND
TUR112304 – B8	Black floor tile mastic from hall	8 % Chrysotile
TUR112304 – B9	Pipe insulation debris from ground in crawl space	ND
ГUR112304 – В10	Pipe insulation applied to vertical steam line in activity room	ND
ΓUR112304 – B11	Vapor barrier from covering concrete deck from activity room	ND

ASBESTOS BULK SAMPLE LABORATORY DATA TABLE Turner Hall Shepherd University

Basement-Wing B Continued

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B12	1' x 1' ICT from activity room	ND
TUR112304 – B13	Ceiling plaster from laundry room	ND
TUR112304 – B14	Vapor barrier from covering concrete deck in janitors closet	ND
TUR112304 – B15	Elbow insulation applied to domestic cold water line in janitors closet	20% Chrysotile
TUR112304 – B16	9" x 9" white floor tile and black mastic under carpet in activity room	3 .8% Chrysotile
ГUR112304 – В17	Elbow insulation applied to domestic hot water line in crawl space	25 % Chrysotile
JDTH050201-15	Pipe Insulation on 1" Vertical Line to heater	ND
JDTH050201-16	Pipe Insulation 6" Steam Line	ND
JDTH050201-17	Elbow Insulation on vertical line to heater	25% Chrysotile
JDTH050201-18	Pipe Insulation 1" Cold Water Line	ND
JDTH050201-19	Pipe Insulation Hot Water Line	ND

ASBESTOS BULK SAMPLE LABORATORY DATA TABLE Turner Hall

Shepherd University

First Floor Lobby

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B23	12" x 12" green floor tile (top layer)	ND
TUR112304 – B24	White floor tile (bottom layer) under green floor tile	1.8 % Chrysotile
TUR112304 – B25	Yellow carpet mastic	ND
TUR112304 – B26	Wall plaster from kitchenette	ND

First Floor - Wing A

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B1	9" x 9" tan floor & black mastic from janitors closet	7.1 % Chrysotile
TUR112304 – B2	Insulation applied to piping in janitors closet	Trace < 1% Chrysotile
TUR112304 – B3	Elbow insulation applied to piping in janitors closet	ND
TUR112304 – B4	Wall plaster from hallway	ND
TUR112304 – B27	9" x 9" tan floor & black mastic under carpet, room 116	5.6 % Chrysotile

ASBESTOS BULK SAMPLE LABORATORY DATA TABLE Turner Hall Shepherd University

First Floor - Wing B

SAMPLE#	LOCATION	RESULT (% of asbestos)
TUR112304 – B18	9" x 9" white floor tile and black mastic under carpet in hall outside room 102	4.8 % Chrysotile
TUR112304 – B19	Wall plaster from hall outside bathroom	ND
TUR112304 – B20	9" x 9" white floor tile and black mastic from janitors closet	4.1 % Chrysotile
TUR112304 – B21	Elbow insulation applied to piping in janitors closet	ND
TUR112304 – B22	Valve insulation applied to piping in janitors closet	20 % Chrysotile

Second Floor

SAMPLE#	LOCATION	RESULT (% of asbestos)
TUR112304 – B28	9" x 9" white floor tile & black mastic under carpet in lounge	6.8 % Chrysotile - Mastic
TUR112304 – B29	Insulation applied to a vertical pipe in lounge	ND
TUR112304 – B30	Wall plaster from bathroom, Wing B	ND

Third Floor

SAMPLE #	LOCATION	RESULT (% of asbestos)
TUR112304 – B31	9" x 9" pink floor tile & black mastic from janitors closet, Wing B	6.5 % Chrysotile
TUR112304 – B32	Ceiling plaster from room L, Wing A	ND

ASBESTOS BULK SAMPLE LABORATORY DATA TABLE Turner Hall Shepherd University

Crawl Space

SAMPLE #	LOCATION	RESULT (% of asbestos)
JDTH050201-01	Elbow Insulation 4" Outside Diameter	20% Chrysotile
JDTH050201-02	Pipe Insulation 4" Outside Diameter	ND
JDTH050201-03	Pipe Insulation 4" Outside Diameter	ND
JDTH050201-04	Elbow Insulation 4" Outside Diameter	PC 5.0 Chrysotile
JDTH050201-05	Elbow Insulation 4" Outside Diameter	10% Chrysotile
JDTH050201-07	Pipe Insulation 4" Outside Diameter	ND
JDTH050201-08	Elbow Insulation 4" Outside Diameter	25 % Chrysotile
JDTH050201-09	Pipe Insulation 4" Outside Diameter	ND
JDTH050201-10	Pipe Insulation 6" Outside Diameter	ND
ЛТН050201-11	Elbow Insulation 4" Outside Diameter	25% Chrysotile
JDTH050201-12	Pipe Insulation 6" Outside Diameter	ND
JDTH050201-13	Elbow Insulation 6" Outside Diameter	15% Chrysotile
JDTH050201-14	Elbow Insulation 6" Outside Diameter	25% Chrysotile

ND - No Asbestos Detected

CERTIFICATE OF ANALYSIS

Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

WV 26505

WV04074 Project No .:

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125679

Description / Location:

Grey Floor Tile; 9x9

Client No.:

TUR-01

Turner Hall

o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 3.2

Chrysotile

None Detected

None Detected

PC 96.8

Lab No.:

2125679

Description / Location:

Black Mastic

Laver No.: 2

Client No .:

TUR-01

Turner Hall

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 71

Chrysotile

None Detected

None Detected

PC 92.9

Lab No .:

2125680 TUR-02

Description / Location:

White Pipe Insulation

Turner Hall

Client No .: ou Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC Trace

Chrysotile

40

Cellulose

60

Lab No .:

2125681 TUR-03

Description / Location:

Grey/Brown Joint Insulation

Turner Hall

Client No.: % Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

35

Cellulose

65

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method EPA 600/R-93/116

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layer is either not present or the client has specifically requested that it not be analyzed

Analysis Performed By: V. Smith

Approved By:

Frank E. Ehrenfeld, III Laboratory Director

Date: 12/3/2004

Page 1 of 13

CERTIFICATE OF ANALYSIS

Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

Project No.:

WV04074

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown 26505

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:

2125682 TUR-04

Description / Location:

White/Grey Wall Plaster

Turner Hall

Client No.: o a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .: Client No.:

2125683 TUR-05

Description / Location:

Grey Ceiling Tile; 1x1

Turner Hall

on Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

65

Fibrous Glass

35

Lab No .:

2125684 TUR-06

Description / Location:

Black Fibrous; Vapor Barrier

Turner Hall

Client No.: o Ashestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

95

Cellulose

5

Lab No .:

2125685

Description / Location:

Grey Ceiling Tile; 1x1

Client No.:

TUR-07

Turner Hall

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

65

Fibrous Glass

35

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

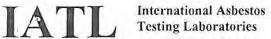
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Analysis Performed By: V. Smith

Date:

12/3/2004



Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown WV 26505 Project No.: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125686

Description / Location:

Black Floor Tile Mastic

Client No .:

TUR-08

Turner Hall

Type

% Non-Fibrous Material

"o Asbestos PC 80

Type Chrysotile

None Detected

% Non-Asbestos Fibrous Material

None Detected

Lab No .: Client No.: 2125687

TUR-09

Description / Location:

White Pipe Insulation

Turner Hall

o Asbestos

Type

ⁿo Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .: Client No.:

2125688 TUR-10

Description / Location:

Off-White Pipe Insulation

Turner Hall

o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No.:

2125689

Description / Location:

Black Tar/Fibrous, Vapor Barrier

Turner Hall

ou Ashestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

Client No.: TUR-11

None Detected

Cellulose

10

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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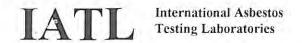
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Analysis Performed By: V. Smith

Date:



Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

Report Date: 12/3/2004

Project:

Shepherd 02M, 11/23/04

Project No .:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125690 TUR-12

Description / Location:

26505

Grey Ceiling Tile; 1x1

Turner Hall

Client No.: ou Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

60

Fibrous Glass

40

Lab No.: Client No .:

2125691 TUR-13

Description / Location:

Grey Ceiling Plaster

Turner Hall

o a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .:

2125692

Description / Location:

Dk.Brown Fibrous: Vapor Barrier

Turner Hall

Turner Hall

"o Asbestos

Client No.: TUR-14

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

85

Cellulose

15

Lab No .:

% Asbestos

2125693

Description / Location:

Grey Elbow Insulation

Client No.:

TUR-15

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

20

Chrysotile

20

Fibrous Glass

60

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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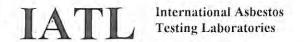
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Analysis Performed By: V Smith

Date:



Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 12/3/2004

Project:

Shepherd 02M, 11/23/04

Project No .: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125694 TUR-16

Description / Location:

White Floor Tile: 9x9

Turner Hall

Client No .: o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 38

Chrysotile

None Detected

None Detected

PC 96.2

Lab No.:

2125694

Description / Location:

Black Mastic Turner Hall

Layer No.: 2

o Asbestos

Client No.: TUR-16

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 6.3

Type Chrysotile

None Detected

None Detected

PC 93.7

Lab No .:

2125694

Description / Location:

Tan Mastic Turner Hall

Layer No.: 3

Client No.: o Asbestos

TUR-16

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

Type None Detected

None Detected

None Detected

Lab No .:

2125695

Description / Location:

Grey Elbow Insulation

Client No.:

TUR-17

Turner Hall

o Asbestos

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

25

Type Chrysotile

30

Fibrous Glass

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: V. Smith

Date:

Client:

Boggs Environ ConsultantsInc

WV

Report Date:

12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

26505

Project No.: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No.:

2125696

Description / Location:

Grey Floor Tile; 9x9

Turner Hall

Client No.:

TUR-18

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 2.2

<u>Type</u> Chrysotile

None Detected

None Detected

PC 97.8

Lab No.:

o Asbestos

2125696

Description / Location:

Black Mastic Turner Hall

Layer No.: 2

Client No.: 1

TUR-18

% Non-Asbestos Fibrous Material

Туре

% Non-Fibrous Material

PC 48

<u>Type</u> Chrysotile

None Detected

None Detected

PC 95.2

Lab No.:

2125696

Description / Location:

Tan Mastic Turner Hall

Layer No.: 3

Client No.:

TUR-18

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

Type

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: V. Smith

Date:

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 12/3/2004

Project:

Shepherd 02M, 11/23/04

Project No .: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .: Client No .:

2125697 TUR-B19 Description / Location:

White Wall Plaster

Turner Hall

o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .: Client No .:

"a .\sbestos

2125697

TUR-B19

Description / Location:

White Skim Coat Plaster; Wall

Layer No.: 2

Turner Hall

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

Type None Detected

None Detected

None Detected

100

Description / Location:

Grey Floor Tile; 9x9

Turner Hall

Client No .: o Asbestos

Lab No .:

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 41

Chrysotile

None Detected

None Detected

PC 95.9

Lab No .:

2125698

2125698

TUR-B20

Description / Location:

Black Mastic

Layer No.: 2

Client No.:

TUR-B20

Turner Hall

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 5 4

Chrysotile

None Detected

None Detected

PC 94.6

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: V. Smith

Date:

Client:

Boggs Environ ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 12/3/2004

Project:

Shepherd 02M, 11/23/04

Project No.: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125699 TUR-B21

White Elbow Insulation Description / Location:

Turner Hall

Client No.: o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .:

2125700

Client No.: TUR-B22

Description / Location:

Grey Valve Insulation

Turner Hall

"a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

201

Chrysotile

10

Fibrous Glass

70

Lab No .:

2125701

TUR-B23

Description / Location:

Blue Floor Tile; 12x12

Turner Hall

Client No.: o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No.:

2125701

Description / Location:

Lt. Tan Mastic

Layer No.: 2

Client No.:

TUR-B23

Turner Hall

o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method EPA 600/R-93/116

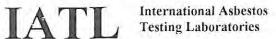
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Analysis Performed By: V. Smith

Date:

12/3/2004

Page 8 of 13



Client:

Boggs Environ ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

Project No .:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125702

Description / Location:

26505

Lt.Grey Floor Tile

Client No.: TUR-B24

Turner Hall

Type

% Non-Fibrous Material

% Asbestos PC 18

Type Chrysotile % Non-Asbestos Fibrous Material None Detected

None Detected

PC 98.2

Lab No .: Client No.:

2125703 TUR-B25 Description / Location:

Dk. Tan Carpet Mastic

Turner Hall

o a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .: Client No .:

2125704 TUR-B26 Description / Location:

White Wall Plaster

Turner Hall

o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: V. Smith

Date:

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 12/3/2004

Project:

Shepherd 02M, 11/23/04

WV04074 Project No .:

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125705 TUR-B27 Description / Location:

Dk. Grey Floor Tile; 9x9

Turner Hall

Client No.: o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

PC 1.3

Chrysotile

None Detected

None Detected

PC 98.7

Lab No .:

2125705

TUR-B27 Client No .:

Type

Description / Location:

Black Mastic

Turner Hall

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

Layer No.: 2

"o Asbestos PC 5.6

Chrysotile

None Detected

None Detected

PC 94.4

Lab No .:

2125705

Client No.:

o Asbestos

TUR-B27

Type

Description / Location:

Tan Mastic

Turner Hall

% Non-Asbestos Fibrous Material None Detected

Type

% Non-Fibrous Material

Layer No.: 3

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Method EPA 600/R-93/116

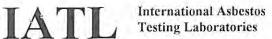
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Analysis Performed By: V. Smith

Date: 12/3/2004

Page 10 of 13



Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

26505

WV04074 Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125706

Description / Location:

Tan Floor Tile; 9x9

Turner Hall

Client No.: TUR-B28

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

o Asbestos PC 2.0

Type Chrysotile

None Detected

None Detected

Lab No .:

2125706

Description / Location:

Black Mastic

Layer No.: 2

Client No.:

TUR-B28

Turner Hall

% Non-Fibrous Material

o Asbestos PC 6 8

Type

% Non-Asbestos Fibrous Material

Type

PC 93.2

Chrysotile

None Detected

None Detected

Lab No .:

2125706

Description / Location:

Tan Mastic Turner Hall Layer No.: 3

Client No .: a Asbestos

TUR-B28

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

Type None Detected

None Detected

None Detected

100

Lab No .:

2125707

Description / Location:

White Pipe Insulation

Client No.:

TUR-B29

Turner Hall

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

o Asbestos None Detected

Type None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: V Smith

Date:

12/3/2004

Page 11 of 13

Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

WV

Project No.:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125708

Description / Location:

26505

White Wall Insulation

Client No.:

TUR-B30

% Non-Fibrous Material

a Asbestos None Detected

Type None Detected

None Detected

% Non-Asbestos Fibrous Material

Type None Detected

100

Lab No .:

2125709 TUR-B31 Description / Location:

Pink Floor Tile; 9x9

Turner Hall

Turner Hall

Client No.: o Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material PC 96.7

PC 33

Chrysottle

None Detected

None Detected

Lab No .:

2125709

Description / Location:

Black Mastic

Layer No.: 2

Client No.: o Asbestos

TUR-B31

Turner Hall

% Non-Fibrous Material

PC 6 5

Type Chrysotile % Non-Asbestos Fibrous Material None Detected

Type None Detected

PC 93.5

Lab No.: Client No.:

2125710 TUR-B32 Description / Location:

Grey Ceiling Plaster

Turner Hall

o Ashestos

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: V. Smith

12/3/2004 Date:

Page 12 of 13

Client:

Boggs Environ. ConsultantsInc

Report Date: 12/3/2004

363 High Street

Project:

Shepherd 02M, 11/23/04

Morgantown

26505

WV04074 Project No.:

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2125711

Description / Location:

White Pipe Insulation

Client No .:

TUR-B33

Turner Hall

Type

% Non-Fibrous Material

o Asbestos None Detected

Type None Detected % Non-Asbestos Fibrous Material None Detected

None Detected

100

Lab No .:

2125712

Description / Location:

White Pipe Insulation

Turner Hall

Client No.: TUR-B34

" a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

10

Cellulose

90

Lab No .:

2125713 TUR-B35 Description / Location:

Grey Elbow Insulation

Turner Hall

Client No .: 0 a Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

10

Chrysotile

15

Fibrous Glass

75

Lab No.:

2125714

Description / Location:

White Pipe Insulation

Turner Hall

Client No.:

TUR-B36

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

o Asbestos None Detected

Type None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: V. Smith

Date:

Client:

Boggs Environ. ConsultantsInc

Report Date: 2/14/2005

363 High Street

Project:

Shepherd:Turner Hall

Morgantown

WV

26505

Project No .:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2173888

Description / Location:

White Insulation

Client No.:

JDTH050201-01

MF-E 4" OD Crawl Space

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

20

Chrysotile

5

Mineral Wool

75

Lab No .:

2173889

Description / Location:

White Insulation

Client No.: JDTH050201-02 TSI-PI 4" OD Crawl Space

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .: Client No.: 2173890

JDTH050201-03

Description / Location:

White Insulation; TSI-PI 4" OD

Along Outside Perimeter Crawl Space

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No.:

2173891

Description / Location:

Grey Insulation; MF-E 4" OD

Client No.:

JDTH050201-04

% Non-Asbestos Fibrous Material

Along Perimeter Outside Wall Crawl Space

% Non-Fibrous Material

% Ashestos

PC 5.0

Type Chrysotile

Type Mineral Wool

70

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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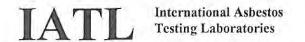
Analysis Performed By: T. Snyder

Approved By:

Date:

2/12/2005

Frank E. Ehrenfeld, III Laboratory Director



Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 2/14/2005

Project:

Shepherd:Turner Hall

Project No.: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: Client No.: 2173892

Description / Location:

White Insulation; MF-E 4" OD

Left Wall 2nd Rm Crawl Space

% Asbestos

JDTH050201-05 Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

10

Chrysotile

15

Mineral Wool

75

Lab No.: Client No.: 2173893

JDTH050201-06

Description / Location:

White Insulation; TSI PI 6" OD

Down Center Corridor Crawl Space

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No.: Client No.: 2173894

JDTH050201-07

Description / Location:

White Insulation; TSI PI 4" OD

Center Corridor Crawl Space

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .:

2173895

Description / Location:

Off-White Insulation; MF-V 4" OD

Client No.:

JDTH050201-08

......

Center Corridor

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

25

Chrysotile

None Detected

None Detected

75

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: T. Snyder

Date:

Client:

Boggs Environ. ConsultantsInc

Report Date: 2/14/2005

363 High Street

Project:

Shepherd: Turner Hall

Morgantown

WV

26505

Project No .: WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

% Asbestos

2173896

Description / Location:

White Insulation; TSI PI 4" OD

Client No.: JDTH050201-09

Center Corridor

Type

% Non-Fibrous Material

None Detected

Type None Detected

None Detected

% Non-Asbestos Fibrous Material

None Detected

100

Lab No .:

2173897

Description / Location:

White Insulation; TSI PI 6" OD

Client No.: JDTH050201-10 Center Corridor

Center Corridor

Center Corridor

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .:

2173898

Description / Location:

Off-White Insulation; MF-E 6" OD

Client No .: % Asbestos

JDTH050201-11

% Non-Asbestos Fibrous Material

% Non-Fibrous Material

25

Type Chrysotile

None Detected

None Detected

75

Lab No .:

2173899

Description / Location:

White Insulation; TSI PI 6" OD

Client No.:

JDTH050201-12

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

% Asbestos None Detected

Type None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: T. Snyder

Date:

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 2/14/2005

Project:

Shepherd:Turner Hall

Project No.:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .:

2173900

Description / Location:

Off-White Insulation, MF-E 6" OD

Center Corridor

Client No.: % Asbestos

ЛГН050201-13 Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

15

Chrysotile

None Detected

None Detected

85

Lab No .: Client No .: 2173901

Description / Location:

Off-White Insulation; MF-E 6" OD

Center Corridor

% Asbestos

Type

JDTH050201-14

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

Chrysotile

None Detected

None Detected

75

Lab No .:

2173902

JDTH050201-15

Description / Location:

Sample Not Received

Client No.: % Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

Sample Not Received

Sample Not Received

Lab No .: Client No .: 2173903

Description / Location:

White/Tan Insulation/Cloth;6" Steam Line

Turner Basement Hall Non-Laundry Hall

% Asbestos

Type

JDTH050201-16

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

35

Cellulose

65

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: T. Snyder

Date:

Client:

Boggs Environ. ConsultantsInc

363 High Street

Morgantown

WV

26505

Report Date: 2/14/2005

Project:

Shepherd:Turner Hall

Project No .:

WV04074

BULK SAMPLE ANALYSIS SUMMARY

Lab No .: Client No.: 2173904

Description / Location:

Off-White Insulation; MF-Elbow

Turner Basement Non-Laundry Hall

% Asbestos

JDTH050201-17 Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

25

Chrysotile

None Detected

None Detected

75

Lab No .: Client No.: 2173905

JDTH050201-18

Description / Location:

White Insulation; CW 1" Pipe

Basement Hall Non-Laundry Hall

% Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

Lab No .:

2173906

JDTH050201-19

Description / Location:

White Insulation; HW Line

Basement Hall Non-Laundry Hall

Client No.: % Asbestos

Type

% Non-Asbestos Fibrous Material

Type

% Non-Fibrous Material

None Detected

None Detected

None Detected

None Detected

100

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA Lab No. 100188

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Analysis Performed By: T. Snyder

Date:

ATTACHMENT III EPA CERTIFICATES

West Virginia University. Safety & Health Extension

This is to certify that

Jon Anderson

has met the attendance requirements and successfully completed the

Asbestos Management Planner Refresher

As approved by the Environmental Protection Agency 4 Instructional Hours

Paul E. Bocker	September 15, 2004
Course Director	Examination Date
September 15, 2004	4-0200
Course Dates	Number
	* .
Morgantown, WV	September 15, 2005
Location	Expires

This course is AWest Virginia@ and EPA approved and meets the requirements of 40 CFR Part 763 AHERA for purposes of accreditation required under Toxic Substances Control Act (TSCA) Section 206

Training provider:
Safety & Health Extension/West Virginia University
P.O. Box 6615, Morgantown, WV 26506-6615
Phone: 800-626-4748





License #:

AI003461

WEST VIRGINIA Asbestos Program

Patrick F. Kirby

IS LICENSED AS AN

ASBESTOS INSPECTOR

Issued:

3/14/2005

Expires:

3/31/2006

Randy (. (urtis Dir., WV RTIA DIV



License #:

AP001451 1/25/2005

issued: Expires:

1/31/2006

WEST VIRGINIA

Asbestos Program

Jonathan Anderson

IS LICENSED AS AN

ASBESTOS MANAGEMENT PLANNER

Randy (. (urtis Dir., WV RTIA DIV



License #:

AI003373

Issued:

1/20/2005

Expires:

1/31/2006

WEST VIRGINIA

Asbestos Program

Jonathan Anderson

IS LICENSED AS AN

ASBESTOS INSPECTOR

Randy (. (urtis Dir., WV RTIA DIV

ASBESTOS ABATEMENT WORK PLAN

FOR

TURNER HALL

RESIDENCE LIFE MANAGER'S APARTMENT

SHEPHERD UNIVERSITY

Shepherdstown, West Virginia

PREPARED FOR:

SHEPHERD UNIVERSITY

Dan Yanna
Director of Facilities Management
Shepherd University
PO Box 3210
Shepherdstown, WV 25443

February 2006

PREPARED BY:

BEC

BOGGS ENVIRONMENTAL CONSULTANTS, INC.



1 College Avenue Frederick, Maryland 21701 301.694.5687 Fax 301.694.5687

363 High Street

Morgantown, West Virginia 26505
304.292.1095 Fax 301.292.2320

ASBESTOS ABATEMENT WORK PLAN

FOR

TURNER HALL

RESIDENCE LIFE MANAGER'S APARTMENT

Shepherd University Shepherdstown, West Virginia

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ATTACHMENTS

Asbestos Abatement Work Area Sketch

1.0 PURPOSE

The purpose of these Asbestos Abatement Work Plan and Bid Documents is to provide direction under which asbestos abatement work is to be completed within the Residence Life Manager's Apartment within Turner Hall. The successful bidder shall provide all labor, materials, services, equipment, taxes and insurance to prepare the asbestos abatement work areas, remove and dispose of asbestos materials as indicated within the project scope of work and provide final cleanup of the work areas prior to leaving the project site.

The successful bidder shall perform all necessary services to ensure the safety and protection of his/her employees, owner personnel, the environment, and protection against personal and property damage in or on surrounding property and protect the best interests of Shepherd University (The Owner). Such operations are to be completed in compliance with all applicable federal, Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the State of West Virginia government regulations. All final clearance sampling will be performed by the owner's environmental consultant. The contractor is responsible for providing his/her own OSHA compliance sampling throughout the duration of the project.

The Owner or Owner's Representative reserves the right to reject any or all bids.

2.0 CONTRACT AWARD

Award of Contract will be made only to the responsible Bidder who is a qualified licensed Contractor, as provided by the ordinances of the State of West Virginia in which the work is to be performed, and whose proposal shall comply with all the provisions required to render it formal. The Owner reserves the right to waive any informality or technical defects; to reject any and all bids in whole or in part, and may advertise for new proposals if, in its judgment, the best interests of the owner will be served.

The owner reserves the right to award the Contract on the basis of any one or all bid items requested or any combination thereof. The owner reserves the right to require submission of references in sufficient time to make inquiries regarding the responsibility of the Bidder before making the award, and the right to require a recent financial statement from the Bidder if the owner deems it necessary.

2.1 Estimates and Payments

Payment of all Contractor invoices, including the final, will be made only for actual quantities of work performed and materials in place as determined by the measurement of the owner, and this determination as to the quantities involved in any Contract shall be acceptable as final, conclusive and binding upon the Contractor. Payment to the Contractor, for work satisfactorily performed, will be made upon monthly requests. Payments will not be made until the Contractor provides manifesting and landfill receipt documentation to the owner verifying the final proper disposal of all asbestos-containing materials removed as a part of the project.

Precaution shall be exercised at all times for the protection of all persons including Shepherd University employees, contractors or other building occupants, University property and hazardous conditions shall be guarded against or eliminated.

The use of narcotics, marijuana, or the consumption of alcoholic beverages on the project site or any Shepherd University property is expressly prohibited.

2.2 Qualifications & Staffing Requirements

Provide Abatement Supervisor's and Workers at the work site who are experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, project scheduling, management, etc. All workers and supervisors must be full time employees of the abatement company and have at least two (2) years of asbestos abatement experience for supervisors and one (1) year asbestos abatement experience for workers.

The supervisor will function as the competent person at the work site responsible for compliance with all applicable federal, state and local regulations.

- 1. Training: The Project Asbestos Abatement Supervisor must have a current certification from a state approved trainer for a course that meets the requirements of the EPA Model Accreditation Plan for Abatement Contractor/Supervisor/Worker (40 CFR part 763, Subpart E, Appendix C) and is licensed by the State of West Virginia as a Asbestos Supervisor.
- 2. Training: The Project Asbestos Abatement Workers must have a current certification from a state approved trainer for a course that meets the requirements of the EPA Model Accreditation Plan for Workers (40 CFR part 763, Subpart E, Appendix C) and are licensed by the State of West Virginia as Asbestos Workers
- **3.** Competent Person: The Project Supervisor is to be a Competent Person as required by OSHA in 29 CFR 1926.
- **4.** Copies of the Asbestos Abatement Supervisors, Workers and Contractor's State license and EPA certifications must be submitted for review to the owner or owner's environmental representative 10 days prior to the commencement of work.

3.0 SCOPE OF WORK

The scope of work includes the complete removal, clean-up, and disposal of friable and non-friable asbestos-containing materials from the interior areas of the Residence Life Manager's Apartment located within Turner Hall. The following lists the type of Asbestos-Containing Material (ACM) to be removed, the location of the ACM, estimated quantity and the required removal techniques that will implemented.

Type of ACM	Location of ACM	Estimated Quantity	Abatement Techniques/ Engineering Controls
9" x 9" floor tile and black floor tile mastic	Under Carpet	430 SF	Gross Removal under Modified Partial Isolation (Dust Control)

PLEASE NOTE: Bidders are required to attend a mandatory walk-through of the project site to verify quantity and conditions. <u>Proposed changes to the Contract amount will not be considered by the Owner following Contract award.</u>

4.0 ASBESTOS ABATEMENT WORK PLAN

4.1 Negative Pressure Enclosure

9" x 9" Floor Tile, Black Floor Tile Mastic and Contaminated Carpeting

- Establish regulated area (barrier tape/OSHA signage) within the Residence Life Manager's Apartment abatement work area and maintain throughout the work until acceptable clearance criteria for re-occupancy (post abatement) testing results are received.
- > Local intake/exhaust ventilation systems located within the abatement work area shall be sealed and locked out for duration of work.
- Abatement Contractor shall install temporary alternate ventilation system utilizing cabinet-mounted air filtration devices equipped with HEPA filters and capable of moving high volumes of air to achieve four (4) complete room air exchanges per hour.
- Abatement Contractor shall install real-time strip chart recording manometer to monitor static air pressure differential of regulated abatement work area vs. adjacent facility areas.
- Two layers of six mil polyethylene sheeting sealed at seams with resilient tape shall be utilized for constructing critical isolation barriers at all openings to the work area (eg. doors, windows, HVAC ductwork grilles/supply diffusers, etc.) as well as all for protection of all objects remaining within the regulated work area.
- ➤ Local exhaust and ventilation systems (if any) shall be sealed and locked out for duration of work. Polyethylene sheeting drop cloths will be used for coverage of all objects within regulated areas.
- Amended water shall be applied to the carpet, floor tile and floor tile mastic throughout the removal process to ensure compliance with the US EPA/State of West Virginia requirement for ACM to be "adequately wet" during the abatement and packaging of asbestos waste.
- > All carpet must be removed and disposed of as asbestos waste
- > The floor tile shall be manually removed using long-handled scrapers (ice chippers). Alternatively, dry ice may be applied to the tiles, causing the tiles to contract and detach from the substrate, and/or infrared machines, heat guns, etc. may be used to heat tiles, causing the tiles to soften and detach from the substrate.
- > The Abatement Contractor shall remove the flooring materials, utilizing due care and caution, to ensure extensive and/or unnecessary breakage does not occur, notwithstanding the requirement for abatement work to be conducted within a regulated work area.
- > The Abatement Contractor shall utilize low-odor organic solvent and mechanical floor buffers to remove asphalt cutback adhesive mastic from the floor substrates.
- All asbestos waste containers (bags) will be transferred to the waste holding area. Labels shall be affixed to the asbestos waste bags in accordance with US EPA asbestos waste disposal regulations
- Disposal of non-friable ACM and associated waste shall be in accordance with applicable US EPA, DOT, and State of West Virginia asbestos hazard control regulations.
- All floor surfaces where floor tile and mastic were removed will be cleaned and pass a visual inspection by the owner's environmental representative. Upon satisfactory visual inspections, revealing all visible dust has been removed; post abatement air quality sampling/analysis will be performed.
- > The air quality must comply with the EPA and State of West Virginia clearance standards prior to the removal of the barriers and OSHA signs.
- At their own costs and no additional costs to the owner, the Contractor will re-clean any and areas of the removal areas that fail the air quality clearance standards using HEPA vacuuming and other methods approved by the owner's environmental representative.

4.2 Contractor Submittal Requirements

The Abatement Contractor shall submit the following documentation for review and approval prior to conducting abatement actions:

- > Copies of EPA accreditations and State of West Virginia Supervisor and Worker licenses for all on-site personnel.
- ➤ US EPA/State of West Virginia asbestos project notification.
- > Provide and maintain on site exposure assessment documentation (within 12 months) including data relating to prior similar jobs, as applied to the specific variables of the current job.
- Material Safety Data Sheets and Technical Data Sheets for all products, supplies, materials, etc. planned for use during the abatement project.
- > OSHA personnel exposure monitoring is required.

4.3 Products/Materials/Supplies/Equipment Requirements

The Abatement Contractor shall provide all necessary materials, supplies, equipment necessary to conduct the abatement project in accordance with US OSHA, US EPA, and State of West Virginia asbestos hazard control regulations, to include but not necessarily limited to, the following:

- A. Wetting Materials: For wetting prior to disturbance of asbestos-containing materials use "Amended Water": Amended water is water to which a surfactant has been added. Provide and use a mixture of surfactant and water which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons (19 liters) of water or dishwashing detergent that contains anionic, nonionic, and amphoteric surfactants.
- B. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6.0 mil (0.15 mm) thick, clear, frosted, or black as indicated.
- C. Duct Tape: Provide duct tape in 2 inch or 3 inch (50 or 75 mm) widths as indicated, with an adhesive formulated for use on sheet polyethylene.
- D. Spray Cement: Provide, in aerosol cans, spray adhesive that is formulated for use on sheet polyethylene. Provide materials that do not contain methylene chloride.
- E. Mastic Remover: Provide mastic remover that is a low-odor organic solvent and mechanical floor buffers to remove asphalt cutback adhesive (mastic) at VAT substrates. Provide materials that do not contain methylene chloride.
- F. Disposal Bags: Provide 6 mil (0.15 mm) thick, leak-tight polyethylene bags labeled in accordance with US EPA regulations.

4.4 Personal Hygiene Procedures

Workers performing abatement operations shall utilize the following minimum personal protective equipment and decontamination measures:

- ➤ Negative pressure, half-face respirator equipped with HEPA filter cartridges during the project are required. Full body disposable suits with boots/hood extensions, hard hats, safety boots, safety eye glasses, and gloves are required.
- Abatement workers and all other authorized regulated work area entrants shall utilize a three-stage decontamination unit located at the main entrance door to the Residence Life Manager's Apartment to fully wash all potentially exposed body areas to remove asbestos residue and wet-clean all equipment, respirators, etc. prior to change to street clothes.
- Abatement workers and all other authorized regulated work area entrants shall decontaminate themselves, their equipment and waste containers utilizing the three-stage decontamination unit, HEPA vacuums followed by wet wiping prior to exiting the work area.

4.5 Air Circulation Negative Pressure Enclosures

The airflow volume (cubic meters per minute) exhausted (removed) from the workplace must exceed the amount of makeup air supplied to the enclosure. Provide a fully operational air circulation system supplying a minimum of 4 air changes per hour. Abatement Contractor shall determine the number of air filtration units needed to achieve required air circulation according to the following procedure:

- A. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by 60 and multiplying by the air change rate.
- B. Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

Volume of work area (ft³) x Number of air changes per hour

60 (minutes per hour)

- C. Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics (i.e., typically 75% of manufacturer's maximum volume capacity).
- D. Number of Units Needed = <u>Air circulation Requirement (CFM)</u>

Capacity of Unit with Loaded Filters (CFM)

- E. Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.
- > Contractor must ensure airflow patterns within the regulated work area move airborne asbestos fibers away from the abatement worker's breathing zone.
- Asbestos waste must be bagged immediately after removal from substrate; the material must remain saturated throughout the waste packaging process. Asbestos waste containers (bags) will be transferred to the waste holding area, washed, placed into a second asbestos waste bag, and "goose-necked" sealed.
- Labels shall be affixed to the asbestos waste bags in accordance with EPA asbestos waste disposal regulations.

4.6 Work Area Final Cleaning

- All surfaces within the designated work area shall be kept free of visible dust and debris to the extent feasible during the abatement work. Whenever visible dust appears on surfaces, the surfaces must be cleaned by wiping with a wet sponge, brush, or cloth and then vacuumed with a HEPA vacuum.
- All surfaces within the regulated area will be cleaned before it is disassembled and inspected by the owner's representative. An approved encapsulant must be sprayed onto areas after the visible dust has been removed to "lock down" potential asbestos fibers present yet are not visible.

4. 7 Air Monitoring Plan - Owner

Owner's Industrial Hygienist (WV Air Clearance Monitor) shall collect Phase Contrast Microscopy (PCM) samples before, during and following abatement operations. The Owner's WV Air Clearance Monitor shall collect the minimum number of final clearance air samples required for non-Asbestos Hazard Emergency Response Act (AHERA) school asbestos abatement projects in accordance with Table 64-63B of the State of West Virginia asbestos rule. The owner's environmental representative shall collect the following number of final clearance air samples from the interior areas of the Residence Life Manager's Apartment:

Table 64-63B

Work Area Size	Minimum Number of Required Samples
< 49 sq. ft.	0
50 - 160 sq. ft.	2
161 - 2,500 sq. ft.	3
2,501 - 5,000 sq. ft.	4
5,001 -10,000 sq. ft	5
>10,000 sq. ft.	Calculate *

- * Five (5) samples plus one (1) additional sample for each additional 5,000 square feet.
- > Air sampling equipment will be calibrated prior to and at the completion of sample collection.
- Air sampling shall be achieved via the use of high volume air sampling pumps. Air sampling pumps shall be located immediately adjacent to the work area at critical barriers, clean room of the decontamination unit, and interior facility areas remote to the abatement operations. Samples will be collected with a sufficient volume of air drawn through the cassette as prescribed by the appropriate analytical method.

4.8 Air Monitoring Plan – Abatement Contractor

The Abatement Contractor's competent person shall collect the OSHA personnel exposure monitoring air samples. Personal exposure monitoring will be conducted for at 25% of the contractor's work force and must include eight-hour time weighted averages (TWA) and 30 minute excursion samples. The personnel exposure monitoring plan shall include assessing potential abatement worker's exposure during all phases of work activities- pre-cleaning, set up, active asbestos removal, and fine-cleaning activities.

4.9 Applicable Regulations

> Occupational Safety and Health Administration

29 CFR 1910 General Industry Asbestos Standard for General Industry 29 CFR 1910.1001 29 CFR 1910.134 Respiratory Protection Hazardous Waste Operations and Emergency Response 29 CFR 1910.120 29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags) 29 CFR 1926 Construction Industry 29 CFR 1926.1101 Construction Industry- Asbestos Standard 29 CFR 1926.500 Fall Protection

➤ United States Environmental Protection Agency

40 CFR Part 261 Hazardous Waste regulations 40 CFR Part 61 NESHAP regulations

Department of Transportation
 49 CFR Parts 171-180 Transportation of hazardous materials

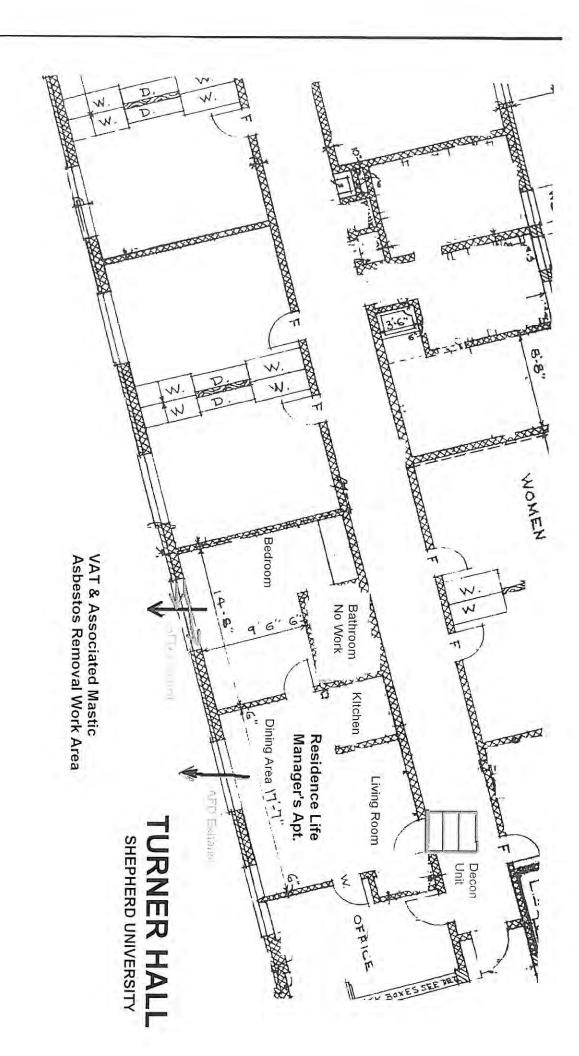
State of West Virginia Legislative Rules, Division of Health
 Tile 64, Series 63 Asbestos abatement licensing rule

(# AD002146)

5.0 PROJECT SITE - WORK AREA LOCATIONS

The asbestos abatement regulated work area location is identified in the attached Asbestos Abatement Work Area Sketch for use and information in conducting the work. In addition to any detailed requirements of the Abatement Plan, the Asbestos Abatement Contractor shall, at their own cost and expense, comply with all laws, ordinances, rules, and regulations of Federal, State, Regional, and Local Authorities regarding work area preparation, removal, handling, and disposal of asbestos—containing material.

6.0 PROJECT COMPLETION SCHEDULE	Begin	Finish	
Residence Life Manager's Apartment	March 13, 2006	March 15, 2006	
This asbestos abatement project design document was pr	repared by:		
BOGGS ENVIRONMENTAL CONSULTANTS, INC.			
Jonathan B. Anderson	×===	Date	
Asbestos Project Designer			



BEC BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701

Morgantown, West Virginia 26505

363 High Street

Office Fax

(301) 694-5687 (301) 694-9799

Office Fax (304) 292-1095 (304) 292-2320

21 March 2006

SHEPHERD UNIVERSITY Office of Facilities Management Shepherdstown, WV 25443

ATTENTION:

Mr. Dan Yanna,

Director

REFERENCE:

Asbestos Abatement at Turner Hall, Resident Manager Apartment

Final Technical Report

BOGGS ENVIRONMENTAL CONSULTANTS, INC. (BEC) conducted industrial hygiene monitoring in support of asbestos abatement completed at the Resident Manager Apartment located at Turner Hall on the campus of Shepherd University, Shepherdstown, West Virginia. Specifically, BEC conducted work area inspections and collected air quality surveillance samples during the removal of asbestos-containing flooring materials, contaminated carpeting and all associated mastic.

ASBESTOS ABATEMENT - SCOPE OF WORK

BEC advises that ACM Services, Inc. (ACM), a West Virginia licensed asbestos abatement contractor (#AC001099), utilized licensed asbestos abatement workers to construct a regulated-access abatement isolation containment (6-mil polyethylene sheeting covering all walls, floors, built-out construction, and critical isolation barriers, installed temporary cabinet-mounted portable air filtration devices equipped with High Efficiency Particulate Air filtrations, etc.) prior to removal of the asbestos-containing materials. Pursuant to abatement work area construction, ACM Services personnel removed asbestos containing floor tile, contaminated carpeting and associate mastic from all areas within the Resident Manager Apartment, and properly packaged and transferred asbestos waste materials to an ACM Services fleet vehicle. Subsequently, ACM Services transported the asbestos waste bags to their permitted interim storage facility located in Rockville, Maryland, and are presently awaiting shipment to a US EPA permitted asbestos waste landfill. BEC advises the abatement project began and was completed on March 17, 2006. BEC advises the following asbestos abatement scope of work was completed:

Turner Hall Resident Manager Apartment Asbestos Abatement

Work Area	Work Completed	Quantity of Asbestos- Containing Material Removed	
Resident Manager Apartment	Gross removal of Asbestos-Containing Floor Tile, Contaminated Carpet and All Associated Mastic	430 Square Feet	

ENVIRONMENTAL TESTING

BEC advises that staff Industrial Hygienist Mr. Hector Matamoros, a West Virginia License Asbestos Air Clearance Monitor (#AA001446) collected ambient environmental work samples during the abatement operations. Mr. Matamoros performed Phase Contrast Microscopy (NIOSH Method #7400) analysis of the ambient environmental samples. Mr. Matamoros is a NIOSH 582 certified analyst and member of our analytical laboratory, which has been a successful participant in the America Industrial Hygiene Association (AIHA) "Proficiency Analytical Testing" program on a quarterly basis (AIHA #163201) since January, 2002. BEC advises, based upon laboratory analysis data, that the "Fibers-In-Air" concentration for all final air quality samples were less than 0.01 f/cc, as summarized in Table A – Active Abatement Air Quality Surveillance – PCM Results:

Turner Hall, Resident Manager Apartment Asbestos Abatement Final Clearance Testing Report Mr. Dan Yanna March 21, 2006 Page Three

Table A - Active Abatement Air Quality Surveillance - PCM Results

Date	Sample Number	Sample Location	Volume (Liters)	Fibers-In- Air (f/cc)
17 March 2006	SCTH060317-01	Equipment Room - Inside Work Area	600	0.006
17 March 2006	SCTH060317-02	Decon Clean Room - Outside Work Area	600	0.002

CLEARANCE TESTING:

BEC advises, based upon visual inspections of the work area performed by Mr. Matamoros, that removal of asbestos-containing materials was satisfactorily completed and acceptable environmental conditions existed for final air quality testing at the work area. As such, Mr. Matamoros collected post-abatement samples in the work area in accordance with all appropriate US EPA and State of West Virginia asbestos hazard control regulations with regard to the requisite number of air samples, analytical protocols, etc. Mr. Matamoros conducted on-site Phase Contrast Microscopy (PCM) analysis in accordance with US EPA Asbestos Hazard Emergency Response Act (AHERA) regulations. The analytical results for post-abatement final cleanance monitoring samples are summarized below in Table B-Post-Abatement Final Air Quality Sampling-PCM Results.

Table B - Post-Abatement Final Air Quality Sampling - PCM Results

Date	Sample Number	Sample Location	Volume (Liters)	Fibers-In- Air (f/cc)
17 March 2006	SCTH060317-03	Living Room Center – PCM Clearance	900	0.002
17 March 2006	SCTH060317-04	Bed Room Center - PCM Clearance	900	0.001
17 March 2006	SCTH060317-05	Kitchen Area – PCM Clearance	900	0.001
17 March 2006	SCTH060317-06	QA/QC Media Field Blank		0.000
17 March 2006	SCTH060317-07	QA/QC Media Box Blank	3-3	0.000

CONCLUSIONS:

BEC concludes, based upon review of laboratory analytical data, all air samples collected and analyzed via Phase Contrast Microscopy revealed Fibers-In-Air concentrations below the US EPA/State of West Virginia clearance criteria of 0.01 F/cc. Therefore, BEC advises, in consideration of clearance criteria established by the US EPA and the State of West Virginia (WV CSR Title 64 Series 63), unrestricted access and re-occupancy of the former asbestos abatement work area was granted. Accordingly, ACM asbestos abatement workers completed demobilization of isolation barriers, asbestos waste transfer, and removal of materials/supplies/equipment on March 15, 2006.

BEC recommends securing ACM Services standard asbestos abatement project documentation (i.e., daily entry/exit logs, abatement work area inspection and checklist, ACM-internal asbestos waste shipment log, formal asbestos waste bill of lading with US EPA landfill operator signature verifying receipt of asbestos waste, etc.) in accordance with recognized asbestos abatement industry practices regarding recordkeeping. BEC will forward a copy of this final report with our request for the foregoing submittals to be delivered to our office for review and distribution to you office.

Should you have any questions, please contact our office at your earliest convenience.

Sincerely, BOGGAN VIRONMENTAL CONSULTANTS, INC.

Hector Matamoros, Industrial Hygienist

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

I College Avenue • Frederick, Maryland 21701 Voice 301.694.5687 • Fax 301.694.9799

363 High Street • Morgantown, West Virginia 26505 Voice 304.292.1095 • Fax 304.292.2320

CERTIFICATE OF ANALYSIS

Shepherd University Office of Facilities Management Shepherdstown, WV 25443

Report Date: 21 March 2006 Sample Receipt Date: 17 March 2006 BEC Project Number: WV06027

Page 1 of 1

ATTENTION: Mr. Ray Meeker, Project Manager

REFERENCE: Turner Hall Resident Manager Apartment, Asbestos Abatement

Fibers greater than or equal to 5 µm long and greater than 0.25 µm diameter with 3:1 ratio on 25 mm Mixed Cellulose Ester Filters Analysis:

Limit of Detection 0.0082 0.0082 0.0054 0.0054 0.0054 N/A
Concentration (F/cc) Below Limit of Detection Below Limit of Detection Below Limit of Detection Below Limit of Detection N/A N/A
(F/mm) 0.021 0.008 0.010 0.008 0.005
Fibers 8 8 8 2 2 2 0 0 0
Counted 100 100 100 100 100 100 100 100 100 10
(Liters) 600 600 900 900 900 QA/QC Field Blank QA/QC Box Blank
BEC, INC, SCTH060317-01 SCTH060317-02 SCTH060317-03 SCTH060317-04 SCTH060317-05 SCTH060317-06
Client

NFO: No Fibers Observed Limit of Detection (LOD) = Mandatory 5.5 fibers Observed/100 fields (7 Fibers/mm²) or Fibers-In-Air Concentrations is < LOD

Hee Laboratory Director:

Laboratory Analyst:

Hector Majornofos, NIOSH 582 21 March 2006
Mark Boggs, NIOSH 52, 31 March 2006

American Industrial Hygiene Association Commonwealth of Virginia State of West Virginia

Asbestos Analytical Laboratory Asbestos Air and/or Bulk Sample Analytical Laboratory

Asbestos Laboratory Accreditation

3333000242 # LA000071 This report applies only to the sample, or samples, investigated and is not necessarily indicative if the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and Boggs Environmental Consultants, line and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Boggs Environmental Consultants, line. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them, and unless collected by the personnel of Boggs Environmental Consultants, line, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client.



April 17, 2006

Mr. Dan Yanna Shepherd University P.O. Box 3210 Shepherdstown, WV 25443

RE: Asbestos Abatement

Shepherd University

Turner Hall - Wing A, First Floor ACM Project # WV10328SB

Dear Mr. Yanna:

On March 16, 2006 ACM Services, Inc. completed the removal of asbestos containing floor tile and mastic from the above referenced project site.

ACM Services, Inc.

Rockville, MD 20850-1311 301-279-0072 or 800-242-7760

http://www.ACMServices.com

1101 Taft Street

Fax 301-279-0272

This work was completed in accordance with all federal, state, and local regulations pertaining to an asbestos abatement of this type.

The asbestos waste generated from this project was transported by Service Transport Group, Inc., a DOT registered waste carrier, and disposed of at A&L Salvage, Inc. This landfill is certified by the State of Ohio to accept asbestos waste. Enclosed is the executed copy of the transport and landfill manifest.

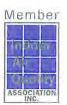
A third party industrial hygiene firm, Boggs Environmental Consultants, Inc. was contracted by ACM Services, Inc. to perform a final visual inspection and to certify through final air sample collection and analysis that the area is within regulatory limits for reoccupancy. Final clearance sampling collected in the work area after abatement activities showed airborne fiber concentrations which meet the U.S. Environmental Protection Agency's (EPA) and the State's required standards.

These are the last documents that you should receive from our office regarding this abatement project. It was a pleasure working with you.

Should you need our services again or require additional information, please feel free to call.

Sincerely,

ACM Services, Inc.



SERVICE TRANSPORT GROUP, INC.

58 PYLES LANE, NEW CASTLE, DE 19720

PHONE:(877) 999-9559

Nº 193397

WASTE SHIPMENT RECORD

S.T.G. # 616

	1. Material Origin Site	Generator: Name/Address	Generator: Phone #
	Turner Hall	PO Box 3210	304-876-5644
	Shepherdstown, WV 25443	Shepherdstown, WV 25443	
	2. Removal Contractor: Name/Address		Contractor: Phone #
	ACM Services, Inc.		
	1101 Taft Street	Contact: Thom Hess	301-279-0072
	Rockville, MD 20850-1311		
	3. Responsible Agency: Name/Address	4. US DOT Class - FRIABLE ASBESTOS	ONLY
	U.S. EPA Region III 1650 ArchStreet	RQ ASBESTOS, 9, NA 2212, PG III	
	Philadelphia, PA 19103-2029	114710520100, 3, 1472212, 1 4 111	
K	5. Description of Materials	Containers	Total Quantity
F	Specify Friable or Non-Friable	No. Type	
RA	If Friable (enter required information)		
GENERATO	If Non-Friable (check one): ☐ Category I ☐ Cate	egory II FLOR THE + MASTIC	SO कुल
5	6. Special Handling Instructions 24-hou	r emergency spill response no. 800-424-9300	
	7. Generator Certification:		
	This is to certify that the above named materials are properly classified	d, described, packaged, marked and labeled and are in proper condit	on for transport by highway
	according to the applicable regulations of the Department of Transporta to the best of my knowledge. If the waste shipment is not as I stated, I a	tion, US E.P.A., and any other state government agency. I certify that the accept the RETURN of the COMPLETE LOAD to the generator's servic	foregoing is true and correct to location at the generator's
	expense.		•
	Scott SH closes Fol		
	Printed/Typed Name & Title Dale R. McGuire, Director of Operations	Signature	Date
	Dale N. Mcduire, Director of Operations	a Kal	3/22/36
	8. Transporter 1 (Acknowledgement of Receipt of M	aterials) *If blank, Transporter 2 serves as sole trans	sporter.
	Company Name & Address	Signature:	Telephone No.
ER		Oignature.	releptione No.
ORTER		Printed Name:	Date:
		Title:	
TRANSP			
A	Transporter 2 (Acknowledgement of Receipt of M. Campany Name & Address		
2	Company Name & Address	Signature:	Telephone No. 877-999-9559
_	Service Transport Group, Inc. 58 Pyles Lane	Printed Name:	Date:
	New Castle, DE 19720		4006
		Title:	1 1 1 1 1
ш	10. Discrepancy Indication Space:		
SITE	11. Waste Disposal/Recycling Site Owner or Operator	or's Certification	
	(Receipt of above Waste Except as Noted in 10)		T
SAL	Company Name & Address A & L Salvage, Inc.	Signature:	Tolophone No
0	11225 S.R. 45		Telephone No.
DISPO	P.O. Box 333	Katherine Plum Printed Name: Weighmaster	330-424-3739
5	Lisbon, OH 44432	A&L Salvage, LLC.	Date
	Permit No. OH EPA 139120	Title: Lisbon, OH 44432 330-424-3739	11 101-11

TURNER HALL 2009 RE-INSPECTION

OF

FRIABLE ACBMS

Asbestos Operations & Maintenance Program

PREPARED FOR:

Dan Yanna,
Director of Facilities Management
Shepherd University
PO Box 3210
Shepherdstown, WV 25443

March 30, 2009

PREPARED BY



1 COLLEGE AVENUE FREDERICK, MARYLAND 21701 301.694.5687 FAX 301.694.9799

363 HIGH STREET MORGANTOWN, WEST VIRGINIA 26505 304.292.1095 FAX 304.292.2320

TURNER HALL

2009 RE-INSPECTION

OF

FRIABLE ACBMS

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BOGGS ENVIRONMENTAL CONSULTANTS INC.

Technical Report By:

Richard C. Robinson,

Project Manager

West Virginia Asbestos Inspector (License# AI004713)

Final Technical Report Reviewed By:

Shaun Boggs Vice President

SECTION 1.0 SCOPE OF WORK-AHERA ASBESTOS RE-INSPECTION

Task I. Re-Inspection of Friable ACBMs

BEC completed a re-inspection of all known friable asbestos-containing building construction materials (ACBMs) previously identified at the Turner Hall located on the campus of Shepherd University (SU), Shepherdstown, West Virginia. The re-inspection work activities were conducted in accordance with the "Asbestos School Hazard Abatement Reauthorization Act (ASHARA) of 1992" (40 CFR Part 763, Appendix C-E, Model Accreditation Plan) and the "Asbestos Hazard Emergency Response Act (AHERA) of 1986" (40 CFR Part 763). The focus of the re-inspection work was limited to friable asbestos-containing building construction (ACBMs) materials; non-friable materials were not examined, as directed by SU staff. The re-inspection of the Turner Hall was completed on March 18, 2009

Additionally, BEC staff collected additional bulk samples of suspect friable suspect ACBMs either to confirm previously identified asbestos content and/or evaluate asbestos content of additional friable ACBMs discovered during the re-inspection. BEC collected bulk samples and submitted the samples to an accredited laboratory with our request for Polarized Light Microscopy with Dispersion Staining (PLM/DS) analysis, in accordance with the "Method for the Determination of Asbestos in Bulk Building Materials" (U.S.E.P.A. Method 600/R-93/116, July 1993).

Historic ACBMs AHERA Data

Between September 30, 2004 and February 1, 2005, BEC conducted the initial US EPA AHERA asbestos inspection of all accessible interior areas of the Turner Hall. Note: exterior and rooflines were not evaluated during the initial AHERA inspection.

Task II. Operations & Maintenance Program - Review & Update

BEC has reviewed the Turner Hall – Asbestos Operations and Maintenance Program (O&M) documents and provides the results of site inspection and current condition of friable ACBMs.

HISTORIC DATA - FRIABLE ACBMs

BEC staff collected bulk samples of suspect friable ACBMs on September 30, 2004, January 27 & 31, 2005, and February 1, 2005.

Table 2.1 – Friable Asbestos Containing Materials information includes the following:

- Sample Number
- Sample Description
- Homogenous Area Number (HA)
- Bulk Sampling Location
- All FRIABLE building construction materials containing greater than 1 % asbestos identified through laboratory analysis.

	TABLE 2.1 Friable Asbe	estos Cor	ntaining Materials	
Sample #	Sample Description	HA	Bulk Sampling Location	Asbestos Results
TUR112304 – B15	Pipe Fitting insulation	14	Domestic Cold Water Line in Janitors closet Basement Gardiner Side (Wing B)	20% Chrysotile
TUR112304 – B17	Pipe Fitting insulation	14	Domestic Hot Water Line in Crawl Space	25 % Chrysotile
TUR112304 – B22	Valve insulation	14	Janitors closet First Floor Gardiner Side (Wing B)	20 % Chrysotile
TUR112304 – B35	Pipe Fitting insulation	14	Applied to Pump Line #1 in Mechanical Room; Dining Hall Side (Wing A)	10 % Chrysotile
JDTH050201-01	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	20% Chrysotile
JDTH050201-04	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	5.0% Chrysotile
JDTH050201-05	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	10% Chrysotile
JDTH050201-08	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25 % Chrysotile
JDTH050201-11	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25% Chrysotile
JDTH050201-13	Pipe Fitting Insulation on 6" Outside Diameter line	14	Crawl Space	15% Chrysotile

	TABLE 2.1 Friable Asb	estos Cor	ntaining Materials	
Sample #	Sample Description	НА	Bulk Sampling Location	Asbestos Results
JDTH050201-14	Pipe Fitting Insulation on 6" OD line	14	Crawl Space	25% Chrysotile
JDTH050201-17	Pipe Fitting Insulation	14	Basement Hall Gardiner Hall Side (Wing B)	25% Chrysotile

HISTORIC FRIABLE ACBMs-HOMOGENEOUS AREAS

Table 2.2 lists the building construction materials considered to be asbestos-containing, as they are similar in appearance, color, and texture (homogeneous) with those materials within the building identified, through laboratory analysis, as asbestos containing.

		TABLE 2.2 Homogeneous Materials	
HA#	DESCRIPTION	HOMOGENOUS AREA LOCATION	ASSOCIATED SAMPLE NUMBERS
14	Pipe Fitting Insulation	In Crawl Space and Throughout Building	TUR112304 - B3 TUR112304 - B15 TUR112304 - B17 TUR112304 - B21 TUR112304 - B35 JDTH050201-01 JDTH050201-04 JDTH050201-05 JDTH050201-11 JDTH050201-13 JDTH050201-14

HISTORIC NON-ASBESTOS FRIABLE BUILDING CONSTRUCTION MATERIALS

The building construction materials listed in Table 2.3 collected during the asbestos inspection were determined, through laboratory analysis to not contain asbestos above the detection limit.

HA#	Table 2.3 Non-Asbestos Containi HOMOGENOUS AREA LOCATION	ASSOCIATED SAMPLES	ASBESTOS
HA#	HOMOGENOUS AREA LOCATION	ASSOCIATED SAMPLES	ASDESTOS
1)	Wall Plaster Throughout Building	TUR112304-B4 TUR112304-B19 TUR112304-B30 TUR112304- B26	ND
2	Ceiling Plaster Throughout Building	TUR112304 – B13 TUR112304 – B32	ND
3	Pipe Insulation on 2" Outside Diameter lines Throughout Building	TUR112304 – B2 TUR112304 – B29 JDTH050201-15 JDTH050201-18 JDTH050201-19	ND
4	Pipe Insulation on 4" Outside Diameter lines in Crawl Space and Throughout Building	JDTH050201-02 JDTH050201-03 JDTH050201-07 JDTH050201-09 TUR112304 – B33	ND
5	Pipe Insulation on 6" Outside Diameter lines in Crawlspace and Throughout Building	JDTH050201-10 JDTH050201-12 JDTH050201-16 TUR112304 – B10	ND
6	Insulation applied to piping located behind hot water tanks in mechanical room	TUR112304 – B34	ND
7	Insulation applied to large diameter steam feeder line in mechanical room	TUR112304 – B36	ND
8	1' x 1' interlocking ceiling tile (ICT) Throughout the Building	TUR112304 – B5 TUR112304 – B7 TUR112304 – B12	ND
10	Pipe insulation debris from ground in crawl space	TUR112304 – B9	ND

ND -No Asbestos Detected

FRIABLE ASBESTOS-CONTAINING MATERIAL HAZARD ASSESMENT

The table below details the following: (1) Homogeneous sampling area number (HA), (2) a physical description of each material (3),material category (4), type of asbestos (5), quantity (6), friability (6), AHERA assessment category and (7), the location of those materials identified throughout the Turner Hall that contain 1% asbestos or greater.

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	AHERA Assessment Category (1-7)	Homogenous Area Location
14	Pipe Fitting Insulation	TSI	Chrysotile	~ 450 lf	I	Throughout Basement & Crawl Space
14	Pipe Fitting Insulation	TSI	Chrysotile	~ 75 lf	7	1 st , 2 nd , 3 rd Floor Custodial Closets Room 101, 103, 119 Resident Managers Office, Resident Life Apartment

AHERA Assessment Category:

- 1 = Damaged or significantly damaged TSI ACBM,
- 2 = Damaged friable surfacing ACBM
- 3 = Significantly damaged friable surfacing ACBM
- 4 = Damaged or significantly damaged friable miscellaneous ACBM
- 5 = ACBM with potential or damaged
- 6 = ACBM with potential for significant damage
- 7 = Any remaining friable ACBM or friable suspected ACBM
- X = Not applicable (material is non-ACBM or non-friable surfacing or miscellaneous material)
- None = No assessment provided in original inspection

SECTION 3.0 RE-INSPECTION SURVEY FINDINGS

Task I. Re-Inspection of Friable ACBMs

BEC completed a re-inspection of all known friable asbestos-containing building construction materials (ACBMs) previously identified at the Turner Hall. The re-inspection of the Turner Hall was completed on March 18, 2009

Pursuant to the field survey, BEC staff collected additional bulk samples of suspect friable suspect ACBMs either to confirm previously identified asbestos content and/or evaluate asbestos content of additional friable ACBMs discovered during the re-inspection. BEC submitted the bulk samples to Scientific Analytical Institute, Inc. (SAI) of Greensboro, North Carolina for asbestos content analysis. SAI is accredited by the American Industrial Hygiene Association (AIHA-#173190) and the National Institute of Standards and Technology (NIST)-National Voluntary Laboratory Accreditation Program (NVLAP-#200664-0) as proficient in the analysis of asbestos in bulk samples.

SAI performed Polarized Light Microscopy with Dispersion Staining (PLM/DS) of the bulk samples in accordance with the "Method for the Determination of Asbestos in Bulk Building Materials" (U.S.E.P.A. Method 600/R-93/116, July 1993). Asbestos-containing materials are any materials containing greater than one percent (>1%) asbestos visual area estimation. Friable asbestos is asbestos-containing material, which can be broken, crumbled, pulverized, or reduced to powder under hand pressure.

BEC advises PLM/DS analysis revealed asbestos was detected in some ACBM bulk samples collected and submitted to SAI. BEC provides the results of the PLM/DS analyses in Table A-NESHAP Asbestos Inspection Testing:

HA#	Sample #	Sampling Location	Building Construction Material	Asbestos (%)
1	031809-1	Laundry Room	4" OD Pipe Fitting	20% Chrysotile
2	031809-2A	Laundry Room	4" OD Pipe Wrap	None Detected
2	031809-2B	Laundry Room	4" OD Pipe Insulation	None Detected
3	031809-3A	Mechanical Room	6" OD Pipe Wrap	None Detected
3	031809-3B	Mechanical Room	6" OD Pipe Insulation	None Detected
4	031809-4	Mechanical Room	6" OD Pipe Fitting	20% Chrysotile

TABLE A- AHERA ASBESTOS RE- INSPECTION TESTING

ASBESTOS SURVEY NOTES:

The above inspection was characterized by close visual inspection of all readily-accessible building areas No building structures/materials were demolished to evaluate inaccessible areas. No exterior and/or roofline building areas were examined.

SECTION 3.0 RE-INSPECTION SURVEY FINDINGS

Task II. Operations & Maintenance Program - Review & Update

BEC has reviewed the Turner Hall – Asbestos Operations and Maintenance Program (O&M) documents and provides the results of site inspection and current condition of friable ACBMs.

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	AHERA Assessment Category (1-7)	Homogenous Area Location
14	Pipe Fitting Insulation	TSI	Chrysotile	~ 450 lf	1	Throughout Basement & Crawl Space
14	Pipe Fitting Insulation	TSI	Chrysotile	~ 75 lf	5	1 st , 2 nd , 3 rd Floor Custodial Closets Room 101, 103, 119 Resident Managers Office, Resident Life Apartment

AHERA Assessment Category:

- 1 = Damaged or significantly damaged TSI ACBM,
- 2 = Damaged friable surfacing ACBM
- 3 = Significantly damaged friable surfacing ACBM
- 4 = Damaged or significantly damaged friable miscellaneous ACBM
- 5 = ACBM with potential or damaged
- 6 = ACBM with potential for significant damage
- 7 = Any remaining friable ACBM or friable suspected ACBM
- X = Not applicable (material is non-ACBM or non-friable surfacing or miscellaneous material)

None = No assessment provided in original inspection

IMMINENT HAZARDS

BEC list the friable ACBMs, which require immediate asbestos abatement corrective actions due to potential for unprotected personnel exposure to airborne asbestos. (reference AHERA Assessment Category above).

НА	Material	Material Category	Asbestos Type	Quantity (Total)	AHERA Assessment Category	Homogenous Area Location
14	Pipe Fitting Insulation	TSI	Chrysotile	~ 450 lf	i	Throughout Basement & Crawl Space

4.0 APPENDICES

APPENDIX A

PHOTOGRAPHS OF POSITIVE ACBMS



Pipe Fitting Insulation which was confirmed to be asbestos containing throughout entire basement and a few select areas in rest of building



Pipe Fitting Insulation in Mechanical Room which was confirmed to be asbestos containing and is scheduled for removal in June of 09.

APPENDIX B

SAI LABORATORY DATA



Bulk Asbestos Analysis

By Polarized Light Microscopy EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: Boggs Environmental Consultants, Inc. Attn: Shaun Boggs

1 College Ave

Frederick, MD 21701

Lab Order ID: 902255

Analysis ID:

902255PLM

Date Received:

3/23/2009

Date Reported:

3/25/2009

Project: Shepherd Reinspection Turner Hall

Sample ID	Description	Asbestos	Fibrous	Non-Fibrous	Attributes
Lab Sample ID	Lab Notes	Aspestos	Components	Components	Treatment
031809-1	4" OD Pipe Fitting	20% Chrysotile	20% Cellulose	60% Other	Gray Fibrous Heterogeneous
902255PLM_1	unable to separate wrap	10			Teased
031809-2 - A	4" OD Pipe Insulation	None Detected	80% Cellulose	20% Other	White Fibrous Homogeneous
902255PLM_2	wrap				Teased
031809-2 - B	4" OD Pipe Insulation	None Detected	5% Cellulose	80% Perlite 15% Other	Tan Non Fibrous Homogeneous
902255PLM_5	insulation				Teased
031809-3 - A	6" OD Pipe Insulation	None Detected	80% Cellulose	20% Other	White Fibrous Homogeneous
902255PLM_3	wrap				Teased
031809-3 - B	6" OD Pipe Insulation	None Detected	5% Cellulose	80% Perlite 15% Other	Tan Non Fibrous Homogeneous
902255PLM 6	insulation	The state of	4		Teased
031809-4	6" OD Pipe Fitting	20% Chrysotile	20% Cellulose	60% Other	Gray Fibrous Heterogeneous
002255PLM 4	unable to separate wrap				Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 1%.

Matt Thomas (6)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

SSERUP

Client	Boggs Environmental	"Anstructions:		
Contact:	Shaun Boods	Use Column "B" for warr confect info	Scientific analytical	
Address:	1 College Avenue			
Phone:	301.694.5687	To See an Example Click the	Institute Inc	
Fax:	301.694.9799	bottom Example Tab.	101111	
Email:	sboggs@boggsenvironmental.com		302-L Pomona Dr.	
		Enter samples between "<<" and ">>>"	Greensboro, NC 27407	
Project:	Shepherd Reinspection	Begin Samples with a "<< "above the first sample and out with a ">>" below the last cample	Phone: 336.292.3888	
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Analysis:		report, however they will be included in the electronic data returned to you		
TumAroundTime:	3 Day TAT	to facilitate your reinfegration of the report data.		
Sample Number	Data 1	Sample Description	Datta 2	
**				
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031809-3		6" OD Pipe Insulation 6" OD Pipe Fitting		
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Room Pipe Insulation on 4" 00 Pipe I Laurany mudded Fitting on 4" 06 Pipe Shepherd Keinspiction Tucas Hall NOPOL Room Room Room Mech 3 + 3 Project Address: 031809-3 031809-4 Project Name: 6318ca - 2 03/809-1 / Project #:

APPENDIX C STAFF QUALIFICATIONS

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

RICHARD ROBINSON

has met the attendance requirements and successfully completed the course entitled

4-Hr EPA AHERA Inspector Refresher1

For Accreditation Under TSCA Title II.

0/9/2008	10/9/2008	10/9/2009	DAVID TRUMAN	and Junas
Course Date	Exam Date	Expiration Date	Principal Instructor	
98626	VA98626		E. RUSH BARNETT	E. had Banot
Certification No.	Virginia Cer	lirginia Certification No.	Course Director	

F: 410-684-3724

P: 410-684-3327

Hanover, MD 21076 www.amatraining.com

P.O. Box 646

1331 Ashton Road



License #

Issued:

WEST VIRGINIA

Asbestos Program

Richard Robinson

IS LICENSED AS AN

AI005210 ASBESTOS INSPECTOR

1/26/2009

Expires: 1/31/2010

Randy C. Curtis Dir., WV RTIA DIV

SECTION 3.0 RE-INSPECTION SURVEY FINDINGS

Task I. Re-Inspection of Friable ACBMs

BEC completed a re-inspection of all known friable asbestos-containing building construction materials (ACBMs) previously identified at the Stutzman Slonaker. The re-inspection of the Stutzman Slonaker was completed on March 18, 2009. The re-inspection revealed that all known friable ACBMs have been removed from Stutzman Slonaker.

Pursuant to the field survey, BEC staff collected additional bulk samples of suspect friable suspect ACBMs either to confirm previously identified asbestos content and/or evaluate asbestos content of additional friable ACBMs discovered during the re-inspection. BEC submitted the bulk samples to Scientific Analytical Institute, Inc. (SAI) of Greensboro, North Carolina for asbestos content analysis. SAI is accredited by the American Industrial Hygiene Association (AIHA-#173190) and the National Institute of Standards and Technology (NIST)-National Voluntary Laboratory Accreditation Program (NVLAP-#200664-0) as proficient in the analysis of asbestos in bulk samples.

SAI performed Polarized Light Microscopy with Dispersion Staining (PLM/DS) of the bulk samples in accordance with the "Method for the Determination of Asbestos in Bulk Building Materials" (U.S.E.P.A. Method 600/R-93/116, July 1993). Asbestos-containing materials are any materials containing greater than one percent (>1%) asbestos visual area estimation. Friable asbestos is asbestos-containing material, which can be broken, crumbled, pulverized, or reduced to powder under hand pressure.

BEC advises PLM/DS analysis revealed asbestos was NOT detected in the ACBM bulk samples collected and submitted to SAI. BEC provides the results of the PLM/DS analyses in Table A-NESHAP Asbestos Inspection Testing:

HA#	Sample #	Sampling Location	Building Construction Material	Asbestos (%)
1	31809-1	2 nd Floor Janitors Closet	4" OD Pipe Fitting	None Detected
1	31809-2	Mechanical Room	4" OD Pipe Fitting	None Detected

TABLE A- AHERA ASBESTOS RE- INSPECTION TESTING

ASBESTOS SURVEY NOTES:

The above inspection was characterized by close visual inspection of all readily-accessible building areas No building structures/materials were demolished to evaluate inaccessible areas. No exterior and/or roofline building areas were examined.

Task II. Operations & Maintenance Program - Review & Update

BEC has reviewed the Stutzman Slonaker – Asbestos Operations and Maintenance Program (O&M) documents and provides the results of site inspection and current condition of friable ACBMs.

All previously identified and known readily-accessible friable ACBMs have been removed from Stutzman Slonaker.

4.0 APPENDICES

APPENDIX A

SAI LABORATORY DATA



Bulk Asbestos Analysis

By Polarized Light Microscopy EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: Boggs Environmental Consultants, Inc. Attn: Shaun Boggs

Frederick, MD 21701

1 College Ave

Lab Order ID:

902257

Analysis ID:

902257PLM

Date Received:

3/23/2009

Date Reported:

3/25/2009

Project: Shepherd Reinspection Stutzman

Slonaker

Sample ID	Description	Asbestos		Fibrous	No	n-Fibrous	Attributes
Lab Sample ID	Lab Notes	Aspestos		Components	Co	mponents	Treatment
31809-1	4" OD Pipe Fitting	None Detected	55%	Mineral Wool	45%	Other	Gray Non Fibrous Homogeneous
902257PLM_1							Teased
31809-2	4" OD Pipe Fitting	None Detected	55%	Mineral Wool	45%	Other	Gray Non Fibrous Homogeneous
902257PLM_2							Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 1%.

Matt Thomas (2)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Page 1 of 1

Clent: Contact: Address: Phone: Fax: Email:	Boggs Environmental Shaun Boggs 1 College Avenue 301.694.5697 301.694.9799 sboggs Environmental.com	The Column TB: for your contact into To See an Example Click the hottom Example Teb Fritain summiss between "<< and ">>>	Scientific Analytical Institute, Inc. 302-L Pomona Dr. Graensborn, NC 27407
Project	Shepherd Reinspection	Segin Samples with a "<< "above the first semple and end with a ">>" below the last sample."	Phone: 336,292,3888
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4° OD Pipe Fitting
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4° OD Pipe Fitting

Sample Number << 31809-1 31809-2 3/20/2009

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Accepted A

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ASBESTOS INSPECTION BULK SAMPLING LOGSHEET

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APPENDIX B

STAFF QUALIFICATIONS

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

RICHARD ROBINSON

has met the attendance requirements and successfully completed

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4-Hr EPA AHERA Inspector Refresher1

For Accreditation Under TSCA Title II.

gail Tunas E. hart Banot Principal Instructor E. RUSH BARNETT Course Director DAVID TRUMAN Expiration Date Virginia Certification No. 10/9/2009 Exam Date Certification No. Course Date 10/9/2008

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WEST VIRGINIA

Asbestos Program

Richard Robinson

IS LICENSED AS AN

ASBESTOS INSPECTOR

Al005210 Issued:

License #

1/26/2009

Expires: 1/31/2010

Randy C. Curtis Dir., WV RTIA DIV

Office Fax (301) 694-5687 (301) 694-9799

Boggs Environmental Consultants, Inc.

363 High Street Morgantown, West Virginia 26505 Office Fax (304) 292-1095 (304) 292-2320

TURNER HALL CRAWLSPACE LAUNDRY ROOM/BASEMENT HALLWAY/STAIRWELL HALLWAY

ASBESTOS ABATEMENT WORKPLAN

SHEPHERD UNIVERSITY

Shepherdstown, West Virginia BEC Project # WV10023 June 22, 2010

SUMMARY OF WORK

The asbestos abatement project consists of removing TSI Pipe Fittings associated with 450 LF of Non-Asbestos containing Pipe Insulation in the crawlspace and TSI Pipe Fittings associated with 75 LF of Non-Asbestos containing Pipe Insulation in the Laundry Room/Basement Hallway/Stairwell Hallway of Turner Hall, Shepherd University, Shepherdstown, West Virginia. The asbestos-containing materials (ACM) abatement work shall be conducted within a regulated work area utilizing "adequately wet" removal methods via containment bag (glovebag).

Turner Hall

Work Area #1- Crawlspace

TSI Pipe Fittings associated with 450 LF of Non-Asbestos containing Pipe Insulation

Turner Hall

Work Area #2- Laundry Room/Basement Hallway/Stairwell Hallway
TSI Pipe Fittings associated with 75 LF of Non-Asbestos containing Pipe Insulation

GENERAL ASBESTOS ABATEMENT REQUIREMENTS

Containment Bag (Dust Control):

- Friable asbestos-containing TSI and pipe fittings are to undergo controlled removal via containment bag (glovebag), the TSI exist in the crawl space and in the laundry room and basement hallway of Turner Hall.
- Removal of asbestos-containing thermal pipe insulation and mudded elbow-fittings in Turner Hall and in are to be performed via glovebag containment. Dust control isolation containment will be maintained during the work. Local exhaust and ventilation system shall be sealed and locked out for duration of work. Dropcloths will be used for coverage of all objects within regulated areas.
- > Glovebag removal will be performed with no less than two (2) licensed asbestos workers per glove bag.
- > Smoke testing of the glove bags for leak detection.
- > Glove bag removal will be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- Upon completion of glovebag removal operations, each glove bag will be double bagged and sealed with duct tape.

- Preventing dust dispersion is the primary means of controlling the spread of asbestos within the glovebag enclosure.
- ➤ Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- > Bags or containers of waste will be moved to the waste holding area, washed, and wrapped in a bag with the appropriate labels.
- Disposal of regulated, friable ACM and non-friable ACM shall be in accordance with applicable US EPA, DOT, and State of West Virginia asbestos hazard control regulations.
- Abatement Contractor shall provide documentation for review and approval prior to conducting abatement actions the following:
- > Oversight by competent person, State of West Virginia licensed Asbestos Supervisor.
- Material Safety Data Sheets and Technical Data Sheets for all products, supplies, materials, etc. planned for use during the abatement project.
- Restrictive tape barriers shall be set up immediately upon mobilization to control access to work area. OSHA warning signs will be posted at perimeter of the work area.
- Provision of ground-fault circuit interrupters for electrical equipment to be utilized during the work.
- Furnish all supplies and equipment necessary to perform the asbestos removal and disposal operation in a manner consistent with this project design and applicable local, state, and federal regulations.
- Provide and maintain on site exposure assessment documentation (within 12 months) including data relating to prior similar jobs, as applied to the specific variables of the current job.
- > Supplies, Materials, Equipment & Manpower necessary to complete the abatement project in compliance with project completion schedule.

PERSONNEL HYGIENE PROCEDURES

Workers performing abatement operations shall utilize the following minimum personal protective equipment:

- ➤ Negative pressure, half-face respirator equipped with HEPA filter cartridges for use during the asbestos abatement is required. Full body disposable suits with boots/hood extensions, hard hats, safety boots, safety eye glasses, gloves
- Abatement workers and all other authorized regulated work area entrants shall utilize the two (2) stage decontamination unit to wet-clean body extremities and all equipment, respirators, etc. prior to change to street clothes at the building where work is being performed.

GENERAL WORK PRACTICES

Workers are to adhere to the following minimum required work practices:

- Thermal System Insulation removal operations shall be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- Preventing dust dispersion is the primary means of controlling the spread of asbestos within the regulated area. Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- Bags or containers of waste will be moved to the waste holding area, washed, wrapped in a clean second bag marked with appropriate labels and the open end "goose neck" sealed with resilient tape.

CLEANING THE WORK AREA

- Surfaces within the work area should be kept free of visible dust and debris to the extent feasible. Whenever visible dust appears on surfaces, the surfaces must be cleaned by wiping with a wet sponge, brush, or cloth and then vacuumed with a HEPA vacuum.
- All surfaces within the regulated area will be cleaned before it is disassembled and inspected by the owner's representative. An approved encapsulant must be sprayed onto areas after the visible dust has been removed.

AN AIR MONITORING PLAN

Owner's representative shall collect phase contrast microscopy (PCM) at baseline, during active abatement operations, and post abatement activities. BEC shall collect the minimum number of environmental air samples required for non-AHERA (school) asbestos abatement projects in accordance with Table 64-63B of the State of West Virginia asbestos rule. BEC shall collect the following number of air samples for the previously noted contained Work Areas as follows:

Table 64-63B

Work Area Size	Minimum Number of Required Samples
< 49 sq. ft.	0
50 - 160 sq. ft.	2
161 - 2,500 sq. ft.	3
2,501 - 5,000 sq. ft.	4
5,001 -10,000 sq. ft	5
>10,000 sq. ft.	Calculate *

^{*} Five (5) samples plus one (1) additional sample for each additional 5,000 square feet.

- > Air sampling equipment will be calibrated prior to and at the completion of sample collection.
- Air sampling shall be achieved via the use of high volume air sampling pumps. Air sampling pumps shall be located immediately adjacent to the work area at critical barriers, clean room of the decontamination unit, and interior facility areas remote to the abatement operations. Samples will be collected with a sufficient volume of air drawn through the cassette as prescribed by the appropriate analytical method.
- Abatement Contractor's competent person shall identify 25% of the work force and collect a representative number of OSHA required personal samples from the work force. Sampling shall also be conducted for the determination of exposure during the phases of work activities- pre-cleaning, set up, removal, and post cleaning activities.

PROJECT COMPLETION SCHEDULE

	<u>Begin</u>	Finish
Turner Hall Crawlspace	July 12, 2010	August 6, 2010
Turner Hall Laundry Room/		
Basement Hallway/Stairwell Hallway	July 12, 2010	August 6, 2010

DISPOSAL

Waste will be transported from the work areas via polyethylene carts to a lined and enclosed vehicle. All waste generated shall be disposed of in accordance with all local, State, and Federal regulations.

APPLICABLE REGULATIONS

Occupational Safety and Health Administration

1	29	CFR	1910

General Industry

> 29 CFR 1910.1001

Asbestos Standard for General Industry

> 29 CFR 1910.134

Respiratory Protection

> 29 CFR 1910.120

Hazardous Waste Operations and Emergency Response

> 29 CFR 1910.245

Specifications for Accident Prevention (Sign and Tags)

> 29 CFR 1926

Construction Industry

> 29 CFR 1926.1101

Construction Industry- Asbestos Standard

United States Environmental Protection Agency

40 CFR Part 261

Hazardous Waste regulations

> 40 CFR Part 61

NESHAP regulations

Department of Transportation

> 49 CFR Parts 171-180

Transportation of hazardous materials

State of West Virginia

Division of Health

> Tile 64, Series 63

Asbestos abatement licensing rule

In addition to any detailed requirements of the Work Plan, the Asbestos Abatement Contractor shall, at their own cost and expense, comply with all laws, ordinances, rules, and regulations of Federal, State, Regional, and Local Authorities regarding work area preparation, removal, handling, and disposal of asbestos containing materials.

This asbestos abatement project design document was prepared by:

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Richard C. Robinson

Project Manager

WV Asbestos Project Designer

(WV # AD002896-Expires February 28, 2011)

Date

June 22, 2010

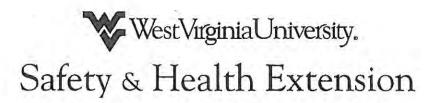
APPENDICES

Appendix A - USEPA\AHERA\WV Asbestos Project Designer

Appendix B - Asbestos Removal Work Area Location

APPENDIX A

USEPA AHERA WV ASBESTOS PROJECT DESIGNER



This is to certify that

Richard Robinson

has met the attendance requirements and successfully completed the

Asbestos Project Designer Refresher

As approved by the Environmental Protection Agency 8 Instructional Hours

Man D. Full- Course Director	February 4th, 2010 Examination Date
February 4th, 2010	5-0169
Course Date	Number
Morgantown, WV	February 4th, 2011
Location	Expiration Date

This course is West Virginia and EPA approved and meets the requirements of 40 CFR Part 763 AHERA for purposes of accreditation required under Toxic Substances Control Act (TSCA) Section 206.

Training provider:
Safety & Health Extension/West Virginia University
P.O. Box 6615, Morgantown, WV 26506-6615
Phone: 800-626-4748





WEST VIRGINIA

· Asbestos Program

Richard C. Robinson

License # Issued:

Expires:

AD002896

2/17/2010

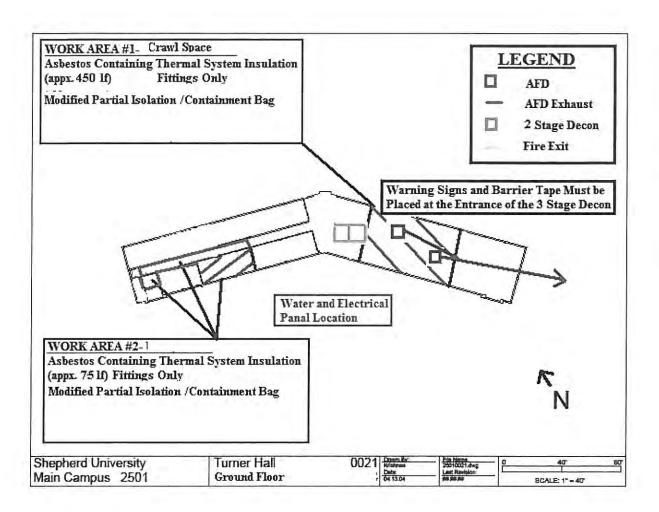
2/28/2011

IS LICENSED AS AN ASBESTOS PROJECT DESIGNER

Randy C. Curtis Dir., WV RTIA DIV

APPENDIX B

ASBESTOS REMOVAL WORK AREA LOCATION



BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 Office Fax (301) 694-5687 (301) 694-9799

363 High Street Morgantown, West Virginia 26505 Office Fax (304) 292-1095 (304) 292-2320

June 8, 2009

SHEPHERD UNIVERSITY
OFFICE OF FACILITIES MANAGEMENT
North King Street
Shepherdstown, West Virginia 25443
304.876.5055
dyanna@shepherd.edu

ATTENTION:

Dan Yanna,

Director of Facilities Management

REFERENCE:

Turner Hall (Mechanical Room, Janitor Closets, and Storage Closets) - Asbestos Abatement

BEC Project # WV09027

Mr. Yanna:

BOGGS ENVIRONMENTAL CONSULTANTS, INC. (BEC) performed Air Clearance Monitor duties in support of the asbestos abatement project completed in Turner Hall Mechanical Room, Janitor Closets, and Storage Closets, located at Shepherd University, Shepherdstown, West Virginia 25443 on May 14, 2009 through June 4, 2009.

The State of West Virginia, Department of Health and Human Resources (DHHR), Bureau for Public Health's "Asbestos Abatement Licensing Rule" (64 CSR 63) requires a written report to confirm or deny clearance of the contained work areas of an asbestos abatement project at the conclusion of the project ("Clearance Air Monitor Duties", §64-63-5.1.g).

Specifically, §64-63-5.2 requires the written report include, at a minimum the following:

§64-63-5.2.a.	The name and signature of any individual who collected any air sample required by this rule;
§64-63-5.2.b	The locations indicated by drawings and a sample log where samples were collected;
§64-63-5.2.c	The date of collection;
§64-63-5.2.d.	The name and address of the laboratory which analyzed the samples;
§64-63-5.2.e.	The date of the analysis;
§64-63-5.2.f.	The results of the analysis;
§64-63-5.2.g.	The method of analysis;
§64-63-5.2.h.	The name and signature of the individual performing the analysis;
§64-63-5.2.i.	Proof that the laboratory meets the applicable requirements of this rule; and
§64-63-5.2.j.	Either a statement clearing the contained work areas for reoccupancy, or a statement denying clearance of the contained work areas, which shall contain an explanation for denying clearance

ASBESTOS ABATEMENT – SCOPE OF WORK

BEC observed and documented that Marcor Environmental (Marcor), a State of West Virginia (WV) licensed asbestos abatement contractor (#AC001097), utilized WV licensed asbestos abatement supervisors and asbestos abatement workers in the conduct of the asbestos abatement project.

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Turner Hall – Asbestos Abatement

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Work Area #1 Turner Hall Mechanical Equipment Room (Total Isolation Containment)

Marcor established regulated-access via Total Isolation asbestos abatement isolation containment. BEC observed the Total Isolation containment consisted, but was not necessarily limited to, the following: installation of critical isolation barriers at all openings (eg, through wall penetrations, access doors, windows, through-deck penetrations, etc.) to the abatement work area; temporary installation of alternative ventilation system consisting of staging portable cabinet-mounted air filtration devices (AFD) equipped with High Efficiency Particulate Air (HEPA) filters capable of moving large quantities of air; establishment and maintenance of negatively-pressurized abatement work areas (relative to building areas not included within the limits of the regulated-access abatement work areas); and construction of three-stage personnel decontamination unit, prior to removal of the asbestos-containing materials.

Pursuant to containment construction, Marcor removed friable asbestos-containing thermal system insulation (TSI) ensuring "adequately wet" conditions were maintained. Marcor Environmental conducted gross removal of the asbestos-containing TSI via hand tools (eg, utility knife, wire brush, etc.).

Subsequently, Marcor conducted cleaning of substrates (i.e., pipe runs, pipe fittings, etc.). BEC staff, Richard C. Robinson, performed visual inspections of the work area, which confirmed asbestos removal operations were complete and permitted Marcor to apply a micro-fiber encapsulating agent to the substrates.

Turner Hall Janitor Closets and Storage Rooms (Containment Bag)

Work Area #2 Ground Floor Janitor Closet
Work Area #5 Second Floor Janitor Closet
Work Area #1 Second Floor Janitor Closet
Work Area #11 Second Floor Storage Room

Marcor constructed a regulated-access Modified Partial Isolation (Dust Control) asbestos abatement isolation containment. BEC observed the Dust Control isolation containment construction features, included but were not necessarily limited to, temporary installation of critical (primary) isolation barriers at all openings (eg, windows, doors, HVAC ductwork diffusers/grilles, etc.) to the abatement work area, posting of US OSHA asbestos danger signs, placement of polyethylene sheeting dropcloths beneath asbestos-containing thermal system insulation (TSI) for protection of property and to facilitate cleanup, and construction of two-stage decontamination unit-contiguous to the abatement containment. Marcor performed gross removal of thermal system insulation via containment bag (glovebag) techniques.

Turner Hall Janitor Closets and Storage Closets (Modified Partial Isolation/Dust Control)

Work Area #3	First Floor Janitor Closet	Work Area #8	Third Floor Janitor Closet
Work Area #4	First Floor Janitor Closet	Work Area #9	Third Floor Storage Room
Work Area #5	Second Floor Janitor Closet	Work Area #10	Third Floor Janitor Closet
Work Area #6	Second Floor Storage Room	Work Area #11	Second Floor Storage Room
Work Area #7	Second Floor Janitor Closet	Work Area #12	Third Floor Storage Room

Marcor constructed a regulated-access Modified Partial Isolation (Dust Control) asbestos abatement isolation containment. BEC observed the Dust Control isolation containment construction features, included but were not necessarily limited to, temporary installation of critical (primary) isolation barriers at all openings (eg, windows, doors, HVAC ductwork diffusers/grilles, etc.) to the abatement work area, posting of US OSHA asbestos danger signs (29 CFR Part 1926.1101), temporary placement of secondary isolation barriers (polyethylene sheeting) for protection of property located within the work area and to facilitate cleanup, and construction of two-stage decontamination unit-contiguous to the abatement containment. Marcor performed gross removal of asbestos-containing vinyl floor tile (VFT) and associated mastic.

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Asbestos Abatement - General Procedures

The asbestos abatement work practices included ensuring "adequately wet" conditions were maintained, collection and packaging of asbestos waste as generated, temporary installation of an alternative ventilation system, and completion of fine cleaning activities, which resulted in no visible asbestos laden dusts, debris, and/or residues present at the abatement work areas. The location of asbestos abatement work areas were identified via posting Asbestos Danger Signs at each entrance to the work area and decontamination unit, in accordance with 29 CFR Part 1926.1101.

The alternate ventilation system consisted of shutdown and isolation of existing heating, ventilation, and air conditioning (HVAC) equipment. One (1) portable cabinet-mounted (AFD) air filtration device, an exhaust fan equipped with a High Efficiency Particulate Air (HEPA) filter, was temporarily installed within the work area and exhausted to the exterior by means of flexible duct. The HEPA filter used in the AFD is capable of removing 99.97 percent of particles at a length of 0.3 micrometers and safely permits exhaust of the asbestos abatement work area air to the ambient environment. The restriction of air inflow to the work area, in conjunction with the use of high volume HEPA filtered equipped air filtration devices, develops a differential in the static air pressure of the work area (negative pressure within the work zone) relative to areas outside of the Work Area. The negative pressurization of a regulated area, at which hazardous materials are handled (disturbed) is a standard engineering control utilized to confine contaminants to the regulated-access work area.

SCHEDULE OF ASBESTOS-CONTAINING MATERIALS

Turner Hall Mechanical Room - Work Area #1
Total Isolation Containment

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#1	Gross Removal of Asbestos Containing Thermal System Insulation	130 linear feet
#1	Gross Removal of Non Asbestos Containing Fiberglass Pipe Insulation	150 linear feet

Turner Hall Ground Floor Janitor Closet - Work Area #2 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#2	Containment Bag Removal Techniques: Asbestos Containing TSI	70 Linear feet

Turner Hall First Floor Janitor Closets - Work Areas #3 & #4 Modified Partial Isolation Containment (Dust Control)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity	
#3	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	
#4	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	

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Turner Hall Second Floor Janitor Closets & Storage Closet - Work Areas #5, #7, & #11

Modified Partial Isolation Containment (Dust Control) for VAT

Containment Bag (Glove bag) for TSI

Work Area	Asbestos-Containing Materials & Removal Method	Quantity	
#5	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	
#5	Containment Bag Removal Techniques: Asbestos Containing TSI	40 Linear feet	
#7	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	
#7	Containment Bag Removal Techniques: Asbestos Containing TSI	40 Linear feet	
#11	Gross Removal: Asbestos Containing VFT & associated Mastic	90 Square feet	
#11	Containment Bag Removal Techniques: Asbestos Containing TSI	1 Fitting	

Turner Hall Third Floor Janitor Closets & Storage Closet - Work Area #8, #9, & #10 Modified Partial Isolation Containment (Dust Control)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity	
#8	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	
#9	Gross Removal: Asbestos Containing VFT & associated Mastic	100 Square feet	
#10	Gross Removal: Asbestos Containing VFT & associated Mastic	80 Square feet	
#12	Gross Removal: Asbestos Containing VFT & associated Mastic	90 Square feet	

ASBESTOS ABATEMENT PROJECT SCHEDULE

The asbestos abatement project began on May 14, 2009 and was completed on June 4, 2009. BEC performed post-abatement work area visual inspection and clearance testing sample collection and analysis on May 14, 2009 through June 4, 2009.

ASBESTOS WASTE DISPOSAL

Marcor asbestos abatement supervisor, Cesear Guerra, stated a total of three hundred forty eight (348) waste bags were generated May 14, 2009 through June 4, 2009. BEC observed Marcor transferred asbestos waste, on a daily basis, to a temporary asbestos waste storage trailer staged in front of the Dining Hall, during the abatement project. BEC advises, based upon documentation submitted prior to the start date of the abatement project, temporary storage of asbestos waste (within the trailer) would occur until completion of the total abatement project, and would undergo shipment directly to a US EPA-permitted disposal facility. Mr. Guerra stated the asbestos waste bags will be shipped to the US EPA permitted landfill to undergo disposal (burial). However, BEC makes no references or representations regarding shipment of asbestos waste to the US EPA-permitted landfill, which may or may not have actually occurred in our absence. BEC recommends securing receipts of asbestos waste deliveries to the US EPA-permitted landfill, prior to final project closeout.

ABATEMENT WORKER PERSONAL PROTECTIVE EQUIPMENT (PPE)

Marcor conducted the asbestos removal project utilizing WV licensed asbestos abatement workers protected with half-face, negative-pressure demand, air purifying respirators (APR) equipped with high efficiency particulate air (HEPA) filter cartridges and full body disposable coveralls during the abatement work. Marcor utilized the two-stage and three-stage decontamination unit for personnel hygiene during the work.

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ASBESTOS ABATEMENT ENVIRONMENTAL AIR QUALITY TESTING

Baseline (Pre-Abatement) Environmental Air Quality

BEC staff Richard Robinson and Andrew Hanson collected pre-abatement air samples to identify baseline "Fibers-In-Air" (Fibers per cubic centimeter) concentrations at the proposed abatement work area locations and proximal building areas, prior to asbestos abatement contractor staging and/or beginning to work area preparation activities.

Mr. Robinson and Mr. Hanson collected pre-abatement air samples on May 12, 2009. Pursuant to air sample collection, Mr. Robinson and Mr. Hanson performed onsite analysis of the pre-abatement air samples via Phase Contrast Microscopy analysis in accordance with the National Institute for Occupational Safety and Health, Manual of Analytical Method #7400 (PCM- NIOSH #7400).

Mr. Robinson and Mr. Hanson have successfully completed the NIOSH training/education course "Airborne Asbestos Sampling and Evaluation Techniques" (NIOSH 582, equivalent) and are members of our analytical laboratory, which has successfully participated in the American Industrial Hygiene Association (AIHA) "Proficiency Analytical Testing" Program (AIHA #163201) on a quarterly basis since January 2002. The results of PCM- NIOSH #7400 analyses of the pre-abatement air samples are listed hereunder in **Table A - Asbestos Abatement Environmental Air Quality Testing.**

Air Quality Surveillance (Active Abatement)

Concurrent with active abatement operations, Mr. Robinson and Mr. Hanson collected environmental air samples to monitor air quality continuously during the abatement actions. Mr. Robinson and Mr. Hanson performed onsite PCM-NIOSH #7400 analysis of the active abatement environmental air samples to reveal Fibers per cubic centimeter (F/cc) concentrations. The PCM- NIOSH #7400 air quality surveillance analysis results are listed hereunder in **Table A** - **Asbestos Abatement Environmental Air Quality Testing.**

Clearance Criteria for Reoccupancy (Post Abatement) Environmental Air Quality

Abatement Work Area - Final Visual Inspections

Mr. Robinson conducted "final" visual inspections of the asbestos abatement work areas; upon notification from the asbestos abatement contractor the following tasks were completed, in their entirety: (a) gross-removal of vinyl floor tile and associated mastic and thermal system insulation, gross cleaning, fine cleaning of substrates, and application of an encapsulant agent to address (lock down) microscopic fibers potentially present at substrates.

Abatement Work Area – Final Visual Inspections Results

Mr. Robinson observed the asbestos abatement work areas were free of visible asbestos-containing debris, dusts, and/or residues and satisfactory environmental conditions existed for collection of environmental air samples.

POST ABATEMENT CLEARANCE CRITERIA TESTING

Post Abatement – Environmental Testing

Mr. Robinson collected post abatement environmental air quality samples at the completion of the asbestos abatement operation at the Turner Hall work areas. Pursuant to air sample collection, Mr. Robinson performed onsite analysis of the environmental air sample via Phase Contrast Microscopy (PCM) analysis; National Institute for Occupational Safety and Health (NIOSH) Manual of Analytical Method #7400.

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Post Abatement - Environmental Testing

Mr. Robinson has successfully completed the NIOSH training/education course "Airborne Asbestos Sampling and Evaluation Techniques" (NIOSH 582) and is a member of our analytical laboratory, which has successfully participated in the American Industrial Hygiene Association (AIHA) "Proficiency Analytical Testing" Program (AIHA #163201) on a quarterly basis since January 2002. Additionally, BEC possesses a valid WV license for analysis of environmental air samples (WV #LA 000091, expires 30 April 2010).

The results of PCM- NIOSH #7400 analyses ("Fibers-In-Air" concentrations) are listed hereunder in Table A- Air Quality Sampling Data.

TABLE A- AIR QUALITY SAMPLING DATA

Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
05/12/09	T5129-1	Ground Mechanical Room	Baseline	0.002
05/12/09	T5129-2	Ground Utility	Baseline	< 0.002
05/12/09	T5129-3	Room #127	Baseline	<0.002
05/12/09	T5129-4	Room #129	Baseline	0.002
05/12/09	T5129-5	Room #233	Baseline	0.007
05/12/09	T5129-6	Room #214	Baseline	<0.002
05/12/09	T5129-7	Room #200	Baseline	< 0.002
05/12/09	T5129-8	Room #333	Baseline	0.009
05/12/09	T5129-9	Room #314	Baseline	0.005
05/12/09	T5129-10	Room #300	Baseline	0.006
05/12/09	T5129-11	Box Blank	QA/QC	No Fibers Observed
05/14/09	T5149-1	Bottom of West Stairwell	Area Surveillance	0.002
05/14/09	T5149-2	Outside Decon	Area Surveillance	0.003
05/14/09	T5149-3	Adjacent Storage Room	Area Surveillance	< 0.002
05/14/09	T5149-4	Inside Clean Room	Area Surveillance	0.002
05/14/09	T5149-5	Box Blank	QA/QC	No Fibers Observed
05/14/09	T5149-6	Field Blank	QA/QC	No Fibers Observed
05/14/09	T5149-7	West Side of WA #1	Final Clearance	< 0.002
05/14/09	T5149-8	Center of WA #1	Final Clearance	< 0.002
05/14/09	T5149-9	East of WA #1	Final Clearance	< 0.002
05/18/09	T5189-1	Hallway WA #3	Area Surveillance	0.004
05/18/09	T5189-2	Behind Decon WA #3	Area Surveillance	0.003
05/18/09	T5189-3	Clean Room WA #3	Area Surveillance	0.001
05/18/09	T5189-4	Outside Decon WA #2	Area Surveillance	< 0.002

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Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
05/18/09	T5189-5	Stairwell WA #2	Area Surveillance	0.003
05/18/09	T5189-6	Hallway WA #5	Area Surveillance	0.001
05/18/09	T5189-7	Outside Decon WA #5	Area Surveillance	0.003
05/18/09	T5189-8	Clean Room WA #5	Area Surveillance	0.003
05/18/09	T5189-9	Hallway WA #8	Area Surveillance	0.001
05/18/09	T5189-10	AFD Exhaust WA #8	Area Surveillance	0.002
05/18/09	T5189-11	Clean Room WA #8	Area Surveillance	0.004
05/18/09	T5189-12	AFD Exhaust WA #6	Area Surveillance	< 0.002
05/18/09	T5189-13	Outside Decon WA #6	Area Surveillance	< 0.002
05/18/09	T5189-14	Inside WA #8	Final Clearance	< 0.002
05/18/09	T5189-15	Inside WA #8	Final Clearance	< 0.002
05/18/09	T5189-16	Inside WA #5	Final Clearance	< 0.002
05/18/09	T5189-17	Inside WA #5	Final Clearance	0.004
05/18/09	T5189-18	Outside Decon WA #9	Area Surveillance	0.005
05/18/09	T5189-19	AFD Exhaust WA #9	Area Surveillance	0.002
05/18/09	T5189-20	Inside WA #2	Final Clearance	< 0.002
05/18/09	T5189-21	Inside WA #2	Final Clearance	< 0.002
05/18/09	T5189-22	Hallway WA #3	Area Surveillance	< 0.002
05/18/09	T5189-23	Behind Decon WA #3	Area Surveillance	< 0.002
05/18/09	T5189-24	Clean Room WA #3	Area Surveillance	< 0.002
05/18/09	T5189-25	Box Blank	QA/QC	< 0.002
05/18/09	T5189-26	Field Blank	QA/QC	< 0.002
05/18/09	T5189-27	Box Blank	QA/QC	< 0.002
05/18/09	T5189-28	Inside WA #9	Final Clearance	0.004
05/18/09	T5189-29	Inside WA #9	Final Clearance	0.005
05/19/09	T5199-1	Inside WA #3	Final Clearance	< 0.002
05/19/09	T5199-2	Inside WA #3	Final Clearance	< 0.002
05/19/09	T5199-3	Inside WA #6	Final Clearance	0.006
05/19/09	T5199-4	Inside WA #6	Final Clearance	0.007
05/19/09	T5199-5	AFD Exhaust WA #10	Area Surveillance	0.005
05/19/09	T5199-6	Hallway WA #10	Area Surveillance	0.007
05/19/09	T5199-7	Clean Room WA #10	Area Surveillance	0.008
05/19/09	T5199-8	Clean Room WA #7	Area Surveillance	0.004

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Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
05/19/09	T5199-9	Hallway WA #7	Area Surveillance	0.003
05/19/09	T5199-10	AFD Exhaust WA #7	Area Surveillance	0.005
05/19/09	T5199-11	Hallway WA #4	Area Surveillance	0.002
05/19/09	T5199-12	AFD Exhaust WA #4	Area Surveillance	0.002
05/19/09	T5199-13	Clean Room WA #4	Area Surveillance	0.001
05/19/09	T5199-14	Inside WA #10	Final Clearance	0.005
05/19/09	T5199-15	Inside WA #10	Final Clearance	0.003
05/19/09	T5199-16	Inside WA #10	Final Clearance	0.007
05/19/09	T5199-17	Inside WA #10	Final Clearance	0.003
05/19/09	T5199-18	Inside WA #7	Final Clearance	0.004
05/19/09	T5199-19	Inside WA #7	Final Clearance	0.005
05/19/09	T5199-20	Box Blank	QA/QC	No Fibers Observed
05/19/09	T5199-21	Field Blank	QA/QC	No Fibers Observed
05/19/09	T5199-22	Media Blank	QA/QC	No Fibers Observed
06/03/09	T6309-1	Outside Decon WA #12	Area Surveillance	0.002
06/03/09	T6309-2	AFD Exhaust WA #12	Area Surveillance	0.003
06/03/09	T6309-3	Outside Decon WA #11	Area Surveillance	0.002
06/03/09	T6309-4	AFD Exhaust WA #11	Area Surveillance	0.004
06/03/09	T6309-5	2nd Floor Hallway	Area Surveillance	0.001
06/03/09	T6309-6	Box Blank	QA/QC	No Fibers Observed
06/03/09	T6309-7	Field Blank	QA/QC	No Fibers Observed
06/04/09	T6409-1	Inside WA #11	Final Clearance	0.003
06/04/09	T6409-2	Inside WA #11	Final Clearance	0.006
06/04/09	T6409-3	Inside WA #12	Final Clearance	0.003
06/04/09	T6409-4	Inside WA #12	Final Clearance	0.005
06/04/09	T6409-5	Box Blank	QA/QC	No Fibers Observed
06/04/09	T6409-6	Field Blank	QA/QC	No Fibers Observed

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POST ABATEMENT CLEARANCE CRITERIA TESTING - CONCLUSIONS

BEC concludes, based upon post abatement work area visual inspections and review of laboratory analytical data, all surfaces in the work area were free of visible asbestos residue and the measured airborne concentration of fibers greater than five microns was less than one hundredth (0.01) fiber per cubic centimeter as analyzed via PCM- NIOSH #7400 for each of the environmental air samples collected on May 14, 2009 through June 4, 2009.

Therefore, BEC concludes, in consideration of clearance criteria established by the WV CSR Title 64 Series 63, unrestricted access and re-occupancy of the former asbestos abatement work areas was granted. Accordingly, Marcor personnel completed demobilization of materials, supplies, equipment and critical isolation barriers on June 4, 2009.

Should you have any questions, please contact our office at your earliest convenience.

Sincerely,

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Technical Report Written By:

Richard Robinson Project Manager

State of West Virginia Asbestos Air Clearance Monitor (#AA001662)

Technical Report Reviewed By:

Shaun M Boggs,

Vice President

Appendices

Appendix A BEC Field Documentation

Appendix B BEC Staff Certification

Appendix C BEC WV Laboratory License

Appendix D BEC Certificate of Analysis

APPENDIX A

BEC FIELD DOCUMENTATION

Asbestos Abatement Daily Log Sheet Cover Page

	WEATHER CONDITIONS	
Time Temperature	Conditions	Precipitation
800 AM 55°	Light Rain	Ves
400 PM SS	Light Rain	Yes
ABATEMENT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isolation	✓ Yes □ No	☐ Full Body Coveralls
Mod – Partial Isolation	Exhaust to Exterior	☐ Light Weight ☐ Poly
☐ Containment Bag (Glovebag)	# Of AFDs/	☐ Head/Foot Covers ☐Gloves
☐ Mini – Containment	per WA	☐ Hard Hat ☐ Eye Protection
☑ NESHAP □ NON – NESHAP		☐ Full Face Shield
QtySquare Feet	CLEARANCE TYPE:	□ Boots
QtyLinear Feet	□ тем	
QtyCubic Feet	PCM	
☐ 3 Stage Decon ☐ 2 Stage Decon		
RESPIRATORS:		
Half – Face APR (Type A)	# Supervisors	Work Area #
☐ Full – Face APR (Type A)	# Abatement Workers <u>5</u>	Building #
☐ Full – Face PAPR (Type B)		Room #
☐ SCBA (Type C)		Floor #
☐ Supplied Air (Type C)		
	SUMMARY OF WORK PERFORMED	
Final's only on	WA# 11 + #12	
That only on		
120 bags of wast	e	
The state of the s		

BOGGS ENVIRONMENTAL CONSULTANTS DAILY OBSERVATION LOGSHEET Date: Project Location: Turner Hall BEC Onsite IH: Project Manager: _ RR WVOGOZZ BEC Project No: Abatement Contractor License #: Accolog7 Abatement Contractor Marcgr PR setsup box for + 2 pumps + agitalis RR Into PPE+ Into WALII Pumps turned on + PR out of containment RR into PPE + into WAHID. Re setsup box fan + 2 pumps + agitales Rumps turned on front of WA#12 ER into PPE + into INAHII Pumps turned off them RR out of WAX !! Plintorms CG all areas are clear x they can tear down 1115 1200 530

SHEET_	/ OF	1		
		01	1	
Industrial	Hygienist:	KK	V.	

Date: 6/4/09

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	ront
	Envi
C	igs I
BI	Bog

Turner Hall Project Site:

WVOGOLZ BEC Project #:

6.4.09 FlowRate Calibration Rotometer Dwyer Precision Other

Analyzed by/Organization_RR | BEC Date Analyzed: (4/00

AIR SAMPLING LOG

Date Collected: 6.4.09

SAMPLE INFORMATION

Sample Loutin Sample Description Pre Part Average Brein End Tout Inc Inc	Sample Description Pre Post Average Beptin End Total Total Volume (L)	MPLE	MPLE INFORMATION			Flow Rate			Sampling Period	po		
Final Clearance 10 10 740 940 130 1300 10 10 740 940 130 1300 1300 10 10 10 740 940 130 1300 00 10 10 740 940 130 1300 00 10 10 740 940 130 1300 00 10 10 751 951 130 1300 00 10 10 751 951 130 1300 00 10 10 751 951 130 1300 00 10 10 751 951 130 1300 00 10 10 751 951 130 1300 00 10 10 10 751 951 130 1300	Final Clearance 10 10 740 940 130 1300 10 10 740 940 130 1300 1300 10 10 10 740 940 130 1300 209/20		Samula I goation	Sample Description	1	rers Per Minute		Begin	End	Total	Total	Results
Final Clearance 10 10 10 10 10 10 10 120 130 1	### Clearance 10 10 10 740 130 1300 1300 1300 1300 1300 1300 130	Tumber	cample possible							Minutes	volume (b.)	
10 10 140 940 130 1300 1300 1300 1300 1300 1300 130	10 10 120 130 1360	100	アント ハガボリ		21	0	10	740	940	190	1200	0.003
24/QC	204/QC	1-3020	LASIDE (JAH.)		10	01	01	340	940	120	isoc	0.000
204/ac	204/ac	400-50 H	Inside WH#11		27	10	0]	751	156	120	1900	0.003
QA/QC	QA/QC	406.3	Inside Little		7.	2	01	751	196	130	1200	300.0
WH/ QC	ωμ/ως ωμ/ως 	469-4	Inside Wirls			2 ,	,	1	1	1	1	NFC
QA/QC	ωρ/ως.	9-6049	Box Blank	WH/QC				1)	1	,	2010
		2-500	Field Blank	QA/QC	1	(1					
		9										
		1										
		1										
						1	1					
												-

COMMENTS

BEC		10	
BOGGS ENVIRON	MENTAL CONSULTANT	S, INC.	
Date:	6/4/09	_	
BEC Onsite IH:	RR	Project Location:	Turner Hall

WV09027

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Project Manager:

Abatement Contractor License #: Acoclog7

	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5											Г										Г				
10																П									
15					\neg						r					Н				Н	H				
20								П			H					Н				\dashv	H				
25				П	٦	Н										H				Н	H				r
30					\dashv	Н				H	-					H				Н	F				Г
35					٦			Н			H									Н	H	Н			-
40	Н				\dashv	H					H				H	H				Н	H				H
45	Н		7		٦		Н				-					H				Н	H				-
50	Н				٦	Н					H					H			-	Н	H			H	H
55	H		1		٦	Н				٦	H					\vdash				Н	H				1
60			7			Н					H				Н					Н	H				H
65	H		1		1	H				٦	H				Н	H				Н	H			H	r
70	Н		1		٦	Н				-					H	H				Н	H				H
75	H	1	7		٦	Н				\dashv	-				Н	H				Н	H				H
80	H	1	1	1	٦	Н				٦	H				H				-	Н	H				H
85	H	+	7	1	٦					٦	-				Н					Н	-				H
90	H	+	+	1	٦	H				\forall				-	-	-	-		-	H	-	-	-	-	+
95	H	+	+	+	\dashv	H				\dashv				-	\vdash					H	-	-			H
100	H	+	+	+	4	H				-	-				H	-		-		Н	-	-	-		H

Sample Number:	T6409-1	T646a-2	T6469.3	T6409-4	T6409-5	T6409-6
Volume (L):	1200	1200	1200	1200	0	0
Fibers:	8	15	9	14	O	0
Blank Count:	0	0	0	0	0	0
Total Fibers:	8	15	9	14	0	0
L.O.Q:	70.01	70.01	70.01	70.01	70.01	70.01
Fibers/CC:	0.003	0.006	0.003	0.005	_	

Field Area: 0.00785

BEC Project No:

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 67 NiosH 36

Phase Contrast Microscopy Analyst: R

Boggs Environmental Consultants, Inc.	
Project/Address: Turner Hall	Sheet #
Room/Apartment #:	Dota () C
Project No. WV09012	By P. A. Checked
Layout 15 same for WAH 11+12 SUBJECT SITE, WORK AREA SKETCH	
14 of - 5 ob 2	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
200	
1 0 T6 409-3	

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

FINAL INSPECTION FORM

Project Site:	Turner Hall	Date: 6/4/09
BEC Project #:	WV090Z7	Client: Sleplerd
Abatement Contra	ctor: Marker	Abatement Contractor License: ACOO1097

	Yes	No	N/A	
1.	()	()	W	HVAC locked off or blanked?
2.	()	()	"X	HVAC filters changed?
3.	S	()	()	Decontamination facility in place?
4.	W	()	()	Negative air machines functional?
5.	15	()	()	Critical containment barriers sound?
6.	W	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	X	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	X	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	85	()	()	Have substrate surfaces been treated with a sealant?
10.	1	()	()	No visible dust in work area?
1.	()	ST	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	()	X	()	Are negative air machines shut off during post testing?

COMMENTS:	WA# 11	+ WAHIZ	 1	

Industrial Hygienist Signature

6/4/09 Date BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page BEC Onsite Enviro. Tech: Garrett Kehler and RR BEC Project No: WY09027 Project Location: TWINEY HOLL Project Manager: _ Client: Abatement Contractor: WEATHER CONDITIONS Conditions Temperature Precipitation Time west numid, stight breeze No Sunnu WORKER PPE **ABATEMENT:** ☑ Full Body Coveralls ☐ Total Isolation Xes □ No Mod - Partial Isolation Exhaust to Exterior ☐ Light Weight ☐ Poly ☐ Containment Bag (Glovebag) # Of AFDs ☑ Head/Foot Covers ☑Gloves per work area ☐ Hard Hat ☐ Eye Protection ☐ Mini – Containment □ NESHAP □ NON – NESHAP ☐ Full Face Shield D Boots Qty____Square Feet **CLEARANCE TYPE:** Qty___Linear Feet ☐ TEM D PCM Cubic Feet Otv ☐ 3 Stage Decon ☐ 2 Stage Decon RESPIRATORS: Work Area # 11 and 12 ☑ Half – Face APR (Type A) # Supervisors Building # Turner Ma 1 # Abatement Workers -☐ Full – Face APR (Type A) Room # _____ ☐ Full – Face PAPR (Type B) Floor # _____ ☐ SCBA (Type C) ☐ Supplied Air (Type C) SUMMARY OF WORK PERFORMED Marcot Abated work areas [1 WA# 11

BOGGS ENVIRONMENTAL CONSULTANTS

DAILY OBSERVATION LOGSHEET Date: Project Location: TWNEY / 1911 Garrett Kehler and RR BEC Onsite IH: WVP9027 Project Manager: RR BEC Project No: Abatement Contractor License #: Acoo 1097 Marcor **Abatement Contractor** 0 9:10 Garrett Kehler meets Ricky Robinson onsite at thinkeritall with four air sampling pumps for work areas 11 and 12. TWO PCM air sampling pumps are turned and 10 1/m for work area #12 3 PCM air sampling pumps at work area #11 and has been completed with 5 bags of worte temoved WA#I2 good Marcor to encapsulate 220 timistes abatement in WA# 11. RR into PRE + into containment good marcor to encapsulate. Industrial Hygienist: DLRC Date: 6/3/09

BI

Boggs Environmental Consultants, Inc.

6/3/09

WV09027-

Project

Project Location:

Project Manager:

AIR SAMPLING LOG

Turner Havi RR Acool697

Abatement Contractor MQ/CO/ Abatem FlowRate Calibration (Rotometer, Dwyer Precision, Other): RoyMC/C/

BEC Project No:

BEC Onsite IH:

Date:

Carrett Kehler and R.R.

Abatement Contractor License #:

Date Analyzed: 6/3/09

Calibration Test Performed (Technician/Date):

Garretr Kehler 6/3/09

Page: 1 of

SAMPLE INFORMATION

TO A MARIE						-				
				Flow Rate		Š	Sampling Period	d		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total	Total Volume (L)	Results f/cc
1/2/00 - 1	A A MAN MOND OF 12 AND	Aza Survillen	0	0	.01	08.6	11,55 145		1450	6.00.0
162001	TANOGIA AM DESCRIPTION OF THE STATE OF THE S		2	S	10	05.6	11.55	ShI	0.541	0.003
1000a or	C LINE DECON NA HIE		7	7	h	75,01	450	456 385	1540 0.00 A	6.00%
10007			7	7	ナ	loias	450	450 3885	1546 0.004	O.coy
100011	102021 TAT TATO 1001 NAT	1	7	2	2	10:35	450	10:25 yro 385	1546 0.001	0.001
C. recol	ALLO PINO PINO									

Name Rep R

COMMENTS

Date: 6/3/09

NEC

Q4/QC

Q4/QC

Field Blank

T6309-7

Box Blank

2309-6

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

WV09027

Project Manager:

Abatement Contractor

Marcor

Abatement Contractor License #: Acocio92

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
5														17	П					П					
10						П																			
15					٦	П														П					
20	П				٦	П				T	П									H					
25	П				1	H				٦						Н				Н	Н				
30	Н				٦	Н				\exists										H					
35	Н	7	1		٦	H		\exists	1						H					Н					-
40	H	7	1	\forall	٦	H				٦	Н				\dashv	Н				Н					
45	H	7	1	1	٦	Н	1		\dashv	\dashv	H				\dashv	Н				\dashv	H				
50	H	1	1	1	1	H	1	\dashv	1	٦					\dashv	Н				H					-
55	H	1	1	1	٦	Н	1	1	\dashv	٦			1		\dashv					-					f.
60	H	+	1	1	1		1	1	\dashv	\dashv	H	-	1		Н	Н				H					-
65	H	+	+	1	1	+	1	1	1	٦		+	1	٦	\dashv					Н	H				
70	H	+	+	+	1	+	+	1	1	\dashv	H	1	\dashv		\dashv					Н			- 4		-
75	H	+	+	+	1	+	+	1	+	٦	Н	+	\dashv	\dashv	\dashv	Н				Н	Н		-		-
80	H	+	+	+	╢	+	+	+	+	٦	\forall	\dashv	1	\dashv	\dashv		-		-	\dashv	Н				-
85	H	+	+	+	╢	+	+	+	+	\dashv	Н	-	1	+	\dashv		+	-	\dashv	Н	-	-			-
90	H	+	+	+	1	+	+	+	+	\dashv	-	+	1	+	\dashv		-	-	+	\dashv	H		-	-	-
95	H	+	+	+	╢	+	+	+	+	\dashv	\dashv	\dashv	+	+	\dashv	+	+	\dashv	\dashv	\dashv	H		-	-	_
100	+	+	+	+	╢	+	+	+	+	1	+	1	1	+	1			-	+	-	Н			-	

Sample Number:	T6309-1	T6302-2	T6302-3	T6309-4	T6309-5	76309-6	T6309-7
Volume (L):	1450	1450	1540	1540	1540	-	
Fibers:	8	Q	7	13	G	0	-
Blank Count:	O	O	Ö	0	0	0	0
Total Fibers:	8	9	7	13	(0	0	0
L.O.Q:	70.01	70.01	70.01	70.01	70,01	20.01	50
Fibers/CC:	0.002	0.003	0,002	0.004	0.001		20.01

Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area) Field Area x Volume X 1000

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume

NIOSH 582 Certification: 07 NIOSH 30

Phase Contrast Microscopy Analyst: Dl Dl

Boggs Environmental Consultants, Inc.	
Project/Address: Turner Hall woth 11 412	Sheet # / / # Jeet R
Room/Apartment #:	Date 6/3/09
Project No. MU09027	
WOLK areas # (1 and #12 were identical subject site, work area sketch	
1-897-	
	-
(HO 3004 D)	
(+6300-21	
K.	
283	

BOGGS ENVIRONMENTAL CONSULTANTS

Hot/Cold Water Sufficient Pressure Soap & Towels

Used By All Personnel Exiting Containment

Daily Work Area Checklist Page | of | PROJECT INFORMATION Gartett Kehler and RR Project Location: TUNNEY [1911 BEC Onsite IH: 1100027 BEC Project No: Project Manager: Abatement Contractor License #: Accolo でそ arcor Abatement Contractor WORK AREA CONTAINMENT YES NO Floor Covered Walls Covered Facility Power Shut Down Area Ventilation Sealed and Off Penetrations, Holes, Cracks, etc. Sealed D/Con Chamber Sufficient HEPA EQUIPPED AIR FILTRATION DEVICES NO Negative Pressure (-w.c. inches 0.03 to 0.05) Negative Pressure Constant SIGNS/OSHA REQUIRED DOCUMENTS POSTED NO Work Area Entrance Signs Regulated Area Signs **OSHA** Documents Bagged Waste/Drums Labeled WORK PRACTICES NO YES Work Area Wetted Sufficiently NO Smoking, Chewing Tobacco, Eating HEPA Vacuum In Use Work Area Cleaned Sufficiently At End Of Shift Bagged Waste/Drums Decontaminated Before Load Out All Bagged Waste/Drums Removed At End Of Shift PERSONAL PROTECTIVE EQUIPMENT YES NO Disposable Clothing Provided & Used Only Once NIOSH Approved PAPR's & Cartridges Hard Hat **SHOWERS** YES

BOGGS ENVIRONMENTAL CONSULTANTS

PRE-SEALANT CHECKLIST

1.	INDUST	RIAL HYG		Garrett kehi	
2.		YÆS	140	N/A	
3.		K	()	2.2	Are critical barriers in place and secure?
containing material? 4.	2.	X	Ω		Are negative air systems being maintained?
4. XY () () Has all waste been removed building to a lockable dumpster? 5. Y () () Has the contractor requested (in possible) an inspection? 6. Y () () Are workers fully protected asbestos exposure? 7. Y () () Is the decontamination unit in p functional? 8. Y () () Is there sufficient protection of building systems against overspray 9. Y () () Is the proper encapsulating age utilized in conformance we specifications? COMMENTS: I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been pring an acceptable manner and meets the requirements of the technical specifications. A A A A A A A A A A A A A A A A A A A	J.	XI	()	()	
5.	4.	K	()	()	Has all waste been removed from the
possible) an inspection? Are workers fully protected asbestos exposure? 7.	_			14.	
6.	5.	S	()	()	그는 그리고 살아가 하는 이번 사람들이 되는 것이다. 그리고 살아내는 그리고 살아내는 그리고 살아내는 그 것이다.
asbestos exposure? 7.	6.	· W	()	0	
functional? Is there sufficient protection of building systems against overspray of the proper encapsulating age utilized in conformance we specifications? COMMENTS: I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been pring in an acceptable manner and meets the requirements of the technical specifications. All All All All All All All All All Al		1	.,	W	그는 그리는 어떤 경기를 가는 것을 하면 하고 있어요? 그리는 그림을 하지겠다는 그는 그래에게 하지 때 그리고 있다. 그리고 그래요?
8.	7.	W	()	()	Is the decontamination unit in place and
building systems against overspray ls the proper encapsulating age utilized in conformance w specifications? COMMENTS: I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been p in an acceptable manner and meets the requirements of the technical specifications. All All 6/3/06	0	IV	//	4	
9. () () Is the proper encapsulating age utilized in conformance we specifications? COMMENTS: I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been pring an acceptable manner and meets the requirements of the technical specifications. All All All All All All All All All Al	0.	1	()	()	
utilized in conformance we specifications? COMMENTS: I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been pring in an acceptable manner and meets the requirements of the technical specifications. Al A	9.	H	()	()	Is the proper encapsulating agent being
I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been pring in an acceptable manner and meets the requirements of the technical specifications.					
I have inspected the removal zone and found it acceptable to being sealing of surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.					specifications?
surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.	COMME	NTS:			
surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.					
surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.					
surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.					
surfaces. The work area is free of all visible dust and debris and all work has been printed in an acceptable manner and meets the requirements of the technical specifications.	I have in	onacted to	h	6-	and it assemble to being position of substrate
in an acceptable manner and meets the requirements of the technical specifications. 6/3/06					마리크 전문 전문 등 전자 본 경기 (1) 1 (1) 1 (1) 1 (2) 1 (2) 1 (2) 1 (2) 1 (2) 1 (3)
PLAM 6/3/00			the state of the s		
Industrial Hygienist Signature Date of 3 / 0 4	01	11	,		/
Industrial Hygienist Signature Date of Sloger Signature	p C	for t			6/3/09
About 6/3/09	Industr	ial Hygienis	st Signature		Date
CARROLLE CO. C.	1	1			6/3/09
Contractor Supervisor Day	Con	tractor Sur	pervisor	-	Date

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page

DATE: _\$ -17 - 07		
BEC Onsite Enviro. Tech: RR BEC Project No:	Project Location: Torner Project Manager: RR	Hall
	Client: Sheehard W	
	WEATHER CONDITIONS	
Time Temperature	Conditions	Precipitation
O AM 60°F	Sunny	4
ABATEMENT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isolation	☐ Yes ☒ No	Full Body Coveralls
Mod – Partial Isolation	Æ Exhaust to Exterior	Light Weight Poly
Containment Bag (Glovebag)	# Of AFDs	☐ Head/Foot Covers ☐ Gloves
☐ Mini – Containment		☐ Hard Hat ☐ Eye Protection
□ NESHAP □ NON – NESHA	AP	☐ Full Face Shield
QtySquare Feet	CLEARANCE TYPE:	Z -Boots
QtyLinear Feet	□ TEM	
QtyCubic Feet	₽ PCM	
☐ 3 Stage Decon ☐ 2 Stage De	econ	
RESPIRATORS:		
Half - Face APR (Type A)	# Supervisors	Work Area #
☐ Full – Face APR (Type A)	# Abatement Workers	Building # Turker
☐ Full – Face PAPR (Type B)		Room #
☐ SCBA (Type C)		Floor #
☐ Supplied Air (Type C)		
	SUMMARY OF WORK PERFORMED	
Marcal abated	WA# 4, 7,10	
Finals on 3,4,6,	7+10	
Turner Complete		
62 bags of wers	te	

BOGGS ENVIRONMENTAL CONSULTANTS

Industrial Hygienist: De DC

DAILY OBSERVATION LOGSHEET

Date:		7-19-09	
BEC On	site IH:	RR + AH	Project Location: Turner Hall
BEC Pro	oject No:	WV 0902 7	Project Manager: ZR
Abateme	ent Contractor	Marcor	Abatement Contractor License #: AC DO 1097
0645	BEC sta	ff Richard Robinson	RRY Andrew Hangon (AH) arrive onsite end
	meet wit	L Marcor Supervicor	Cezar Gurerra to discuss the scope of
	work wh	sich will be to	conduct the completion of the
	abatemen	+ work great in 7	turner Hall and Gogin the schop of
	continue	nt Work areas in	~ Gardner Hall.
0710			pumps for WA'S # 3+6
0715	All pumps o		
0840	Marcor 1	begins to remove in	wa's 47 + 10
910		JA#3 + stops pump	
912		containment	
914			AH out of confinent
1010			410 Visual good RR sets up 2 pumps
1000		afte agitation wir	
1235		E + Into WAH 10	WITH THESE.
1240		egged Rhout at conte	- Innet
1301	Marcus neg	note illinal on 42A#	7. RR into PRE + Into containment. Visual
1001		ht coat of encapsi	
13:20	9/401 204	Latina Ely 1276 Polares	er setsup + turns on tinal clearance
1000	Suprado	<	CIC Seisop & Will on They cit
1302	Sangle	of containment	
1325	Marcoc 10	CINCT MENT OF 124	1# 9. AR into PFE + into containment. Visual
1000		arcor lightly applies e	
1345	4.44	area manty appres e	The RR sitsy + turns samples or RR out conta
NOTE	Tadais	porkers remain same	CL 5-18-00
1549	00 ist 1	A#7 1	a silah (ca lat
		A#7 to Stop pump	S r Collect samples
1520		ontainment	1. H. h. also
104	RR Into	WA# to stop pumps	+ Collect samples
1546	Alla	centainment	1 1 To a Hall All acquired
1600	/	s read low Merce	finished in Turner Hall. All equipment
1700	moved	Marian a 1 1 T	(at Hall
1700	DEC +1	Marcor out of Tu	V/UV [[G]]

ENVIRONMENTAL SCIENCE & INDUSTRIAL HYGIENE SERVICES

Boggs Environmental Consultants

Torner Hall WV09027 BEC Project #:

Project Site:

FlowRate Calibration: Rotometer, Dwyer Precision Other Roberts

Calibration Test Performed (Technician/Date): And Items serves 5-19-07

AIR SAMPLING LOG

Sampled by/Organization Ricky, Rosnessoco

SEC Analyzed by/Organization_RR Date Collected : 5-18-02

5-18-03 Date Analyzed:

SAN

FINDIE	TINEORMATION									
O THINK P				Flow Rate		oö .	Sampling Period	70		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total Minutes	Total Volume (L)	Results f/cc
Number	6	13 1 3	4	9	0,	1160	116	130	1200	200.07
1-66151	inside 614# 5	tinal licerance	2 3	01	0,	1140	411	120	0001	46.002
1.5199.2	J		3 3	Ç	5	0715	915	130	1200	900.0
TS 199-3	inside WA= 6	Final Measures		2	ō	5140	915	130	1300	D.003
TS1924	*		5 0	9	ō	080	0201	3	1400	0,00
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T5199-13	75199-13 Decon Clay Roon Well	9	2	0						
THE STATE OF THE S	***************************************									

COMMENTS

Boggs Environmental Consultants, Inc.

AIR SAMPLING LOG

5-19-08 BEC Onsite IH:

Date:

RR+AH £206017

BEC Project No:

Project Location: Project Manager:

Turner Hall

AC 001097

FlowRate Calibration (Rotometer, Dwyer Precision, Other): Robour because Abatement Contractor

Marcor

Abatement Contractor License #:

Date Analyzed: 5-19-09

Calibration Test Performed (Technician/Date):

thek Hanson

Page:

1 of

SAMPLE INFORMATION

Y						The second second				
SAMI LE III	SAMILE IN CAMERA		1.45	Flow Rate		S	Sampling Period	q		
			1	The state of the s	Arrena	Barin	Fnd	Total	Total	Results
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75199-30

(Field)

(Box

TS199-22

16-6615

שעע

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5-19-09

BEC Onsite IH:

RR - 414

Project Location:

Turner Hall

BEC Project No:

Project Manager:

RR

Abatement Contractor

Abatement Contractor License #: Acoo 10 97

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

1		1	21,	L			21	-	-			2	2	4	-		2	-		-		2	2	-	5
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Volume (L):			200				20				ľ		0					0			1	14	0		
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Fibers/CC:		<	0.0	00		15	0	.0	0	2	(0.0	0	6). 0	00	7			0-	00	5	

Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area) Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: OF WIOSH 36

שעע

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5-19-69

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

Project Manager:

RR

Abatement Contractor

Abatement Contractor License #: 400 1097

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

2.792/Volume

*Mandatory 5.5 Fibers or Less Than Value

Phase Contrast Microscopy Analyst:

NIOSH 582 Certification: 07-NIOSH 30

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5119-09

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

Project Manager:

Abatement Contractor

Abatement Contractor License #: A(001097

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

1.3				_	_	_			_	_				_		_		_	_							
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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection = Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value

NIOSH 582 Certification: 07-NIOSH 30

LLU

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5-19-09

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

Project Manager:

Abatement Contractor

Abatement Contractor License #: 400 1097

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

1		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Phase Contrast Microscopy Analyst: ALDL

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume NIOSH 582 Certification: 07-NIOSH 30

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5-19-09

BEC Onsite IH:

Project Location:

turnerHell

BEC Project No:

124.09027

Project Manager:

Abatement Contractor

Abatement Contractor License #: ACOOIOS7

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

		1	2	3	4	5 1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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	40	H	+	+	+	1	-			Ц	L					-		_	_	Ц	_	_	_		L
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Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst;

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value

NIOSH 582 Certification: 07 Nios 4 30

Boggs Environmental Consultants, Inc.

Date: 5-19-09

BEC Onsite IH: RR > AH

BEC Project No: WOOR 627

Abatement Contractor: Marcon

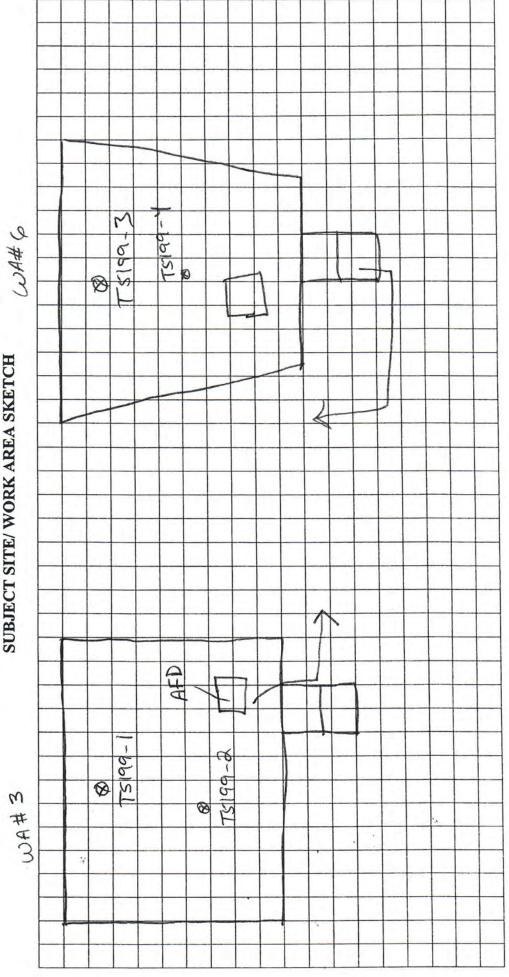
Project Location: Torner Hall

Project Manager: RR

Abatement Contractor License #: Acos 18-7

SUBJECT SITE/ WORK AREA SKETCH

WA# 6



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7	al Consultants, Inc.
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Date: 5-19-09

BEC Onsite IH: RR + A14

BEC Project No: 60 09027

Abatement Contractor: Marcor

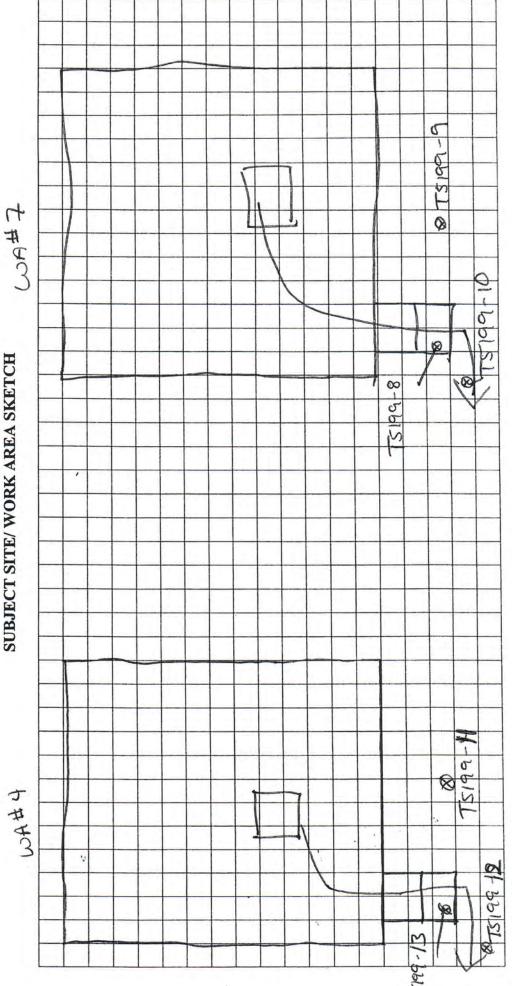
Project Location: Turne 1411

Project Manager: RR

Abatement Contractor License #: 41001097

SUBJECT SITE/ WORK AREA SKETCH

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Date: 5-19-09

BEC Onsite IH: RR+ AH

BEC Project No: WVOGOZ 7

Abatement Contractor: Maccor

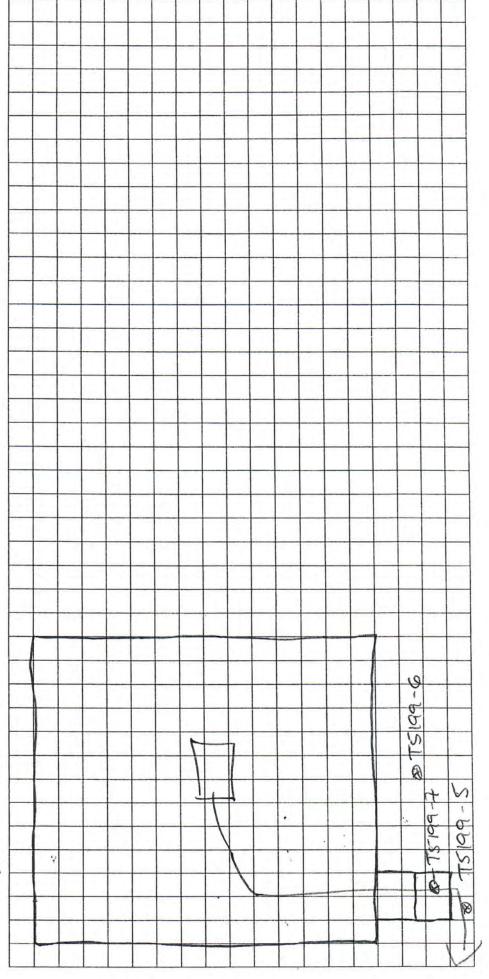
Project Location: Turner Hall

Project Manager: RR

Abatement Contractor License #: Acog to A

101#HW

SUBJECT SITE/ WORK AREA SKETCH



BOGGS ENVIRONMENTAL CONSULTANTS

Daily Work Area Checklist

WA #4

DATE: 5-19-09

PROJECT INF	ORMATION		Page _	of	<u> </u>	
BEC Onsite I	H: $RR + AH$	Project Location:	Turner	Hall		_
BEC Project	No: 2000 UCL 7	Project Manager:	RR			_
Abatement Co	ontractor Marcor	Abatement Contra	ctor License #:	AC OC	1097	_
WORK ARE	EA CONTAINMENT			YES	NO	
	Floor Covered				X	
	Walls Covered			X	7	
	Facility Power Shut Down				X	
	Area Ventilation Sealed and Off			X	1	
	Penetrations, Holes, Cracks, etc. Sealed			X		
	D/Con Chamber Sufficient			X		
HEPA EQUI	PPED AIR FILTRATION DEVICES			YES	NO	NA
1	Negative Pressure (-w.c. inches 0.03 to 0.05)					X
1	Negative Pressure Constant			X		
SIGNS/OSH	A REQUIRED DOCUMENTS POSTED			YES	NO	
,	Work Area Entrance Signs			×		
	Regulated Area Signs			X		
- 3	OSHA Documents			L		
	Bagged Waste/Drums Labeled			X		
WORK PRA	CTICES			YES	NO	
	Work Area Wetted Sufficiently			X		
	NO Smoking, Chewing Tobacco, Eating			X		
	HEPA Vacuum In Use			X		
4.3	Work Area Cleaned Sufficiently At End Of Shift			X		
	Bagged Waste/Drums Decontaminated Before Load Ou	t.		X		
	All Bagged Waste/Drums Removed At End Of Shift			X	_	
PERSONAL	PROTECTIVE EQUIPMENT			YES	NO	
1	Disposable Clothing Provided & Used Only Once			X		
	NIOSH Approved PAPR's & Cartridges			X		
	Hard Hat				X	
SHOWERS				YES	NO	/
				200	/	
	Hot/Cold Water				_	
	Sufficient Pressure				/_	
	Soap & Towels			1		
ı	Used By All Personnel Exiting Containment			/_		

BOGGS ENVIRONMENTAL CONSULTANTS

Sufficient Pressure Soap & Towels

Used By All Personnel Exiting Containment

Daily Work Area Checklist

WA#7

DATE: 5-19-09 Page PROJECT INFORMATION Project Location: Turner Hall RR + AH BEC Onsite IH: Project Manager: RR WU 09027 BEC Project No: **Abatement Contractor** Morcor Abatement Contractor License #: ALOO1097 YES NO WORK AREA CONTAINMENT Floor Covered Walls Covered Facility Power Shut Down Area Ventilation Sealed and Off Penetrations, Holes, Cracks, etc. Sealed D/Con Chamber Sufficient NO HEPA EQUIPPED AIR FILTRATION DEVICES Negative Pressure (-w.c. inches 0.03 to 0.05) **Negative Pressure Constant** NO SIGNS/OSHA REQUIRED DOCUMENTS POSTED Work Area Entrance Signs Regulated Area Signs **OSHA** Documents Bagged Waste/Drums Labeled NO WORK PRACTICES Work Area Wetted Sufficiently NO Smoking, Chewing Tobacco, Eating HEPA Vacuum In Use Work Area Cleaned Sufficiently At End Of Shift Bagged Waste/Drums Decontaminated Before Load Out All Bagged Waste/Drums Removed At End Of Shift NO PERSONAL PROTECTIVE EQUIPMENT Disposable Clothing Provided & Used Only Once NIOSH Approved PAPR's & Cartridges Hard Hat YES **SHOWERS** Hot/Cold Water

BOGGS ENVIRONMENTAL CONSULTANTS

Sufficient Pressure Soap & Towels

Used By All Personnel Exiting Containment

Daily Work Area Checklist

WAHIO

DATE: 5-19-09 Page ____ of ___ PROJECT INFORMATION Project Location: Torner Hall RR + AH BEC Onsite IH: RR Project Manager: **BEC Project No:** WV09027 Abatement Contractor License #: ACOO1097 Abatement Contractor Marcor WORK AREA CONTAINMENT YES NO Floor Covered Walls Covered Facility Power Shut Down Area Ventilation Sealed and Off Penetrations, Holes, Cracks, etc. Sealed D/Con Chamber Sufficient HEPA EQUIPPED AIR FILTRATION DEVICES NO Negative Pressure (-w.c. inches 0.03 to 0.05) **Negative Pressure Constant** SIGNS/OSHA REQUIRED DOCUMENTS POSTED YES NO Work Area Entrance Signs Regulated Area Signs **OSHA** Documents Bagged Waste/Drums Labeled YES NO WORK PRACTICES Work Area Wetted Sufficiently NO Smoking, Chewing Tobacco, Eating HEPA Vacuum In Use Work Area Cleaned Sufficiently At End Of Shift Bagged Waste/Drums Decontaminated Before Load Out All Bagged Waste/Drums Removed At End Of Shift PERSONAL PROTECTIVE EQUIPMENT YES NO Disposable Clothing Provided & Used Only Once NIOSH Approved PAPR's & Cartridges Hard Hat SHOWERS YES NO Hot/Cold Water

WA#4 #7 #10

DATE	PROJECT #:		5-19-09 Turner Hall PR + Al	f
	YES	140	N/A	
1. 2. 3.	AT AT	() () ()	()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestoscontaining material?
4.	4	()	()	Has all waste been removed from the building to a lockable dumpster?
5.	H	()	()	Has the contractor requested (in writing if possible) an inspection?
6.	W	()	()	Are workers fully protected against asbestos exposure?
7.	0	()	()	Is the decontamination unit in place and functional?
8.	W	()	()	Is there sufficient protection of existing building systems against overspray?
9.	0	()	()	Is the proper encapsulating agent being utilized in conformance with the specifications?
COM	MENTS:			
I have	inspected t	he removal	zone and fou	nd it acceptable to being sealing of substrate
surfac in an a	es. The work	area is free	of all visible d	ust and debris and all work has been performed ements of the technical specifications.
Indu	strial Hygienis	st Signature	7	Date
	1			

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

WA#4

FINAL INSPECTION FORM

Project Site: Turner Itall.		Date: 5-19-09		
BEC Project #:	WV09027	Client: Shepherd University		
Abatement Contr	ractor: Marcor	Abatement Contractor License: ACOO1097		

	Yes	No	N/A		
1.	()	()	()	HVAC locked off or blanked?	
2.	()	()	()	HVAC filters changed?	
3.	()	()	()	Decontamination facility in place?	
4.	()	()	()	Negative air machines functional?	
5.	()	()	()	Critical containment barriers sound?	
6.	()	()	()	Has all waste been properly packaged and removed to a lockable dumpster?	
7.	()	. ()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log	
8.	()	()	()	Non-critical plastic sheeting removed and properly disposed of properly?	
9.	()	.()	()	Have substrate surfaces been treated with a sealant?	
10.	()	()	()	No visible dust in work area?	
1.	()	()	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.	
12.	()	()	()	Are negative air machines shut off during post testing?	

COLUMN TO THE TOTAL OF THE TOTA			
COMMENTS:		i	

Industrial Hygienist Signature

5/19/09 Date

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

WA#7

FINAL INSPECTION FORM

Project Site: Turner Hall.	Date: 5-19-69
BEC Project #: WV 09027	Client: Shepherd University
Abatement Contractor: Markor	Abatement Contractor License: Acoolog?

	Yes	No	N/A		
1.	()	()	()	HVAC locked off or blanked?	
2.	()	()	()	HVAC filters changed?	
3.	()	()	()	Decontamination facility in place?	
4.	()	()	()	Negative air machines functional?	
5.	()	()	()	Critical containment barriers sound?	
6.	()	()	()	Has all waste been properly packaged and removed to a lockable dumpster?	
7.	()	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log	
8.	()	()	()	Non-critical plastic sheeting removed and properly disposed of properly?	
9.	()	()	()	Have substrate surfaces been treated with a sealant?	
10.	()	()	()	No visible dust in work area?	
1.	()	()	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.	
12.	()	()	()	Are negative air machines shut off during post testing?	

COMMENTS:		i	
w.			

Industrial Hygienist Signature

5/19/89 Date

WA#10

Date

FINAL INSPECTION FORM

Project Site	Tuen	er Hall		Date: 5-19-09
BEC Projec		9027		Client: Shepherd University
Abatement	Contractor:	Marcor		Abatement Contractor License: ACOSIGGA
	Yes	No	N/A	
1.	()	()	()	HVAC locked off or blanked?
2.	()	()	()	HVAC filters changed?
3.	()	()	()	Decontamination facility in place?
4.	()	()	()	Negative air machines functional?
5.	()	()	()	Critical containment barriers sound?
6.	()	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	()	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	()	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	()	·()	()	Have substrate surfaces been treated with a sealant?
10.	()	()	()	No visible dust in work area?
1 .	()	()	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	()	()	()	Are negative air machines shut off during post testing?
COMMI	ENTS:		- 10	· · · · · · · · · · · · · · · · · · ·
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Industrial Hygienist Signature

Ashestos	Abatement	Daily	Log	Sheet	Cover	Page
LISTICSTOS	Livatellicit	Daily	LOS	CHICCE	COTCL	- 46

DATE: 5			11
BEC Onsite I	Enviro. Tech: Ric	Volo 27 Project Location: Turner Ho Project Manager: RR	<u> </u>
Abatement C		avior Client: Shepherd Univ	versity
• • • • • • • • • • • • • • • • • • • •	1807 NOW - 180	WEATHER CONDITIONS	,
Time	Temperature	Conditions	Precipitation
700 AM	43	Clear Skies	No
You PM	69	Clear Skies	No
ABATEMEN	NT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isola	ation	Yes 🗆 No	Full Body Coveralls
Mod - Par	rtial Isolation	Exhaust to Exterior	☐ Light Weight ☐ Poly
Containme	ent Bag (Glovebag	# Of AFDs	Head/Foot Covers Gloves
☐ Mini – Co		per work area	☐ Hard Hat ☐ Eye Protection
NESHAP	□ NON – NESH	IAP	☐ Full Face Shield
	Square Feet	CLEARANCE TYPE:	Boots
QtyI	Linear Feet	□ TEM	
	Cubic Feet	PCM	
☐ 3 Stage D	econ 2 Stage	Decon	
RESPIRATO			
11	ce APR (Type A)	# Supervisors	Work Area #
/	ce APR (Type A)	# Abatement Workers	Building # Turner Hall
☐ Full – Fac	ce PAPR (Type B)		Room #
☐ SCBA (Ty	ype C)		Floor #
☐ Supplied			
0.000		SUMMARY OF WORK PERFORMED	
Ma	0/ / /		
		Work Areas # 2, 3, 5, 6, 8, 49.	
KK Ya	en finals	on WA# 2,5,89	In IT TST
1. 104/	100 st U	WA#3 80 ST VET, WA#5 80 ST VFT + 4 FT, WA#8 80 ST VFT, WA#9 100 ST	VET 131.,
WHEG	100 37 0)	10
91 60 13	Bogs of a	seste	
11 600 1.	sags or u	7.00.0	
-			

List of Workers

BOGGS ENVIRONMENTAL CONSULTANTS DAILY OBSERVATION LOGSHEET Date: Project Location: BEC Onsite IH: Project Manager: BEC Project No: **Abatement Contractor** Abatement Contractor License #:_____ Zaguirre ASOO 9845 - new guys cordon AWOO 6196-new guys

SHEET _____OF ____

Industrial Hygienist:____

Date:

DAILY OBSERVATION LOGSHEET

Date:	5-18-09	
BEC Onsite IH:	RR	Project Location: Turner Hall
BEC Project No:	WV09027	Project Manager: RR
Abatement Contrac	ctor Marcor	Abatement Contractor License #: Acobics
0645 BEC	consite	
0715 RR	ingprets	
0725 Marc	or beging abatement	
0801 Marca	or is removed in a	A 4 2 3 5 8
1035 Marco	or request visual on c	WAH'S RR into containent. Marcor Passes
Visco	, ,	
1100 Marcon	roct of containent	Marcor Encapsulates
1118 RRTUL	- PPE + julo containne	at PR bains egitating oir with lend blower
1123 RR 51	tope blooser, Sets up 6	or fay + samply pumps
1130 RR 00	of of contamment.	(WA 48)
1148 Marcon	request vitual on w	AH 5, Marcor takes louch, PR rosto containment
		and out of contaminent and will start
	after Marcer remens	
	- back from louch	
1324 RR Jul	to WAHS & stops pumps	
1330 RR 00	8 HAW foto	
		5. Visual good RR agitates with 6 lower RR
Sets up	2 2 punps + 1 San	
	on RR oot of WA	
1419 RR W	to CUA#2 for Viscal, V	irent good. RR agitates air with blosser, RP sets
Up 2	pumps + 1 Sam	
1428 Pumps	on RR out of WA to	12
		verything good, Marcor encouperlates RR out of
	quent.	
1600 RR in	to WAHA and quitates	with blover sets up Z pumps + I fam
1607 Pumps	_	4 4 9
1615 RR in		red
1618 RR 00	of 02 4 45	
1626 RR ;	nto WAHZ, pumps so	topged
1630 RR 60		
1700 Marco		
		+ collects scuple
	TO WAMP , Stops pumps is les reachs touches somple	+ collects sample is, all read loss will continue tomerrows. Lockevupe Offsite
SHEETC	OF	
Industrial Hygienist	t: RR	Date: 5-18-09

Boggs Environmental Consultants, Inc.	al Consultants, Inc.	AIR SAMPLING LOG	
Date:	5 18 09		
BEC Onsite IH:	RR AH	Project Location:	Turner Hall
BEC Project No:	WV09627	Project Manager:	RR
Abatement Contractor	Marcor	Abatement Contractor License #:	Acouloaz
FlowRate Calibration (R	FlowRate Calibration (Rotometer) Dwyer Precision, Other):		64/27/1
)		Date Analyzed: 5/18/03
Calibration Test Performed (Technician/Date):	RR	50/81/5	Page: 1 of 3

SAMPIFIN	SAMPLE INFORMATION									
			47	Flow Rate		0,	Sampling Period	po		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	. Total Minutes	Total Volume (L)	Results f/cc
Number 100 - 1	H. 11. 2. 1. 29 #3	Area Survey Hoses	h	10	幻	725	1500	455	3375	0.004
1 18161	100	1, 1, 1,	01	Q 91	01	725	1500	45S	4550	0,003
15184-5	Clari Rosa 1,10#3		10	01	01	725	1500	455	4550	0.00(
12 84 C	Crear Port of the		0	01	01	739	(30)	263	2620	40.00g
15184-4	CLISIER DECON UNAFIN		10	10	01	739	1001	263	2620	0.003
15184-5			ا اد	あり	(B)	750	1155	345	1225	1 00 0
15189-6	18.50		10	2	Ŋ	750	(155	345	1225	6.003
12187-4	MUSICA DECON		2	5	S	250	1155	245	1225	0.083
15184-8	2010		0 10	2	n	861	1105	184	920	0.001
15184-7			1	10	N	108	110.5	184	920	0,003
15184-10	15184-10 AFD Exhaust		5	S	D	108	1105	184	920	0.004
11 010										

Name M. P.L.

COMMENTS

Date: 5/18/09

Boggs Environmental Consultants, Inc.	l Consultants, Inc.	ATR SAMPLING LOG	x
Date:	5/18/09		Y .
BEC Onsite IH:	REMH	Project Location:	Turner Hall
BEC Project No:	WVOGOLF	Project Manager:	RR
Abatement Contractor	Marcor	Abatement Contractor License #:	AC001097
FlowRate Calibration (Rc	FlowRate Calibration (Rotometer, Dwyer Precision, Other):		Date Analyzed: 5/18/09
Calibration Test Performed (Technician/Date):	ed (Technician/Date):	5/18/09	Page: 2 \$ of 3

SAMPLE INFORMATION	THORMA	ZOLL									
				Lit	Flow Rate Liters Per Minute		S	Sampling Period	ď		
Sample		Sample Location	Sample Description	Pre	Post	Average	Begin	End	. Total Minutes	Total Volume (L)	Results f/cc
C. C.	1,771	1,4#/ DCN 541	Aracy Savillance	×	8		1405 1656	1656	101	1288	\$0.00T
17/8/17/	/# ·	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Are. C.	8	8	8	1405	9591	191	1288	<0000×
15187-13	0 4	outs, at veco			0)	01	£211	1327	571	1200	40.00°C
15184-14 (34.8 140	(J. 4.0	145:04	TI LOS L'HERONGE			2	401	4021	(20	12.00	200.07
TS189-15 624 #8 inside	57 + 8	inside	4	5	2	2	114	70			
75189 - 16	inside (24th	5 Htc)	Final Clearance	0	(0	0)	PIN6	1616	120	(200	<0.002 0.002
T-080-17	10 '0 LT	SMES	7	0	10	0)	1416	9191	120	(200	700.0
10161	りますい	24 40 Oaks de Dans	Acon Survey land	8	8	8	1326	1600	160	1280	500.0
2		1									

Name OL

Date: 5/19/09

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TS189 - 22

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T5189 - 21

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T5189-20

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	Consulta
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	Env
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AIR SAMPLING LOG

50-81-5

Date:

BEC Onsite IH:

RR

BEC Project No:

1

Project Location:
Project Manager:

Tues be

RR

ACOC1097

Abatement Contractor Abateme Abateme FlowRate Calibration (Rotometer, Dwyer Precision, Other):

Abatement Contractor License #:

Date Analyzed:

Calibration Test Performed (Technician/Date):

RR 5-18-09

Page: 3 of

SAMPLE INFORMATION

77 11110			I.i.	Flow Rate		S	Sampling Period	po		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	. Total Minutes	Total Volume (L)	Results f/cc
Number	Number	1 C	9	0	. 9	1560	9121	136	1360	2000>
1 5187- 45	WAY OKANA MOSA		70	0)	100	9051	911	136	(360	1000x
1 5184 : 24 WA	1	20/10							The second secon	NFO
12 - 18151		+								NFO
TS189 - 26										NFO
TS189 - 27	_	A Common of	9	10	9	1607	1807	120	1200	40 to 2
TS187 - 28	-	1 (20)	9	9	0)	1607	1867	00	1206	(0.00z
75187 - 21	Jusida)								

COMMENTS

Name

Date: 6 19/09

Date:

5-18-09

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

F5080VW

Project Manager:

RR

Abatement Contractor

Abatement Contractor License #: AL Oclog 7

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

li li		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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		Н			1	Н	Н	_	1		Ц	Н	_	1	4	4	Н	-			Н	L	1	_		-
1.	20	Ц	1			Ц	Ц	(1	Ц	1				L			1	Ц	L	(L
1	25	Ц			1		Ц	1		1		Ш			1										1	L
1	30			1				1					7	1									1			
1	35		1						1			П	1										1			
W	40	П		1		П	1			1	П			1				1							9	
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		Ц		- 1	_	Ц	1	_	1		Ц	L	_				#		_	_	_	╬	11	_	_	1
Sample Number:			51				1		89		_	_	_	_	-3	_		51			_	╟	5			
Volume (L): Fibers:		H	22	9	5	-	╟		5		-	1			0	_	╢	26	5	0	_	╂		6		>
Blank Count:		-	_	5	_		╫╴		3		_	╟		80		-	╫		0	_		╫		1		
Total Fibers:			1		_		╟	3		_		╟		18	_		╫	_	5			╫		19		
L.O.Q:		7	0	_	ì		11-		0.	oi		-	70	1.	o l					0	1	1	7	2.0	01	
Fibers/CC:			0						00					00			7	40							3	

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07-105#

שעע

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

5-18-09

BEC Onsite IH:

Project Location:

BEC Project No:

Project Manager:

RR

Abatement Contractor

Abatement Contractor License #: ACOCIOG7

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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eld Area: 0.00785														Fil	_		ze:	25	5M	M	(38	5 s	q.	mn	1.)	

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 67-105H 36

BOGGS ENVIRONMEN	NTAL CONSULTANTS,	INC.	
Date:	5-18-09		
BEC Onsite IH:	RIZ .	Project Location:	Turner Hall
BEC Project No:	WV09027	Project Manager:	RR
Abatement Contractor	Marcor	Abatement Contract	or License #: Aco or oct

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Fibers/CC: Field Area: 0.00785 Filter Size: 25MM (385 sq. mm.) Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count Fibers Per Cubic Centimeter =

Limit of Detection =

Phase Contrast Microscopy Analyst:

(Total Fibers/100) x (Filter Area) Field Area x Volume X 1000

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07 NIOSH 30

BOGGS ENVIRONMENTAL CONSULTANTS, INC. 5-18-09 Date: BEC Onsite IH: Project Location: Project Manager: BEC Project No: WV 09027

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #: Acoolog7

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Field Area: 0.00785

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07-N/05# 30

Phase Contrast Microscopy Analyst: /

BOGGS ENVIRONMENTAL CONSULTANTS, INC. 5-18-09 Date: BEC Onsite IH: Project Location: Project Manager: BEC Project No:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #: ACOO 1097

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Sample Nun Volume (L): Fibers: Blank Count **Total Fibers** L.O.Q: Fibers/CC:

Field Area: 0.00785

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume NIOSH 582 Certification: 07-NIOSH

Phase Contrast Microscopy Analyst:

BOGGS ENVIRONMENTAL CONSULTANTS, INC. 5-18-09 Date: Terner Hall BEC Onsite IH: Project Location: RR Project Manager: BEC Project No:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #: ACOO1097

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Total Fiber L.O.Q: Fibers/CC: Field Area: 0.00785 Filter Size: 25MM (385 sq. mm.) Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Limit of Detection = Phase Contrast Microscopy Analyst:/

Fibers Per Cubic Centimeter =

Abatement Contractor

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume NIOSH 582 Certification: 07-NIOSH

(Total Fibers/100) x (Filter Area) Field Area x Volume X 1000

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 BEC Onsite IH:
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BEC Project No: NV09037

Abatement Contractor: Marcor

Project Location: Turner Hall

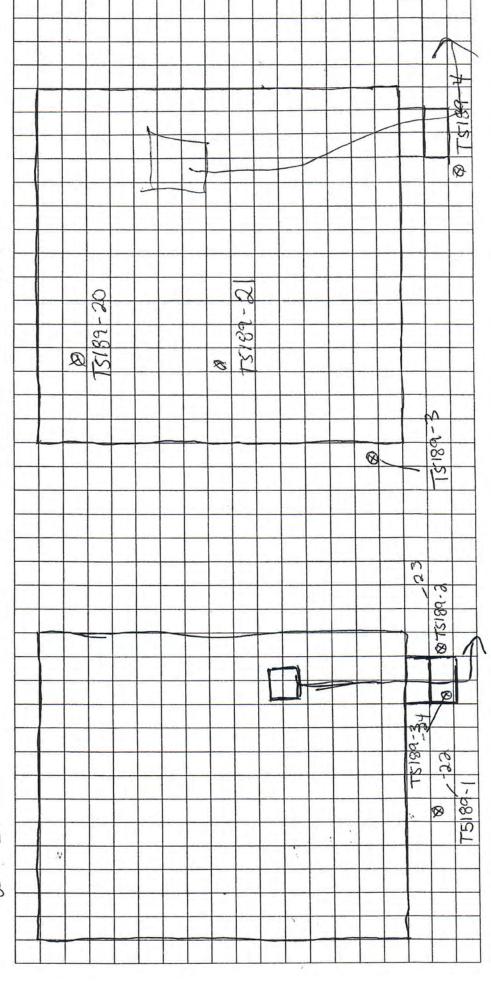
Project Manager: RA

Abatement Contractor License #: ACOOIO 9 7

E #400

SUBJECT SITE/ WORK AREA SKETCH

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Date: S/18/09 BEC Onsite IH: RR/AH

BEC Project No: WVG 9 027

Abatement Contractor: Mascos

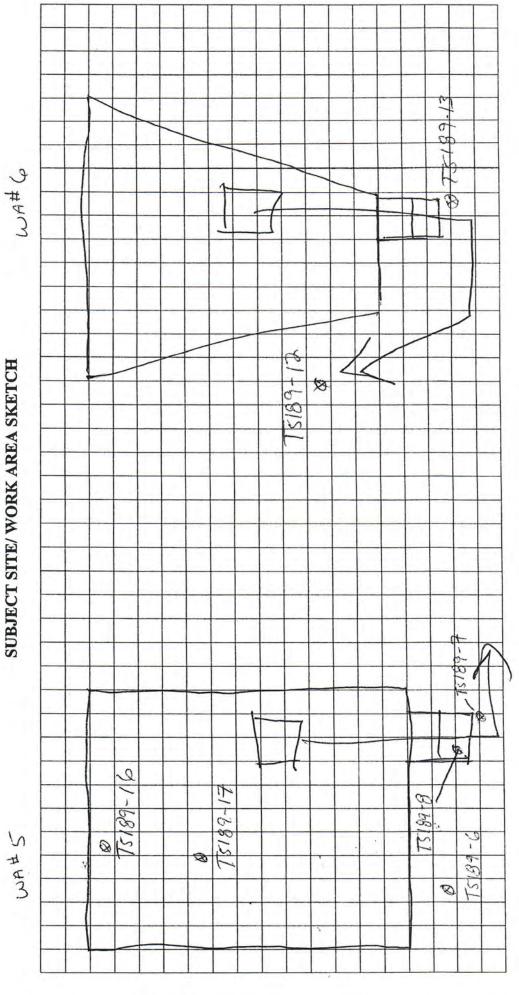
Project Location: Turner Hall

Project Manager: LA

Abatement Contractor License #: Hc00 1077

SUBJECT SITE/ WORK AREA SKETCH

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Date: 5/18/09 BEC Onsite IH: RA/94

BEC Project No: WOS027

Abatement Contractor: MGCCCA

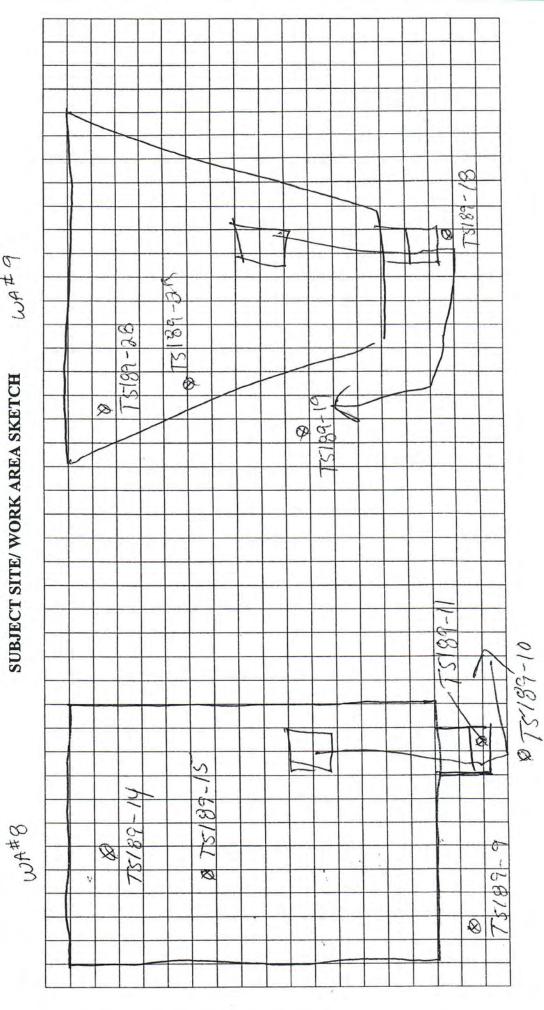
Project Location: Turner Hall

Project Manager: RR

Abatement Contractor License #: Acoc 1057

SUBJECT SITE/ WORK AREA SKETCH

WAHG



BOGGS ENVIRONMENTAL CONSULTANTS

Daily Work Area Checklist

PROJECT INFORMA	ATION	Page _ (_ of _ \	<u>V.</u>
BEC Onsite IH:	RR	Project Location: Turner Hall	
BEC Offsite III.	- 1		
BEC Project No:	WV09027	Project Manager: RR	
Abatement Contrac	ctor Marco-	Abatement Contractor License #: Acoc	097
WORK AREA C	ONTAINMENT	YES	NO
Floor	Covered	-	×
Walls	s Covered	*	
Facil	ity Power Shut Down		×
Area	Ventilation Sealed and Off	× × ×	
Penet	trations, Holes, Cracks, etc. Sealed	*	
	on Chamber Sufficient		_
HEPA EQUIPPE	D AIR FILTRATION DEVICES	YES	NO
Nega	tive Pressure (-w.c. inches 0.03 to 0.05)		×
	tive Pressure Constant		>
SIGNS/OSHA RE	EQUIRED DOCUMENTS POSTED	YES	NO
Work	Area Entrance Signs	A	
Regu	lated Area Signs	×	
	A Documents	×	
Bagg	ed Waste/Drums Labeled	×	
WORK PRACTI	CES	YES	S NO
Work	Area Wetted Sufficiently	Κ.	
	Smoking, Chewing Tobacco, Eating	4	
	A Vacuum In Use	-	
Work	Area Cleaned Sufficiently At End Of Shift	6	
	ed Waste/Drums Decontaminated Before Load Ou	t	
	agged Waste/Drums Removed At End Of Shift	_	-
PERSONAL PRO	DTECTIVE EQUIPMENT	YE	s no
Dispo	osable Clothing Provided & Used Only Once	~	
	SH Approved PAPR's & Cartridges	6	
Hard			
SHOWERS		YE	s NO
Hot/0	Cold Water		/
	cient Pressure		< 7
	& Towels		- X
	By All Personnel Exiting Containment	_	_/_

Environmental Technician:

ROGGS ENVIRONMENTAL CONSULTANTS, INC.

WASTE TRACKING LOGSHEET

C Onsite II C Project I e:	Project No: Wogo27		Project L Project M Contracto		RR Marcor				
DATE	HAUL#	WASTE HAULER	DESTINATION	CONTAINER TYPE	HAULING MANIFEST	DISPOSAL CERTIFIED			
5-48-04	91 Bass	Marcol	Trailer	Trailer	725	7+5			
COMMENT	'S:								

Date: 5-18-03

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Industrial Hygienist Signature

FINAL INSPECTION FORM

Project Site:			WAHA	Date: 5-18-09
BEC Project #:	wo	9027		Client: Shepherd University
Abatement Contr	ractor:	Marcor		Abatement Contractor License: ACOOIOG 7
	Yes	No	N/A	
1.	69	()	()	HVAC locked off or blanked?
2.	(4	()	()	HVAC filters changed?
3.	(()	()	Decontamination facility in place?
4.	(4)	()	()	Negative air machines functional?
5.	(-)	()	()	Critical containment barriers sound?
6.	(+)	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	4	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	4	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	0	()	()	Have substrate surfaces been treated with a sealant?
10.	()	()	()	No visible dust in work area?
11.	()	()	H	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	4	()	()	Are negative air machines shut off during post testing?
COMMENT	S:			
-				
0.				

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

FINAL INSPECTION FORM

Project Site:	Turner Hall WA #8	Date: 5-18-09
BEC Project #:	CU09027	Client: Shepherd University
Abatement Contr	actor: Marcos	Abatement Contractor License: 4001697

	Yes	No	N/A	
1.	()	()	()	HVAC locked off or blanked?
2.	(+)	()	()	HVAC filters changed?
3.	9	()	()	Decontamination facility in place?
4.	()	()	()	Negative air machines functional?
5.	6	()	()	Critical containment barriers sound?
6.	0	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	(4)	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	(2)	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	(4)	()	()	Have substrate surfaces been treated with a sealant?
10.	(2)	()	()	No visible dust in work area?
11.	()	()	H	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	\Box	()	()	Are negative air machines shut off during post testing?

COMMENTS:	

Industrial Hygienist Signature

Date

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

FINAL INSPECTION FORM

Abatement	Contractor: _	Marcor		Abatement Contractor License: ACOO 1 097
	Yes	No	N/A	
1.	(2)	()	()	HVAC locked off or blanked?
2.	(+)	()	()	HVAC filters changed?
3.	(-)	()	()	Decontamination facility in place?
4.	(-)	()	()	Negative air machines functional?
5.	(-)	()	()	Critical containment barriers sound?
6.	Θ	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	Θ	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	(4)	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	6)	()	()	Have substrate surfaces been treated with a sealant?
10.	(+)	()	()	No visible dust in work area?
11.	()	$\dot{\odot}$	(0)	Damage to floors, walls, fixtures, etc? Attack Punchlist form.
12.	(4)	()	()	Are negative air machines shut off during postesting?
COMMI	ENTS:			

Industrial Hygienist Signature

5/18/09 Date

FINAL INSPECTION FORM

Project Site: Turner Lall WA#Z		Date: 5-18-09	
BEC Project #:	WV09027	Client: Shepherd University	
Abatement Contra	actor: Marcor	Abatement Contractor License: ACOO 1097	

	Yes	No	N/A	
1.	(4)	()	()	HVAC locked off or blanked?
2.	(9)	()	()	HVAC filters changed?
3.	(9)	()	()	Decontamination facility in place?
4.	(4)	()	()	Negative air machines functional?
5.	(4)	()	()	Critical containment barriers sound?
6.	(4)	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	(4)	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	(4)	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	(4)	()	()	Have substrate surfaces been treated with a sealant?
10.	(-)	()	()	No visible dust in work area?
11.	()	()	(4)	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	(+)	()	()	Are negative air machines shut off during post testing?

COMMENTS:		

Industrial Hygienist Signature

Date

2. (i) (i) Are negative air systems being maintaine (ii) Is work area free of any visible asbes containing material? 4. (i) (i) Has all waste been removed from building to a lockable dumpster? 5. (i) (i) Has the contractor requested (in writing possible) an inspection?		, YES,	NO	INA.	
3. (a) (b) (c) (c) Is work area free of any visible asbest containing material? 4. (a) (b) (c) (c) Has all waste been removed from building to a lockable dumpster? 5. (a) (c) (c) Has the contractor requested (in writing possible) an inspection? 6. (a) (c) (c) Are workers fully protected against asbestos exposure? 7. (a) (c) (c) Is the decontamination unit in place functional? 8. (a) (b) (c) (c) Is there sufficient protection of existed building systems against overspray? 9. (a) (b) (c) Is the proper encapsulating agent be utilized in conformance with specifications?					Are critical barriers in place and secure?
4. (A) (B) (B) Has all waste been removed from building to a lockable dumpster? 5. (A) (B) (B) Has the contractor requested (in writing possible) an inspection? 6. (B) (C) (C) Are workers fully protected against asbestos exposure? 7. (C) (C) (C) Is the decontamination unit in place functional? 8. (C) (C) (C) Is there sufficient protection of existing building systems against overspray? 9. (A) (C) (C) Is the proper encapsulating agent be utilized in conformance with specifications?		8			Is work area free of any visible asbestos-
possible) an inspection? Are workers fully protected aga asbestos exposure? () () Is the decontamination unit in place functional? 8. () () () Is there sufficient protection of exist building systems against overspray? 9. () () Is the proper encapsulating agent be utilized in conformance with specifications?	4.	4)	()	()	Has all waste been removed from the
asbestos exposure? 7. (4) () () Is the decontamination unit in place functional? 8. (7) () () Is there sufficient protection of exis building systems against overspray? 9. (A) (B) (B) (B) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	5.	(A)	()	()	Has the contractor requested (in writing if possible) an inspection?
functional? 8. (+) () () Is there sufficient protection of exis building systems against overspray? 9. (*) (*) (*) Is the proper encapsulating agent be utilized in conformance with specifications?					
building systems against overspray? 9. () () Is the proper encapsulating agent be utilized in conformance with specifications?					functional?
utilized in conformance with specifications?					building systems against overspray?
COMMENTS:	9.	W	()	()	utilized in conformance with the
	COMM	ENTS:			

CLIENT: Shepherd University

DATE:	ROJECT #:		5-18-09 WA#3	· · · · · · · · · · · · · · · · · · ·
1 to 10 to 1	TRIAL HYG	SIENIST:	RR	
	YIES	110	N/A	
1. 2. 3. 4. 5.	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	() () () () ()	() () () () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestoscontaining material? Has all waste been removed from the building to a lockable dumpster? Has the contractor requested (in writing if possible) an inspection? Are workers fully protected against asbestos exposure?
7. 8. 9.	H H	()	()	Is the decontamination unit in place and functional? Is there sufficient protection of existing building systems against overspray? Is the proper encapsulating agent being utilized in conformance with the specifications?
surface in an ac	inspected to see the second to second the second to second the second to second the second to second the second the second to second the second	k area is fre anner and n	ee of all visible neets the requi	und it acceptable to being sealing of substrate dust and debris and all work has been performed rements of the technical specifications.
	trial Hygieni			Date 18/09 Date

BEC P DATE: WORK	PROJECT #: K AREA: STRIAL HYG	WVOGOZZ	5-18-09 WA H 5 RR	
	YES	14(0)	i N/A	
1. 2. 3.	4	()	() () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestos
4.	K	()	()	containing material? Has all waste been removed from the
5.	4)	()	()	building to a lockable dumpster? Has the contractor requested (in writing if
6.	H	()	()	possible) an inspection? Are workers fully protected against asbestos exposure?
7.	H	()	()	Is the decontamination unit in place and functional?
8.	H	()	()	Is there sufficient protection of existing building systems against overspray?
9.	H	()	()	Is the proper encapsulating agent being utilized in conformance with the specifications?
COMM	IENTS:			
	f4-4-4			
surface	es. The work	area is free	of all visible	und it acceptable to being sealing of substrate dust and debris and all work has been performed rements of the technical specifications.
Indus	trial Hygienis	st Signature		Date
4	(ju)			5/18/09
/Co	ontractor Sup	ervisor		Date

SITE:	Turner l PROJECT #:	Hall		
WORK	(AREA: STRIAL HYG	IENIST:	5-18-09 WAH6 RR	
	YES	140	IN/A STO	
1. 2. 3.	44	0	() () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestos- containing material? Has all waste been removed from the
5.	4	()	()	building to a lockable dumpster? Has the contractor requested (in writing if possible) an inspection?
6. 7.	4)	()	()	Are workers fully protected against asbestos exposure? Is the decontamination unit in place and
8. 9.	4	()	()	functional? Is there sufficient protection of existing building systems against overspray? Is the proper encapsulating agent being utilized in conformance with the specifications?
COMM	IENTS:			
Indus	es. The work	area is free anner and n st Signature	ee of all visible oneets the requir	and it acceptable to being sealing of substrate dust and debris and all work has been performed rements of the technical specifications. S//8/09 Date Date Date

ROJECT#:	WV 04 027	5-18-09 WA#8 RR	
YES	110	AUA	
44	() () ()	() () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestos containing material?
4	()	()	Has all waste been removed from the building to a lockable dumpster? Has the contractor requested (in writing in the contractor)
4)	()	()	possible) an inspection? Are workers fully protected agains asbestos exposure?
E)	()	()	Is the decontamination unit in place and functional? Is there sufficient protection of existing
D	()	()	building systems against overspray? Is the proper encapsulating agent being utilized in conformance with the specifications?
ENTS:			
s. The work	area is fre pner and m	e of all visible oneets the requir	nd it acceptable to being sealing of substrate lust and debris and all work has been performed ements of the technical specifications.
	AREA: TRIAL HYG AYES A	AREA: TRIAL HYGIENIST: WYES NO () () () () () () () () () () () () ()	AREA: TRIAL HYGIENIST: RR YES NO NIA () () () () ()

	T: Shepher Turner ROJECT#:		7	
WORK	AREA: STRIAL HYG	SIENIST:	5-18-05 WAH9 RR	
	YIES	140	IN/A	
1. 2. 3. 4. 5. 6. 7. 8.	日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日	() () () () () () ()	() () () () () () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestoscontaining material? Has all waste been removed from the building to a lockable dumpster? Has the contractor requested (in writing if possible) an inspection? Are workers fully protected against asbestos exposure? Is the decontamination unit in place and functional? Is there sufficient protection of existing building systems against overspray? Is the proper encapsulating agent being
COMM	ENTS:			utilized in conformance with the specifications?
surface in an ac Indus	es. The worl	k area is fre anner and m st Signature	e of all visible neets the requi	und it acceptable to being sealing of substrate dust and debris and all work has been performed rements of the technical specifications. S B B Date Date

Asbestos Abatement Daily Log Sheet Cover Page

	BEC Onsite Enviro. Tech: Aird Hanson BEC Project No: Project Location: She mend University Total Project Manager: Project Manager:						
Abatement Co	ontractor: Macca		iverchy_				
		WEATHER CONDITIONS					
Time	Temperature	Conditions	Precipitation				
0 700 PM	50	Foggy	<i>Ø</i>				
ABATEMEN	NT:	NEGATIVE PRESSURE:	WORKER PPE				
☐ Total Isola	ation	☐ Yes 🗹 No	Full Body Coveralls				
☐ Mod – Par	rtial Isolation		☐ Light Weight ☐ Poly				
≧ Containme	ent Bag (Glovebag)	# Of AFDs	☐ Head/Foot Covers ☐Gloves				
☐ Mini – Co	ntainment		☐ Hard Hat ☐ Eye Protection				
□ NESHAP	□ NON – NESHAP		☐ Full Face Shield				
QtyS	Square Feet	CLEARANCE TYPE:	☐ Boots				
QtyI	Linear Feet	□ TEM					
Qty(Cubic Feet	E-PCM					
☐ 3 Stage D	econ 2 Stage Deco	on					
RESPIRATO	ORS:						
	ce APR (Type A)	# Supervisors	Work Area # 2				
☐ Full – Fac	ce APR (Type A)	# Abatement Workers3	Building # Turner Hail				
☐ Full – Fac	ce PAPR (Type B)		Room # Custodial Closet				
☐ SCBA (T	ype C)		Floor # Goound				
☐ Supplied	Air (Type C)						
		SUMMARY OF WORK PERFORMED					
Mauil	- Containment	construction					
Tours	Contamuent	S. M. Oction					

BEC

BOGGS ENVIRONMENTAL CONSULTANTS

DAILY OBSERVATION LOGSHEET

Date:		5-15-09	
BEC Ons	site IH:	Andy Housan	Project Location: Shepherel University Turner Hell
BEC Pro	ject No:	WV 09027	Project Manager: Roberton
Abateme	ent Contractor	Marcos	Abatement Contractor License #: ACOO 1097
1005 1100 1200 1300 1400	Marcor 600	mech copy of mech come of todical closest fall, southway contained	at de construction.
SHEET	OF	AH	Date: 5 /15 /0 C

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page

DATE: 5-1	4-09		
	Enviro. Tech: Ricky	Robinson Project Location: Turner Ha	ıll
Abatement Co			जोपं
		WEATHER CONDITIONS	,
		WEATHER CONDITIONS	
Time	Temperature	Conditions	Precipitation
700 AM	51	Cloudy	No
200 PM	72	Partly Cloudy	No
ABATEMEN	NT:	NEGATIVE PRESSURE:	WORKER PPE
Total Isola	ation	Yes 🗆 No	Full Body Coveralls
☐ Mod – Par		Exhaust to Exterior	☐ Light Weight ☐ Poly
☐ Containme	ent Bag (Glovebag)	# Of AFDs	Head/Foot Covers Gloves
☐ Mini – Cor	ntainment		☐ Hard Hat Eye Protection
□ NESHAP	□ NON – NESHAP		☐ Full Face Shield
QtyS	Square Feet	CLEARANCE TYPE:	Boots
	Linear Feet	□ TEM	
	Cubic Feet	PCM	
11	econ 🗆 2 Stage Dec		÷
RESPIRATO	ORS:	<i>x</i> -	
Half - Fac	ce APR (Type A)	# Supervisors 3	Work Area #
☐ Full – Fac	e APR (Type A)	# Abatement Workers	Building # Turner Hall Room # Mechanica / Room
□ Full – Fac	e PAPR (Type B)		
☐ SCBA (Ty	ype C)		Floor # Ground
☐ Supplied A	Air (Type C)		
		SUMMARY OF WORK PERFORMED	
Marcos	abated 1	130 if of asbestos containing TSI + 1.	50/1 of tiberglass TSI
68 6 baa	s of waste	J	
	May <u>) 4</u> 2009 NIVERSITY Y HALL, SHEPHERDST	FOWN W	
Various Bldgs. WV Lic # AC00	01097		
	7.00		

BOGGS ENVIRONMENTAL CONSULTANTS

DAILY OBSERVATION LOGSHEET.

Date:		5-14-09	
BEC On	site IH:	Ricky Robinson	Project Location: Turner Hall
BEC Pro		WV09077	Project Manager:
Abateme	ent Contractor	Marcol	Abatement Contractor License #: ACOO 1097
0650	Rel arrive	s onsite + Marcor	onsite, RR begins unlocking Turner Hall
0715	1	ins prepwork of	mechanical room
NOTE	List of W		
	Cesear Gu		
	Carlos Ant		
	Leonard B		
			exp 8/31/2009
1000		continues pro	
1115	Marrol S	tops work +ta	kis lunch
1215		ik to work	
1240			cally inspects containment. Containment is
12.10	15 and 1 n	egative pressure is	and thisper to the comment of the comment of
1248	00 call	cotes 1 tours and	area survellance Samples. Marcor
-0.0	into DDE	t begins abateme	of
1350		continues	ri (
1500	- 1		arcor confinues with fine cleaning
1650			and requests a visual inspection. RR
1.600	Into DOE	+ Into Containi	uno reguests a visua moreción.
1705	RR Interm	c Ca Wisual root	tims that there is no visible asbestus containing
1 100		CG encapsulates.	mings meet there is no ordinary accounted to the mind
1710	PR MILAT	Contract &	out of PPE, Marcor offsite
~	CD Into OC	E i into Containment	our of the product offshire
1758	Do cata	t & Imis Containinant	r leaf blower of agaitates air
1803	RC Scisus	attic & bloude t	begins Calibrating + setting up samples
1808	Finals tu	on teat viewer 1	sayor carried sarried of sarries
1817	PP Out at	Containment	
			1
2012		E+ into containme	n (
2014	Samples 5		1 +
70%		PPE + out of con	
2035			read low, RR to inform Marcor in morning
call	they can t	rear down:	
2045	RR offsite	<u>C</u>	
SHEET_		/	
	/	repl	Date: 5/14/09
Industria	l Hygienist:	-11-6	Date: / 7/07

Boggs Environme	Boggs Environmental Consultants, Inc.	ATRS	ATR SAMPLING LOG	1,00	*				14
Date:	5-14-09)					
BEC Onsite IH:	RE	Project Location:	ocation:		F	Turner Hal	all		
BEC Project No:	WVOSOLZ	Project Manager:	Aanager:		12	al			
Abatement Contractor	marco	Abateme	Abatement Contractor License #:	icense #:	Ac	Ac001097	*		
FlowRate Calibration	FlowRate Calibration (Rotometer, Dwyer Precision, Other):	, Other):		i	Date	Analyzed	Date Analyzed: S-14-07	60	-
Calibration Test Perf	Calibration Test Performed (Technician/Date):	RR 5-14-09		i	Page:		1 of	+	
SAMPLE INFORMATION	ORMATION		=======================================	Flow Rate		S	Sampling Period	P	
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total	Total Volume (L

AMFLE	AMPLE INFORMATION									
		4	Lite	Flow Rate Liters Per Minute		S	Sampling Period	q		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total	Total Volume (L)	Results f/cc
Number	1 1 1 1 1 1 1 2 1 2	Area Curring llean	1	73	77	8481	1740	292	0961	0.003
S144-1	BOHOM OF WOT STAINED	A soc. Com Hage) h	5	10	SHCI	1741	293	1465	0,003
10 34 · A	Adjustent And Continued	Ass Saullose	7	10.	17	8481	1743	295	1475	40 00L
12/44-5	There work to work the	As Coulley		2	7	ShE!	トトナー	296	0871	0,000
15149-51	Die Plan	Op 160))	1) (1	l	1)	NFO
0 1770	Dex plant	26/9C	1	l	1)	ŀ	1)	NFO
0/44/0	TEG DIGATA	7	10	0	0)	1814	2614	120	1200	200,00
5149-7	Mest Side of Mari	Final Cleanage	2	0]	0)	11814	3014	130	1200	C00.00
15/49-8	Center of WA:	Final Charace	10	0	0	181	Say	120	1200	60,002
12144-7	East Slotel wir 1	The later of the l								

sell le

COMMENTS

Date: 5-14-07

LLU BOGGS ENVIRONMENTAL CONSULTANTS, INC. Date: RR BEC Onsite IH: Project Location: WV09027

Project Manager:

Abatement Contractor License #: ACOOIO97

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

li li		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	5	1					H			-	Ť	3				Ť	H	-		1		F	-			
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	15	H	\dashv	,	-	\dashv	H		1		Н	\vdash		-	12	Н	H	,		-	Н	⊩	-		_	-
	20	H	\dashv)	-	\dashv	H	-		H	Н	H		_		Н	L	1	H		H	⊩	-			\dashv
		L		4	-	4		Ц			Ц					Ц	L	_		_		_				Ц
	25		15								Ц					Ц	L			1		L	L			
	30								1				15				L									
	35																1									
H	40										П	Γ				П					Г	I				П
H	45			15				1			П	T			10	П						╟				П
	50						H	-			Н			1				-	1		1	╟	1	1		Н
	55		\vdash			Н	H				Н			-			╟	-	-	-	+	╫	+	H	-	Н
	60		,	-	-	Н	H	-	1	1	Н	-	\vdash	H	\vdash	-	╟		-	\vdash	╀	╢╴	╁	-	┝	Н
	65	H	7	-	_	Н	H		1	-	Н	-	-	L	-	H	⊩	-	\vdash	-	+	╢╌	╀	╀	╀	Н
V	70	L	-		_	4	L		L	_	Н	L	L	_	L	L	⊩	_	_	1	1	₽	1	╀	1	Н
1		L					L	1		1		L	,5					L	L	L	L	1	1	L	_	Ц
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	80																									
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Fibers/CC Field Area: 0.00785 Filter Size: 25MM (385 sq. mm.) Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

BEC Project No:

Abatement Contractor

Marcol

(Total Fibers/100) x (Filter Area) Field Area x Volume X 1000

Limit of Detection = Phase Contrast Microscopy Analyst:_ 2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: O7-NIOSH 50

שעע

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

BEC Onsite IH:

Project Location:

BEC Project No:

WV09027

Project Manager:

Abatement Contractor

Marcor

Abatement Contractor License #: ACOO 10 97

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07 NIOSH 30

BEC

Boggs Environmental Consultants, Inc.

Date: 5-14-09

BEC Onsite IH: RR

BEC Project No: WV03627

Abatement Contractor: Marces

Project Location: Turner Hull
Grand Floor

Project Manager:

Abatement Contractor License #: ACOO1097

SUBJECT SITE/ WORK AREA SKETCH

Crawl Space 15149-9 Work ARA# TS119-8 AFD ACCON (T5/149-7 8 B-1549-2 Q 15/49-3 T5149-41, Skurvell -bh191 0 YOUN 8

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

6.10	1-09	DAILY	MANOMETER	LOGSHEET	7
		-	Designat	Landian Turi	nse #: Acooi097
EC Onsite IH:		-	Project	Location.	
EC Project No:	WVOGOLT		Project	Manager: 19	" Maning 7
atement Contr	ractor: Marc	<u>or</u>	Abatem	ent Contractor Licei	ISE #: 17 COOTO / 1
egative Pressu	re Checklist:		3.		
YEŞ	NO				
<u>X</u> _		Has the manome	eter been calibrated	onsite, and is set to	read negative pressure?
X		Is the Negative	Pressure < -0.02 (in	nches of water)?	
X		Are the filters cl	lean on the Air Filt	ration Devices (AFI	0)?
X		Does the AFD e	exhaust go to the ex	terior of the buildin	
X		Can one visually	y observe air flowin	ng in through the de	con?
<u>X</u>		Has the contract containment?	tor provided a sour	ce of sufficient clea	n air for the air changes into the
	_	number of air cl	hanges per hour rec	quired by the contra	D's to meet the requirements of the ct specifications? rair flow for filtration?
Time	****** *	otek altest		an(an)	Manimulte Reguling
1245			Machan	vical Room	- 0 . 039
105			MECHAN	II II	- 0.035
145			0	"	- 0.031
215			11	11	- 0.029
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315			(1	11	-0.030
430	1		11	4	-0,031
230					
OMMENTS:					
	-				7
1	1111				Date: 5-14-09
chnician:					Date.

Environmental Science and Engineering

BOGGS ENVIRONMENTAL CONSULTANTS

Daily Work Area Checklist

	Shepherd University	BEC Project:	WV09027 Turner Hall		4
Client:	Shaphiro willow site	Project Site: Project Ref:	Turner Hall		-
Contractor:	Marcor	Onsite IH: Employee No:	RR		-
ontractor	Cesear G:	Signature/Date: Work Area:	#/		-
upervisor:		WOLK Alea.		YES	NO
VORK AF	REA CONTAINMENT			110	110
	Floor Covered			X	-
	Walls Covered				V
	Facility Power Shut Down			~	1
	Area Ventilation Sealed and Off			→	-
	Penetrations, Holes, Cracks, etc. Sealed			-	
	D/Con Chamber Sufficient			_	7
HEPA EQ	UIPPED AIR FILTRATION DEVICES			YES	NO
	2			X	
	Negative Pressure (-w.c. inches 0.0) to 0.00	5)		7	
	Negative Pressure Constant			_	-
SIGNS/OS	HA REQUIRED DOCUMENTS POSTED			YES	NO
	Work Area Entrance Signs			X	
	Regulated Area Signs			X	
	OSHA Documents				X
	Bagged Waste/Drums Labeled			<u>x</u>	
WORK PE	RACTICES			YES	NO
	Work Area Wetted Sufficiently			X	-
	NO Smoking, Chewing Tobacco, Eating			~	-
	HEPA Vacuum In Use			<u>X</u>	-
	Work Area Cleaned Sufficiently At End O	f Shift		<u>X</u> _	-
	Bagged Waste/Drums Decontaminated Be	fore Load Out		X	
	All Bagged Waste/Drums Removed At En	d Of Shift		_	-
PERSONA	AL PROTECTIVE EQUIPMENT			YES	NO
	Disposable Clothing Provided & Used On	ly Once		X	
	Disposable Clothing Provided & Osed On	ly Once		X	
	NIOSH Approved PAPR's & Cartridges				>
	Hard Hat			*****	NT.
SHOWER				YES	N
	Hot/Cold Water			X	
	Sufficient Pressure			X	-
	Soap & Towels Used By All Personnel Exiting Containment			X	

Contractor Supervisor

PRE-SEALANT CHECKLIST

	《AREA: 本) STRIAL HYG	IENIST:	Ricky Robinso	n
	YIES.	0/1	N/A	
1. 2. 3.	X	() () ()	() () ()	Are critical barriers in place and secure? Are negative air systems being maintained? Is work area free of any visible asbestoscontaining material?
4.	X	()	()	Has all waste been removed from the building to a lockable dumpster?
5.6.	,K)	()	()	Has the contractor requested (in writing if possible) an inspection? Are workers fully protected against
7.	X	()	()	asbestos exposure? Is the decontamination unit in place and functional?
8. 9.	X	()	()	Is there sufficient protection of existing building systems against overspray? Is the proper encapsulating agent being utilized in conformance with the
COMM	IENTS:			specifications?
surface	es. The work	carea is fr	ee of all visible of	nd it acceptable to being sealing of substrate lust and debris and all work has been performed ements of the technical specifications.
Indus	strial Hygieni	st Signatur	re	Date 5/14/a 9

Date

ROGGS ENVIRONMENTAL CONSULTANTS, INC.

WASTE TRACKING LOGSHEET

BEC	Onsite IH:
BEC	Project No:
Date:	

RR WV09027 Project Location: Project Manager: Contractor Turner Hall
RR
Shaplerd University

DATE	HAUL#	WASTE HAULER	DESTINATION	CONTAINER TYPE	HAULING MANIFEST	DISPOSAL CERTIFIED
5/14/09				Trailor	Asbestos Contaming TSI	Yes

OMMENTS: 68 bags	
2. 01	
nvironmental Technician:	Date: 5-14-0 9

Environmental Science and Engineering

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

FINAL INSPECTION FORM

Project Site	e: Tu	rper Hall		Date: 5-14-09
BEC Proje	ect#: WVO	Marcor		Client: Steplerd University
Abatement	Contractor:	Marcor		Abatement Contractor License: ACOO1097
	Yes	No	N/A	
1.	()	()	W.	HVAC locked off or blanked?
2.	()	()	188	HVAC filters changed?
3.	X	()	()	Decontamination facility in place?
4.	188	()	()	Negative air machines functional?
5.	W.	()	()	Critical containment barriers sound?
6.	X	()	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	×	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log
8.	X	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9.	W.	•()	()	Have substrate surfaces been treated with a sealant?
10.	18	().	()	No visible dust in work area?
1.	()	X	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	()	X	()	Are negative air machines shut off during post testing?
				· ·
COMMI	ENTS:			
01	De la companya della companya della companya de la companya della			
In	PC			3/14/09
Industr	rial Hygienis	st Signature		Date

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page

DATE: 3-13-01	Tura.	- 4-11
BEC Onsite Enviro. Tech: Ricky Robinson BEC Project No: WV09027	Andy Hanson Project Location: Tur.se Project Manager: RR	V HOLL
Abatement Contractor: Marcor	Client: Shepherd Unive	rsity
		,
	WEATHER CONDITIONS	,
Time Temperature	Conditions	Precipitation
Too AM 50	Clear	No
200 m 72	Clecr	No
ABATEMENT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Fotal Isolation	☐ Yes ☐ No	Full Body Coveralls
☐ Mod — Partial Isolation	☐ Exhaust to Exterior	☐ Light Weight ☐ Poly
☐ Containment Bag (Glovebag)	# Of AFDs	Head/Foot Covers Gloves
☐ Mini – Containment		☐ Hard Hat ☐ Eye Protection
□NESHAP □ NON – NESHAP		☐ Full Face Shield
QtySquare Feet	CLEARANCE TYPE:	Boots
Qty Dinear Feet	□ TEM	/ *
QtyCubic Feet	□ PCM	
☐ 3 Stage Decon ☐ 2 Stage Decon		
RESPIRATORS:		
Half - Face APR (Type A)	# Supervisors	Work Area #
☐ Full – Face APR (Type A)	# Abatement Workers	Building # Turner Hell
☐ Full – Face PAPR (Type B)		Room # Mechanical Floor # Ground
☐ SCBA (Type C)		Floor # Ground
☐ Supplied Air (Type C)		*
	SUMMARY OF WORK PERFORMED	1
Preporty 50°10	complete	i i
	•	
	-	

BEC

BOGGS ENVIRONMENTAL CONSULTANTS

DAILY OBSERVATION LOGSHEET

Date:		5-13-09	
BEC Onsite	e IH:	RR AH	Project Location: Turner Hall
BEC Projec	ct No:	WV09027	Project Manager:
Abatement	Contractor	Marcor	Abatement Contractor License #:
700 Noif 130 /	Vorkareau Dining Ho Ze notifi Hall In All Shelve Trailer Sc	ed Dan Yas Utility Rooms. Es jumoved,	meets Steve Coary + Cesear Guerra to show Staging equipment, nna to remove metal + shelving in Turner Marcor Continues Staging equipment, Weste Oill begin prepping mechanical room
110	eonard R Lesar Gi Marker step	verra ASC os prep and to ck from lunch	009841 exp. 8/31/2009 (Supervisor) 009843 exp. 8/31/2009 (Supervisor) when lunch 4 back to work
300 1 400 5 05	Orep continu WV sta HH offsite	ate inspector	Herb Hilleary onsite + begins checking
SHEET	/OF	2020	Date: 5-13-09

BEC

BOGGS ENVIRONMENTAL CONSULTANTS

DAILY OBSERVATION LOGSHEET

Date:		5-12-09	——		VI 11	
BEC Onsite IH	[:	Ricky Robinso	n / Andy Hanson	Project Location	: Turner Hall	
BEC Project N		WV09027	<u></u> -	Project Manager	r: <u>R</u> R	-
Abatement Cor	ntractor			Abatement Cont	tractor License #:	_
1230 BE	(tokas	line sample	s up and	baseline on running	Samples In Turner Ha	//
SHEETIndustrial Hygi	OF	LPC			Date: 5~12~09	

Boggs Environmental Consultants, Inc. B. C

5-13-09

AIR SAMPLING LOG

RR/AH

WV09027

BEC Project No:

BEC Onsite IH:

Date:

Abatement Contractor

Project Location: Project Manager:

Turner Hall

RR

Date Analyzed: 5-12-09

Abatement Contractor License #: FlowRate Calibration (Rotometer, Dwyer Precision, Other): $10 L/m_{IN}$

1 of

Calibration Test Performed (Technician/Date):

50-61-5 RR

Page:

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NAM PLE	SAMPLE INFORMATION									
			41	Flow Rate	e e	S	Sampling Period	q		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total	Total Volume (L)	Results f/cc
Number	10.	Problem	0.	9)	.0	1200	1400	120	1300	0.003
10000	Ground Mechanical Koom	12010	01	0	01	1200	oghl	120	1200	K0.007
75/24-9	בכי # ים	Bris Ing	0	9	0)	1305	HOS	130	1200	40.00g
70101	1000x 10-1	Recelino	0	0	0	Pasi	Popl	130	1900	6.003
15184	100m al	Beselve	01	5	01	1213	1412	130	1200	€00.0
15129-5		Received	2 <	0	0	1215	1415	130	1200	<0.009
15134.6		Day 19	5 2	0	0)	せら	七九	08/	1200	<0.003
12129-+		Daseline	2 5	2	2	1319	MIN	130	1200	P00.0
TS129-8	-	15032/1712	3 3	2 2	2 3	1334	1430	120	1200	0,005
TS129-9	Room# 314	Baxline	2	2	2 3	200	11.102	2 .	12000	100
TS129-10	15129-10 Room# 360	Baselm	01	0	0	188	3	100	1860	0, 00 p
TSIBA-11	Box Blank	QA CC	1	1 3	1	1				
COMMENTS: FI	Field Blank was analyzed	lyzed with	Gardiner	Hall	Samples	which	4 467			11
14	0									

collected Name

Date: 5-12-09

BOGGS ENVIRONMENTAL CONSULTANTS, INC. 5-12-09 Date: Project Location: BEC Onsite IH:

Project Manager:

Abatement Contractor License #:_

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

BEC Project No:

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection = Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: OF NIOSH 30

LLL BOGGS ENVIRONMENTAL CONSULTANTS, INC. Date: BEC Onsite IH: Project Location: Project Manager:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #:_

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	65											1					L	1		1	L				L	Ц
	70																						1	1		
	75									1			1		1					Γ				T		
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Field Area: 0.00785

BEC Project No:

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 67 NIOSH 30

Phase Contrast Microscopy Analyst:

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date: 5-12-09

BEC Onsite IH: RR/AH Project Location: Turner Hall

BEC Project No: WV09027 Project Manager: RR

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #:

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Total Fibers:		L	C			1					1					1					1				
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Fibers/CC:			_	_																					

Field Area: 0.00785 Filter Size: 25MM (385 sq. mm.)
Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count
Fibers Per Cubic Centimeter = (Total Fibers/100) x (Filter Area)

Limit of Detection =

Abatement Contractor

Phase Contrast Microscopy Analyst:

Field Area x Volume X 1000
2.792/Volume *Mandatory 5.5 Fibers or Less Than Value
NIOSH 582 Certification: OF NIOSH 30

APPENDIX B

BEC STAFF CERTIFICATION

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

RICHARD ROBINSON

has met the attendance aguirements an

s and cessfully completed

The course en Y

40-HOUR COLLECTING &

YZING AIR AME S (NIOSH 582 EQUIVALENT)

AN MORE ROBERTASS
EXP. Principal In

9/24/2007 to 9/28/2007

Course Date

E. Rush Barret

07-NIOSH30 Certification No. Hanover, MD 21076

P: 410-684-3327

: 410-684-3724

1331 Ashton Road P.O. Box 646

www.amatraining.com

Allegheny Environmental Services, R.R.C.

This is to certify that

Richard Robinson

has met the attendance requirements and successfully completed the

Clearance Air Monitor Refresher Course

As approved by the WV Bureau of Public Health Chapter 16.32, 64 CSR 63 4 instructional hours

COURSE DIRECTOR

January 20, 2009 EXAMINATION DATE

09-AAR-00130

0.0

Morgantown, WV LOCATION

January 20, 2009

COURSE DATES

January 20, 2010 EXPIRES Training provider: Allegheny Environmental Services, L.L.C., 117 Cochran Street, Fairmont, WV 26554 Phone: (304) 291-2599

ATC ASSOCIATES INC.
9231 RUMSEY ROAD COLUMBIA, MD 21045 (410) 381-0232

CERTIFICATE OF ACHIEVEMENT

AWARDED TO

ANDREW HANSON

IN RECOGNITION OF COMPLETION OF

COLLECTING AND ANALYZING ASBESTOS AIR SAMPLES

A NIOSH 582 EQUIVALENT COURSE

ADMINISTRATION REGULATIONS 29 CFR 1926.1101 AND 29 CFR 1910.1001, APPENDIX A PRESENTED IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH A CONCENTRATED PROGRAM OF STUDY ON THE NIOSH 7400 METHOD

PRESENTED BY

INSTRUCTOR

14+ E 11/16

Clayton E. Miller

COURSE DATES

August 4-8, 2008

CERTIFICATE # CA08029

COURSE DIRECTOR

APPENDIX C

BEC WV LABORATORY LICENSE

State of West Virginia

Bureau for Public Health Office of Environmental Health Services Radiation, Toxics and Indoor Air Division

This is to certify that

Boggs Environmental Consultants
1 College Avenue
Frederick, MD 21701

Has complied with Chapter 16, Article 32, of the Asbestos Abatement Licensing Rules and Regulations and is hereby licensed as an Asbestos Air and Bulk Sample Analytical Laboratory.

Asbestos Laboratory License Number:

LT000347

Expires: 4/30/2010

A and C. Cont

Randy C. Curtis, P.E., Director Radiation, Toxics and Indoor Air Division

APPENDIX D

BEC CERTIFICATE OF ANALYSIS

Morgantown, West Virginia 26505

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

ATTENTION:

Mr. Dan Yanna

REFERENCE:

Turner Hall, Shepherd University, Shepherdstown, West Virginia

Report Date:

June 8, 2009

Project Number: WV09027

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5129-1	Ground Mechanical Room	Baseline	1200	100	6	0.002
T5129-2	Ground Utility	Baseline	1200	100	2	< 0.002
T5129-3	Room #127	Baseline	1200	100	3	< 0.002
T5129-4	Room #129	Baseline	1200	100	7	0.002
T5129-5	Room #233	Baseline	1200	100	19	0.007
T5129-6	Room #214	Baseline	1200	100	4	< 0.002
T5129-7	Room #200	Baseline	1200	100	5	< 0.002
T5129-8	Room #333	Baseline	1200	100	23	0.009
T5129-9	Room #314	Baseline	1200	100	13	0.005
T5129-10	Room #300	Baseline	1200	100	16	0.006
T5129-11	Box Blank	QA/QC	1 - 1 -	100	0	No Fibers Observed

Note: The Field Blank sample was analyzed with Gardiner Hall samples, which were collected on the same day.

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

Office

(301) 694-5687 (301) 694-9799

363 High Street Morgantown, West Virginia 26505

(304) 292-1095 Office (304) 292-2320 Fax

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

ATTENTION:

Mr. Dan Yanna

REFERENCE:

Turner Hall, Shepherd University, Shepherdstown, West Virginia

Report Date:

June 8, 2009

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Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5149-1	Bottom of West Stairwell	Area Surveillance	1460	100	6	0.002
T5149-2	Outside Decon	Area Surveillance	1465	100	9	0.003
T5149-3	Adjacent Storage Room	Area Surveillance	1475	100	5	< 0.002
T5149-4	Inside Clean Room	Area Surveillance	1480	100	6.5	0.002
T5149-5	Box Blank	QA/QC	-	100	0	No Fibers Observed
T5149-6	Field Blank	QA/QC	-	100	0	No Fibers Observed
T5149-7	West Side of WA #1	Final Clearance	1200	100	5	< 0.002
T5149-8	Center of WA #1	Final Clearance	1200	100	4.5	< 0.002
T5149-9	East of WA #1	Final Clearance	1200	100	3.5	< 0.002

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

ATTENTION:

Mr. Dan Yanna

REFERENCE:

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Report Date:

June 8, 2009

Project Number: WV09027

Analysis:

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Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5189-1	Hallway WA #3	Area Surveillance	2275	100	19	0.004
T5189-2	Behind Decon WA #3	Area Surveillance	4550	100	33	0.003
T5189-3	Clean Room WA #3	Area Surveillance	4550	100	18	0.001
T5189-4	Outside Decon WA #2	Area Surveillance	2620	100	5	< 0.002
T5189-5	Stairwell WA #2	Area Surveillance	2620	100	19	0.003
T5189-6	Hallway WA #5	Area Surveillance	1225	100	7	0.001
T5189-7	Outside Decon WA #5	Area Surveillance	1225	100	18	0.003
T5189-8	Clean Room WA #5	Area Surveillance	1225	100	17	0.003
T5189-9	Hallway WA #8	Area Surveillance	920	100	7	0.001
T5189-10	AFD Exhaust WA #8	Area Surveillance	920	100	11	0.002
T5189-11	Clean Room WA #8	Area Surveillance	920	100	16	0.004

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

This report applies only to the sample, or samples, investigated and is not necessarily indicative if the quality or condition of apparently identical or similar products.

Office

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363 High Street Morgantown, West Virginia 26505 Office (304) 292-1095 (304) 292-2320 Fax

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

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Mr. Dan Yanna

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June 8, 2009

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Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5189-12	AFD Exhaust WA #6	Area Surveillance	1288	100	4	< 0.002
T5189-13	Outside Decon WA #6	Area Surveillance	1288	100	5	< 0.002
T5189-14	Inside WA #8	Final Clearance	1200	100	3	< 0.002
T5189-15	Inside WA #8	Final Clearance	1200	100	5	< 0.002
T5189-16	Inside WA #5	Final Clearance	1200	100	4	< 0.002
T5189-17	Inside WA #5	Final Clearance	1200	100	11	0.004
T5189-18	Outside Decon WA #9	Area Surveillance	1280	100	14	0.005
T5189-19	AFD Exhaust WA #9	Area Surveillance	1280	100	7	0.002
T5189-20	Inside WA #2	Final Clearance	1200	100	3	< 0.002
T5189-21	Inside WA #2	Final Clearance	1200	100	3	< 0.002
T5189-22	Hallway WA #3	Area Surveillance	680	100	1	< 0.002

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

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Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5189-23	Behind Decon WA #3	Area Surveillance	1360	100	5	< 0.002
T5189-24	Clean Room WA #3	Area Surveillance	1360	100	9	< 0.002
T5189-25	Media Blank	QA/QC		100	0	< 0.002
T5189-26	Media Blank	QA/QC	_	100	0	< 0.002
T5189-27	Media Blank	QA/QC		100	0	< 0.002
T5189-28	Inside WA #9	Final Clearance	1200	100	4	0.004
T5189-29	Inside WA #9	Final Clearance	1200	100	4	0.005
T5199-1	Inside WA #3	Final Clearance	1200	100	3	< 0.002
T5199-2	Inside WA #3	Final Clearance	1200	100	4	< 0.002
T5199-3	Inside WA #6	Final Clearance	1200	100	16	0.006
T5199-4	Inside WA #6	Final Clearance	1200	100	19	0.007

NFO - No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

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(304) 292-1095 Office (304) 292-2320

PCM AIR ANALYSIS LABORATORY REPORT

TURNER HALL

Shepherd University Shepherdstown, West Virginia

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Report Date:

June 8, 2009

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Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5199-5	AFD Exhaust WA #10	Area Surveillance	1400	100	15	0.005
T5199-6	Hallway WA #10	Area Surveillance	1400	100	21	0.007
T5199-7	Clean Room WA #10	Area Surveillance	1400	100	24	0.008
T5199-8	Clean Room WA #7	Area Surveillance	2950	100	26	0.004
T5199-9	Hallway WA #7	Area Surveillance	2950	100	22	0.003
T5199-10	AFD Exhaust WA #7	Area Surveillance	2950	100	31	0.005
T5199-11	Hallway WA #4	Area Surveillance	2900	100	17	0.002
T5199-12	AFD Exhaust WA #4	Area Surveillance	2900	100	14	0.002
T5199-13	Clean Room WA #4	Area Surveillance	2900	100	10	0.001
T5199-14	Inside WA #10	Final Clearance	1200	100	13	0.005
T5199-15	Inside WA #10	Final Clearance	1200	100	9	0.003

NFO - No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

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June 8, 2009

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Analysis:

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Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction: 0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T5199-16	Inside WA #10	Final Clearance	1200	100	18	0.007
T5199-17	Inside WA #10	Final Clearance	1200	100	9	0.003
T5199-18	Inside WA #7	Final Clearance	1200	100	11	0.004
T5199-19	Inside WA #7	Final Clearance	1200	100	13	0.005
T5199-20	Media Blank	QA/QC	1-1	100	0	No Fibers Observed
T5199-21	Media Blank	QA/QC	1-14-1	100	0	No Fibers Observed
T5199-22	Media Blank	QA/QC	-	100	0	No Fibers Observed

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson

(07-NIOSH30)

Office

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363 High Street Morgantown, West Virginia 26505

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PCM AIR ANALYSIS LABORATORY REPORT

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Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter on Mixed Cellulose Ester Filters.

Phase Contrast Microscopy (PCM) NIOSH 7400 Method Method:

Filter Diameter: 25 mm

Blank Correction:0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Sample Type	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
T6309-1	Outside Decon WA #12	Area Surveillance	1450	100	8	0.002
T6309-2	AFD Exhaust WA #12	Area Surveillance	1450	100	9	0.003
T6309-3	Outside Decon WA #11	Area Surveillance	1540	100	7	0.002
T6309-4	AFD Exhaust WA #11	Area Surveillance	1540	100	13	0.004
T6309-5	2 nd Floor Hallway	Area Surveillance	1540	100	6	0.001
T6309-6	Box Blank	QA/QC	_	100	0	No Fibers Observed
T6309-7	Field Blank	QA/QC	- e	100	0	No Fibers Observed
T6409-1	Inside WA #11	Final Clearance	1200	100	8	0.003
T6409-2	Inside WA #11	Final Clearance	1200	100	15	0.006
T6409-3	Inside WA #12	Final Clearance	1200	100	9	0.003
T6409-4	Inside WA #12	Final Clearance	1200	100	14	0.005
T6409-5	Box Blank	QA/QC	-	100	0	No Fibers Observed
T6409-6	Field Blank	QA/QC	-	100	0	No Fibers Observed

NFO - No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson (07-NIOSH30)

Office Fax (304) 292-1095 (304) 292-2320

TURNER HALL

ASBESTOS ABATEMENT WORKPLAN

SHEPHERD UNIVERSITY

Shepherdstown, West Virginia BEC Project # WV10023 June 22, 2010

SUMMARY OF WORK

The asbestos abatement project consists of removing TSI Pipe Fittings associated with Non-Asbestos containing Pipe Insulation in the following areas that are provided hereunder of Turner Hall, Shepherd University, Shepherdstown, West Virginia. The asbestos-containing materials (ACM) abatement work shall be conducted within a regulated work area utilizing "adequately wet" removal methods via containment bag (glovebag).

Turner Hall

Work Area #1- Crawlspace

TSI Pipe Fittings associated with 450 LF of Non-Asbestos containing Pipe Insulation

Work Area #2- Laundry Room/Basement Hallway (Dining Hall Side)/Stairwell Hallway TSI Pipe Fittings associated with 175 LF of Non-Asbestos containing Pipe Insulation

Work Area #3- Basement Hallway (Gardiner Hall Side)/Utility Rooms #1, #2, and #3
TSI Pipe Fittings associated with 300 LF of Non-Asbestos containing Pipe Insulation

Work Area #4- Room #101 – 2 TSI Pipe Fittings

Work Area #5- Room #103 – 2 TSI Pipe Fittings

Work Area #6- Room #119 – 2 TSI Pipe Fittings

Work Area #7- Residents Life Office – 2 TSI Pipe Fittings

Work Area #8- Residents Life Room – 2 TSI Pipe Fittings

GENERAL ASBESTOS ABATEMENT REQUIREMENTS

Containment Bag (Dust Control):

- Friable asbestos-containing pipe fittings are to undergo controlled removal via containment bag (glovebag), the TSI exist in of Turner Hall.
- Removal of asbestos-containing pipe-fittings in Turner Hall and in are to be performed via glovebag containment. Dust control isolation containment will be maintained during the work. Local exhaust and ventilation system shall be sealed and locked out for duration of work. Dropcloths will be used for coverage of all objects within regulated areas.
- Glovebag removal will be performed with no less than two (2) licensed asbestos workers per glove bag.
- > Smoke testing of the glove bags for leak detection.
- > Glove bag removal will be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- Upon completion of glovebag removal operations, each glove bag will be double bagged and sealed with duct tape.
- Preventing dust dispersion is the primary means of controlling the spread of asbestos within the glovebag enclosure.
- ➤ Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- > Bags or containers of waste will be moved to the waste holding area, washed, and wrapped in a bag with the appropriate labels.
- Disposal of regulated, friable ACM and non-friable ACM shall be in accordance with applicable US EPA, DOT, and State of West Virginia asbestos hazard control regulations.
- ➤ Abatement Contractor shall provide documentation for review and approval prior to conducting abatement actions the following:
- > Oversight by competent person, State of West Virginia licensed Asbestos Supervisor.
- Material Safety Data Sheets and Technical Data Sheets for all products, supplies, materials, etc. planned for use during the abatement project.
- Restrictive tape barriers shall be set up immediately upon mobilization to control access to work area. OSHA warning signs will be posted at perimeter of the work area.
- Provision of ground-fault circuit interrupters for electrical equipment to be utilized during the work.
- > Furnish all supplies and equipment necessary to perform the asbestos removal and disposal operation in a manner consistent with this project design and applicable local, state, and federal regulations.
- > Provide and maintain on site exposure assessment documentation (within 12 months) including data relating to prior similar jobs, as applied to the specific variables of the current job.
- > Supplies, Materials, Equipment & Manpower necessary to complete the abatement project in compliance with project completion schedule.

PERSONNEL HYGIENE PROCEDURES

Workers performing abatement operations shall utilize the following minimum personal protective equipment:

- Negative pressure, half-face respirator equipped with HEPA filter cartridges for use during the asbestos abatement is required. Full body disposable suits with boots/hood extensions, hard hats, safety boots, safety eye glasses, gloves
- Abatement workers and all other authorized regulated work area entrants shall utilize the two (2) stage decontamination unit to wet-clean body extremities and all equipment, respirators, etc. prior to change to street clothes at the building where work is being performed.

GENERAL WORK PRACTICES

Workers are to adhere to the following minimum required work practices:

- > Thermal System Insulation removal operations shall be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- ➤ Preventing dust dispersion is the primary means of controlling the spread of asbestos within the regulated area. Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- > Bags or containers of waste will be moved to the waste holding area, washed, wrapped in a clean second bag marked with appropriate labels and the open end "goose neck" sealed with resilient tape.

CLEANING THE WORK AREA

- Surfaces within the work area should be kept free of visible dust and debris to the extent feasible. Whenever visible dust appears on surfaces, the surfaces must be cleaned by wiping with a wet sponge, brush, or cloth and then vacuumed with a HEPA vacuum.
- All surfaces within the regulated area will be cleaned before it is disassembled and inspected by the owner's representative. An approved encapsulant must be sprayed onto areas after the visible dust has been removed.

AN AIR MONITORING PLAN

Owner's representative shall collect phase contrast microscopy (PCM) at baseline, during active abatement operations, and post abatement activities. BEC shall collect the minimum number of environmental air samples required for non-AHERA (school) asbestos abatement projects in accordance with Table 64-63B of the State of West Virginia asbestos rule. BEC shall collect the following number of air samples for the previously noted contained Work Areas as follows:

Table 64-63B

Work Area Size	Minimum Number of Required Samples
< 49 sq. ft.	0
50 - 160 sq. ft.	2
161 - 2,500 sq. ft.	3
2,501 - 5,000 sq. ft.	4
5,001 -10,000 sq. ft	5
>10,000 sq. ft.	Calculate *

^{*} Five (5) samples plus one (1) additional sample for each additional 5,000 square feet.

- > Air sampling equipment will be calibrated prior to and at the completion of sample collection.
- Air sampling shall be achieved via the use of high volume air sampling pumps. Air sampling pumps shall be located immediately adjacent to the work area at critical barriers, clean room of the decontamination unit, and interior facility areas remote to the abatement operations. Samples will be collected with a sufficient volume of air drawn through the cassette as prescribed by the appropriate analytical method.
- Abatement Contractor's competent person shall identify 25% of the work force and collect a representative number of OSHA required personal samples from the work force. Sampling shall also be conducted for the determination of exposure during the phases of work activities- pre-cleaning, set up, removal, and post cleaning activities.

PROJECT COMPLETION SCHEDULE

	Begin	Finish
Turner Hall Work Areas	July 12, 2010	August 6, 2010

DISPOSAL

Waste will be transported from the work areas via polyethylene carts to a lined and enclosed vehicle. All waste generated shall be disposed of in accordance with all local, State, and Federal regulations.

APPLICABLE REGULATIONS

Occupational Safety and Health Administration

> 29 CFR 1910 General Industry			
29 CFR 1910 General Industry	1	20 OFD 1010	C 11 1 1
	-	JULER TUIL	Lapheral Industry
		2) (11 1) 10	Ocherai muusu y

> 29 CFR 1910.1001	Asbestos Standard for General Industry
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29 CFR 1910.134 Respiratory Protection

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
 29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags)

> 29 CFR 1926 Construction Industry

➤ 29 CFR 1926.1101 Construction Industry- Asbestos Standard

United States Environmental Protection Agency

➤ 40 CFR Part 261 Hazardous Waste regulations

> 40 CFR Part 61 NESHAP regulations

Department of Transportation

> 49 CFR Parts 171-180 Transportation of hazardous materials

State of West Virginia Division of Health

➤ Tile 64, Series 63 Asbestos abatement licensing rule

In addition to any detailed requirements of the Work Plan, the Asbestos Abatement Contractor shall, at their own cost and expense, comply with all laws, ordinances, rules, and regulations of Federal, State, Regional, and Local Authorities regarding work area preparation, removal, handling, and disposal of asbestos containing materials.

This asbestos abatement project design document was prepared by:

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Richard C. Robinson

Project Manager

WV Asbestos Project Designer

(WV # AD002896-Expires February 28, 2011)

APPENDICES

Appendix A - USEPA\AHERA\WV Asbestos Project Designer

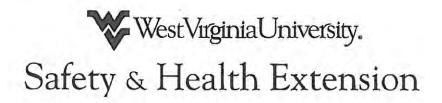
Appendix B - Asbestos Removal Work Area Location

June 22, 2010

Date

APPENDIX A

USEPA AHERA WV ASBESTOS PROJECT DESIGNER



This is to certify that

Richard Robinson

has met the attendance requirements and successfully completed the

Asbestos Project Designer Refresher

As approved by the Environmental Protection Agency 8 Instructional Hours

Mas D Full	February 4th, 2010
Course Director	Examination Date
February 4th, 2010	5-0169
Course Date	Number
Morgantown, WV	February 4 th , 2011
Location	Expiration Date

This course is West Virginia and EPA approved and meets the requirements of 40 CFR Part 763 AHERA for purposes of accreditation required under Toxic Substances Control Act (TSCA) Section 206.

Training provider:
Safety & Health Extension/West Virginia University
P.O. Box 6615, Morgantoum, WV 26506-6615
Phone: 800-626-4748





WEST VIRGINIA

· Asbestos Program

Richard C. Robinson

License # AD002896 Issued: 2/17/2010

Expires:

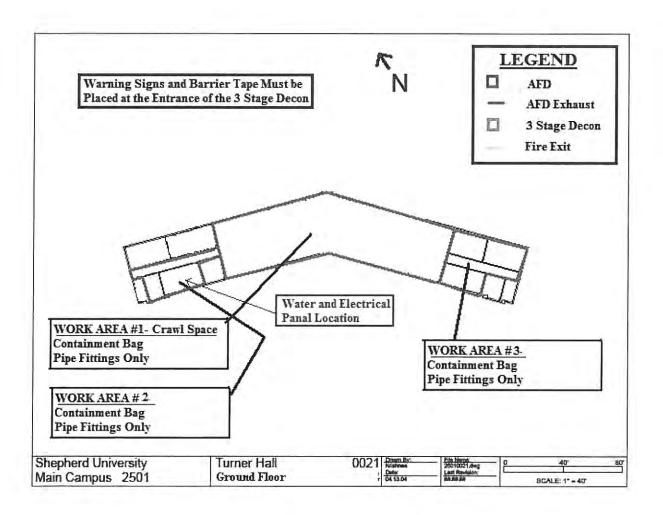
2/28/2011

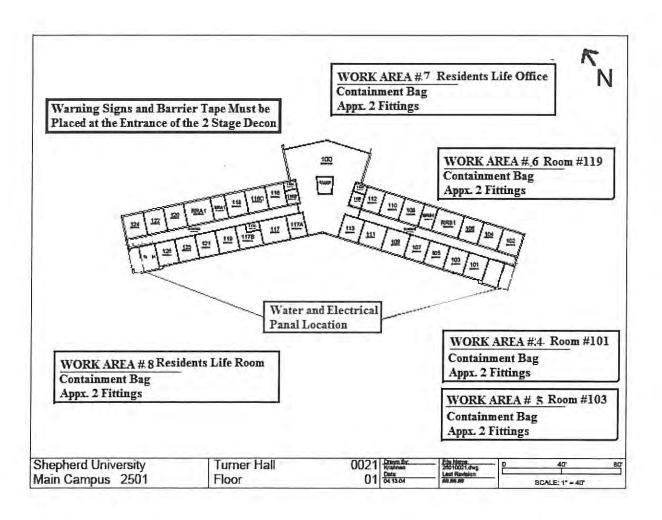
IS LICENSED AS AN ASBESTOS PROJECT DESIGNER

Randy C. Curtis Dir., WV RTIA DIV

APPENDIX B

ASBESTOS REMOVAL WORK AREA LOCATION





BEC Boggs Environmental Consultants, Inc.

1 College Avenue Frederick, Maryland 21701 Office Fax (301) 694-5687 (301) 694-9799

363 High Street Morgantown, West Virginia 26505 Office Fax (304) 292-1095 (304) 292-2320

July 1, 2010

SHEPHERD UNIVERSITY

Office of Facilities Management Shepherdstown, West Virginia 25443

ATTENTION:

Dan Yanna,

Director of Facilities

REFERENCE:

Abatement & Industrial Hygiene Monitoring

Shepherd University - Turner Hall - Cost Proposal

Mr. Yanna:

BOGGS ENVIRONMENTAL CONSULTANTS, INC. (BEC) is pleased to present this cost proposal to conduct asbestos abatement and industrial hygiene air monitoring for the above referenced project site in accordance with the asbestos abatement workplan dated 23 June 2010...

BEC will supply all labor, material, and supervision necessary to remove and dispose of the asbestos in accordance with all federal, state, and local regulations pertaining to a project of this type.

After completion of this project a report containing important documentation including licenses, waste manifest, and air monitoring results will be sent to you for your permanent record.

Should you agree with our proposed services and associated fees, BEC requests your signature under the attached proposal in the standard terms and conditions located below.

Should you have any questions please call our office at your earliest convenience.

Sincerely,

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Richard Robinson

Project Manager

Enclosures

BEC

SHEPHERD UNIVERSITY

Mr. Dan Yanna, Director of Facilities Turner Hall Abatement & Industrial Hygiene Monitoring July 1, 2010 Page Two

COST PROPOSAL

TASK I. INDUSTRIAL HYGIENE SERVICES

A/E Design Survey & Development of Asbestos Abatement Workplans, Air Quality & Final Clearance Sampling, Final Technical Report

\$ 5,610.00

TASK II. ASBESTOS ABATEMENT

Turner Hall

Removal of TSI pipe fittings located within the crawl space, basement hallways, laundry room, basement stairwell, three storage rooms in basement, Room #101, Room #103, Room #119, Residents Life Office, and Residents Life Room on First Floor

\$ 12,400.00

Total Project Cost (Not-To-Exceed)

\$ 18,010.00

STANDARD TERMS & CONDITIONS

BEC standard terms for payment of services rendered are \$\frac{18,010.00}{200} \text{ payment} - \text{Net 10 days due upon completion of field work.} BEC request your signature (including date of proposal acceptance) below, which shall serve not only as Notice to Proceed with the work but also acceptance of our Terms & Conditions. BEC advises a late payment charge of 2.0 % per month will apply to any amounts not received within the aforementioned payment terms.

BEC PROFESSIONAL SERVICES AGREEMENT

BEC request certification of acceptance of our Cost Proposal including our Standard Terms & Conditions by completing in full the signatory section provided below. BEC shall not incur additional fees or charges without prior written authorization from Shepherd University.

Dan Yanna, Director of Facilities

Shepherd University

July 2, 2010

1 College Avenue Frederick, Maryland 21701 Office Fax (301) 694-5687 (301) 694-9799

363 High Street Morganlown, West Virginia 26505 Office

(304) 292-1095 (304) 292-2320

July 23, 2010

SHEPHERD UNIVERSITY
OFFICE OF FACILITIES MANAGEMENT
North King Street
Shepherdstown, West Virginia 25443
304.876.5055
dyanna@shepherd.edu

ATTENTION:

Dan Yanna,

Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

BEC Project # WV10023

Mr. Yanna:

BOGGS ENVIRONMENTAL CONSULTANTS, INC. (BEC) performed Air Clearance Monitor duties in support of the asbestos abatement project completed at Turner Hall, located at Shepherd University, Shepherdstown, West Virginia 25443 on July 13, 2010 through July 21, 2010.

The State of West Virginia, Department of Health and Human Resources (DHHR), Bureau for Public Health's "Asbestos Abatement Licensing Rule" (64 CSR 63) requires a written report to confirm or deny clearance of the contained work areas of an asbestos abatement project at the conclusion of the project ("Clearance Air Monitor Duties", §64-63-5.1.g).

Specifically, §64-63-5.2 requires the written report include, at a minimum the following:

§64-63-5.2.a.	The name and signature of any individual who collected any air sample required by this rule;
§64-63-5.2.b	The locations indicated by drawings and a sample log where samples were collected;
§64-63-5,2.c	The date of collection;
§64-63-5.2.d.	The name and address of the laboratory which analyzed the samples;
§64-63-5.2.e.	The date of the analysis;
§64-63-5.2.f.	The results of the analysis;
§64-63-5.2.g.	The method of analysis;
§64-63-5.2.h.	The name and signature of the individual performing the analysis;
§64-63-5.2.i.	Proof that the laboratory meets the applicable requirements of this rule; and
§64-63-5.2.j.	Either a statement clearing the contained work areas for reoccupancy, or a statement denying clearance of the contained work areas, which shall contain an explanation for denying clearance

ASBESTOS ABATEMENT – SCOPE OF WORK

BEC observed that ACM Services, Inc. (ACM Services), a State of West Virginia (WV) licensed asbestos abatement contractor (#AC001330), utilized WV licensed asbestos abatement supervisors and asbestos abatement workers in the conduct of the asbestos abatement project.

Dan Yanna, Director of Facilities Management Turner Hall – Asbestos Abatement July 23, 2010 Page Two

Turner Hall - Modified Partial Isolation/Containment Bag

ACM Services constructed regulated-access Modified Partial Isolation (Dust Control) asbestos abatement isolation containment. BEC observed the Dust Control isolation containment construction features, included but were not necessarily limited to, temporary installation of critical (primary) isolation barriers at all openings (eg, windows, doors, HVAC ductwork diffusers/grilles, etc.) to the abatement work area, posting of US OSHA asbestos danger signs, placement of polyethylene sheeting dropcloths beneath asbestos-containing thermal system insulation (TSI) pipe fittings for protection of property and to facilitate cleanup, and construction of two-stage decontamination unit-contiguous to the abatement containment. ACM Services performed gross removal of thermal system insulation (TSI) pipe fittings via containment bag (glovebag) techniques.

Subsequently, ACM Services conducted cleaning of substrates (i.e., TSI pipe fittings). BEC staff members, Richard C. Robinson and H. Dean Conway Jr. performed visual inspections of the work areas, which confirmed asbestos removal operations were complete and permitted ACM Services to apply a micro-fiber encapsulating agent to the piping substrates.

Turner Hall Work Areas - (Modified Partial Isolation/ Containment Bag)

Work Area #1 Crawlspace Work Area #6 Room #103

Work Area #2 South Basement Work Area #7 Residents Life Office

Work Area #3 West Basement Work Area #4 Room #101 Work Area #5 Room #119

Asbestos Abatement - General Procedures

The asbestos abatement work practices included ensuring "adequately wet" conditions were maintained, collection and packaging of asbestos waste as generated, temporary installation of an alternative ventilation system, and completion of fine cleaning activities, which resulted in no visible asbestos laden dusts, debris, and/or residues present at the abatement work areas. The location of asbestos abatement work areas were identified via posting Asbestos Danger Signs at each entrance to the decontamination unit, in accordance with 29 CFR Part 1926.1101.

The alternate ventilation system consisted of shutdown and isolation of existing heating, ventilation, and air conditioning (HVAC) equipment. Portable cabinet-mounted (AFD) air filtration devices, which are equipped with an exhaust fan with a High Efficiency Particulate Air (HEPA) filters, were temporarily installed within each work area and exhausted to the exterior by means of flexible duct. The HEPA filter used in the AFD is capable of removing 99.97 percent of particles at a length of 0.3 micrometers and safely permits exhaust of the asbestos abatement work area air to the ambient environment. The restriction of air inflow to the work areas, in conjunction with the use of high volume HEPA filtered equipped air filtration devices, develops a differential in the static air pressure of the work areas (negative pressure within the work zone) relative to areas outside of the work areas. The negative pressurization of a regulated area, at which hazardous materials are handled (disturbed) is a standard engineering control utilized to confine contaminants to the regulated-access work areas.

Dan Yanna, Director of Facilities Management Turner Hall – Asbestos Abatement July 23, 2010 Page Three

SCHEDULE OF ASBESTOS-CONTAINING MATERIALS

Turner Hall Crawlspace - Work Area #1 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#1	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	342 Fittings

Turner Hall South Basement - Work Area #2 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#2	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	73 Fittings

Turner Hall West Basement - Work Area #3 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#3	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	50 Fittings

Turner Hall Room #101 - Work Area #4 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#4	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	2 Fittings

Turner Hall Room #119 - Work Area #5 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#5	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	2 Fittings

Turner Hall Room #103 - Work Area #6 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#6	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	2 Fittings

Turner Hall Residents Life Office - Work Area #7 Containment Bag (Glove bag)

Work Area	Asbestos-Containing Materials & Removal Method	Quantity
#7	Containment Bag Removal Techniques: Asbestos Containing TSI Pipe Fittings	2 Fittings

Dan Yanna, Director of Facilities Management Turner Hall – Asbestos Abatement July 23, 2010 Page Four

ASBESTOS ABATEMENT PROJECT SCHEDULE

The asbestos abatement project began on July 13, 2010 and was completed on July 21, 2010. BEC performed post-abatement work area visual inspections and clearance testing sample collection and analysis on July 13, 2010 through July 21, 2010

ASBESTOS WASTE DISPOSAL

ACM Services asbestos abatement supervisor, Ms. Rosalba Duran, stated a total of three hundred ninety one (391) waste bags were generated on July 13, 2010 through July 21, 2010. BEC observed ACM Services transfer asbestos waste bags to a fleet vehicle for transport to ACM's permitted temporary storage facility. Ms. Duran stated the asbestos waste bags will be shipped to the US EPA permitted landfill to undergo disposal (burial). However, BEC makes no references or representations regarding collection, packaging, transfer, and/or shipment of asbestos waste, which may or may not have actually occurred in our absence.

ABATEMENT WORKER PERSONAL PROTECTIVE EQUIPMENT (PPE)

ACM Services conducted the asbestos removal project utilizing WV licensed asbestos abatement workers protected with half-face, negative-pressure demand, air purifying respirators (APR) equipped with high efficiency particulate air (HEPA) filter cartridges and full body disposable coveralls during the abatement work. ACM Services utilized a two-stage decontamination unit for personnel hygiene during the work.

ASBESTOS ABATEMENT ENVIRONMENTAL AIR QUALITY TESTING

Air Quality Surveillance (Active Abatement)

Concurrent with active abatement operations, BEC staff members Mr. Richard R. Robinson and Mr. H. Dean Conway Jr. collected environmental air samples to monitor air quality continuously during the abatement actions. Mr. Robinson and Mr. Conway performed onsite PCM-NIOSH #7400 analysis of the active abatement environmental air samples to reveal Fibers per cubic centimeter (F/cc) concentrations. Mr. Robinson and Mr. Conway have successfully completed the NIOSH training/education course "Airborne Asbestos Sampling and Evaluation Techniques" (NIOSH 582, equivalent) and are members of our analytical laboratory, which has successfully participated in the American Industrial Hygiene Association (AIHA) "Proficiency Analytical Testing" Program (AIHA #163201) on a quarterly basis since January 2002. The results of PCM - NIOSH #7400 analyses of the active abatement air samples are listed hereunder in **Table A - Air Quality Sampling Data**.

Abatement Work Area - Final Visual Inspections

Mr. Robinson and Mr. Conway conducted "final" visual inspections of the asbestos abatement work areas; upon notification from the asbestos abatement contractor the following tasks were completed, in their entirety: (a) gross-removal of TSI pipe fittings, gross cleaning, fine cleaning of substrates, and application of an encapsulant agent to address (lock down) microscopic fibers potentially present at substrates.

Abatement Work Area - Final Visual Inspections Results

Mr. Robinson and Mr. Conway observed the asbestos abatement work areas were free of visible asbestos-containing debris, dusts, and/or residues and satisfactory environmental conditions existed for collection of environmental air samples.

SHEPHERD UNIVERSITY
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Dan Yanna, Director of Facilities Management

Turner Hall – Asbestos Abatement
July 23, 2010
Page Five

POST ABATEMENT CLEARANCE CRITERIA TESTING

Clearance Criteria for Reoccupancy (Post Abatement) Environmental Air Quality

Mr. Robinson and Mr. Conway collected post abatement environmental air quality samples at the completion of the asbestos abatement operation at the Turner Hall work areas. Pursuant to air sample collection, Mr. Robinson and Mr. Conway performed onsite analysis of the environmental air sample via Phase Contrast Microscopy (PCM) analysis; National Institute for Occupational Safety and Health (NIOSH) Manual of Analytical Method #7400. Additionally, BEC possesses a valid WV license for analysis of environmental air samples (WV #LT 000374, expires 30 April 2011).

The results of PCM- NIOSH #7400 analyses ("Fibers-In-Air" concentrations) are listed hereunder in Table A - Air Quality Sampling Data.

TABLE A - AIR QUALITY SAMPLING DATA

Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
7/13/10	71310-1	South Crawlspace Hall at Stairwell	Area Surveillance	< 0.002
7/13/10	71310-2	South Crawlspace Hall at Entrance	Area Surveillance	< 0.002
7/13/10	71310-3	North Crawlspace Hall at Entrance	Area Surveillance	< 0.002
7/13/10	71310-4	South Crawlspace Hall at Stairwell	Area Surveillance	0.008
7/13/10	71310-5	South Crawlspace Outside Decon	Area Surveillance	0.009
7/13/10	71310-6	North Crawlspace Hall at Entrance	Area Surveillance	0.004
7/13/10	71310-7	Box Blank	QA/QC	No Fibers Observed
7/13/10	71310-8	Field Blank	QA/QC	No Fibers Observed
7/14/10	71410-1	Outside Clean Room	Area Surveillance	0.006
7/14/10	71410-2	Ground Floor Hall (Adjacent to Stairwell)	Area Surveillance	<0.001
7/14/10	71410-3	North Hall at Crawlspace (Entrance)	Area Surveillance	< 0.001
7/14/10	71410-4	Outside Clean Room	Area Surveillance	< 0.003
7/14/10	71410-5	Ground Floor Hall (Adjacent to Entrance)	Area Surveillance	< 0.003
7/14/10	71410-6	North Hall at Crawlspace (Entrance)	Area Surveillance	< 0.003
7/14/10	71410-7	Box Blank	QA/QC	No Fibers Observed
7/14/10	71410-8	Field Blank	QA/QC	No Fibers Observed

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Turner Hall – Asbestos Abatement
July 23, 2010
Page Six

TABLE A - AIR QUALITY SAMPLING DATA (continued)

Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
7/15/10	71510-1	Outside Clean Room	Area Surveillance	0.005
7/15/10	71510-2	South Hallway Adjacent to Stairwell	Area Surveillance	0.006
7/15/10	71510-3	North Hallway at Crawlspace Entrance	Area Surveillance	0.005
7/15/10	71510-4	Outside Clean Room	Area Surveillance	0.002
7/15/10	71510-5	South Hallway Adjacent to Stairwell	Area Surveillance	< 0.002
7/15/10	71510-6	North Hallway at Crawlspace Entrance	Area Surveillance	0.002
7/15/10	71510-7	Box Blank	QA/QC	No Fibers Observed
7/15/10	71510-8	Field Blank	QA/QC	No Fibers Observed
7/16/10	71610-1	Clean Room South Hall	Area Surveillance	0.006
7/16/10	71610-2	South Hall Adjacent to Stairwell	Area Surveillance	0.006
7/16/10	71610-3	North Hall at Crawlspace Entrance	Area Surveillance	0.007
7/16/10	71610-4	Clean Room South Hall	Area Surveillance	0.006
7/16/10	71610-5	South Hall Adjacent to Stairwell	Area Surveillance	0.005
7/16/10	71610-6	North Hall at Crawlspace Entrance	Area Surveillance	0.005
7/16/10	71610-7	Box Blank	QA/QC	No Fibers Observed
7/16/10	71610-8	Field Blank	QA/QC	No Fibers Observed
7/19/10	71910-1	Outside Clean Room	Area Surveillance	0.006
7/19/10	71910-2	South Hall at Stairs	Area Surveillance	0,004
7/19/10	71910-3	North Hall at Crawlspace Entrance	Area Surveillance	0.002
7/19/10	71910-4	Box Blank	QA/QC	No Fibers Observed
7/19/10	71910-5	Field Blank	QA/QC	No Fibers Observed
7/20/10	72010-1	North Wing Hallway at Mechanical Room	Area Surveillance	0.005
7/20/10	72010-2	North Wing Hallway at Laundry Room	Area Surveillance	0.006
7/20/10	72010-3	Crawlspace South Wing East	Final Clearance	0.003
7/20/10	72010-4	Crawlspace South Wing Northeast	Final Clearance	0.002
7/20/10	72010-5	Crawlspace North Wing North Center	Final Clearance	0.003

Dan Yanna, Director of Facilities Management Turner Hall – Asbestos Abatement July 23, 2010 Page Seven

TABLE A - AIR QUALITY SAMPLING DATA (continued)

Collection Date	Sample Number	Sampling Location	Sample Description	PCM Results (F/cc)
7/20/10	72010-6	Crawlspace North Wing Southwest	Final Clearance	< 0.002
7/20/10	72010-7	South Wing Basement Janitor Room	Final Clearance	0.002
7/20/10	72010-8	South Wing Storage Room	Final Clearance	0.002
7/20/10	72010-9	South Wing Hallway	Final Clearance	0.003
7/20/10	72010-10	North Wing Basement	Area Surveillance	< 0.002
7/20/10	72010-11	North Wing Basement at Decon	Area Surveillance	0.002
7/20/10	72010-12	Media Blank	QA/QC	No Fibers Observed
7/20/10	72010-13	Field Blank	QA/QC	No Fibers Observed
7/20/10	72010-14	1 st Floor Room #101	Working Final	0.003
7/21/10	72110-1	North Hall Basement Center	Area Surveillance	0.004
7/21/10	72110-2	North Hall Laundry Room	Area Surveillance	0.002
7/21/10	72110-3	Room #119	Working Final	0.008
7/21/10	72110-4	Resident Life Office	Working Final	< 0.002
7/21/10	72110-5	Room #103	Working Final	< 0.002
7/21/10	72110-6	North Hall Basement Center	Final Clearance	0.003
7/21/10	72110-7	North Hall Laundry Room	Final Clearance	0.004
7/21/10	72110-8	North Hall South End	Final Clearance	0.003
7/21/10	72110-9	Box Blank	QA/QC	No Fibers Observed
7/21/10	72110-10	Field Blank	QA/QC	No Fibers Observed

SHEPHERD UNIVERSITY
OFFICE OF FACILITIES MANAGEMENT
Dan Yanna, Director of Facilities Management
Turner Hall – Asbestos Abatement
July 23, 2010

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POST ABATEMENT CLEARANCE CRITERIA TESTING - CONCLUSIONS

BEC concludes, based upon post abatement work area visual inspections and review of laboratory analytical data, all surfaces in the work areas were free of visible asbestos residue and the measured airborne concentration of fibers greater than five microns was less than one hundredth (0.01) fiber per cubic centimeter as analyzed via PCM- NIOSH #7400 for each of the environmental air samples collected on July 13, 2010 through July 21, 2010.

Therefore, BEC concludes, in consideration of clearance criteria established by the WV CSR Title 64 Series 63, unrestricted access and re-occupancy of the former asbestos abatement work areas was granted. Accordingly, ACM Services personnel completed demobilization of materials, supplies, equipment and critical isolation barriers on July 21, 2010.

Should you have any questions, please contact our office at your earliest convenience.

Sincerely,

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Onsite Fieldwork & Technical Report Written By:

Richard Robinson Project Manager

State of WV Asbestos Air Clearance Monitor (#AA001879)

H. Dean Conway Jr. Project Manager

State of WV Asbestos Air Clearance Monitor (#AA001781)

Chen Convay

Appendices

Appendix A - BEC Field Documentation

Appendix B - BEC Staff Certification

Appendix C - BEC WV Laboratory License

Appendix D - BEC Certificates of Analysis

APPENDIX A

BEC FIELD DOCUMENTATION

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Achestas Abatement Daily Log Sheet Cover Page

BEC Project N Abatement Cor			
			Precipitation
Time AM	Temperature	Conditions	No
200 PM	74° 86°	Cloudy	No
ABATEMENT Total Isolati Mod - Partic Containment Mini - Cont Exterior NESHAP C tySqu tyLir tyCu 3 Stage Dec	<u>f:</u> on al Isolation t Bag (Glovebag)	NEGATIVE PRESSURE: Yes □ No Exhaust to Exterior # Of AFDs CLEARANCE TYPE: □ TEM PCM	WORKER PPE Full Body Coveralls □ Light Weight □ Poly Head/Foot Covers AGloves Hard Hat □ Eye Protection □ Full Face Shield Boots
Full – Face A Full – Face I SCBA (Type Supplied Air	APR (Type A) APR (Type A) PAPR (Type B) e C) t (Type C)	#Supervisors	Work Area # #1 Building # Turner Room # Crawl Space Floor # Ground

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

BEC Onsite IH:	RR
BEC Project No:	WV16023
Project Manager:	Re
Date:	713/2010

716	De ansite and meets Dead Convey (BEC) to discuss some of work
125	ACM Services Pete Hepper, Miguel Sanchez, and Rosalba Duran
133	Onsite,
	Re shows ACM scope of werk for Gardiner Hall and Turner Hall
750	ACM workers onsite
-100	Treat he have a
810	Acm begins staging equipment & hanging gloubess, and bealing criticals in the crawl space. RR calibrates and setsup (2) pumps on South and of crawl space entrance and one at north contrance to crawl space hallway. Acm Supervisor Rosalba Duran intorns RR they will Seed at North crawl space a traver for south and
010	Sealing Triticals in the crawl space
836	PR calibrates and setsus (2) pumps on South and Of crawl space
0.4	entrance and one at north entrance to crawl space hallway
845	ACM Supero Iser Rosalba Duran intornes PR they will
	Seal of North craul space entrance and acress to southernal
	Seal of North cray space entrance and acress to southerno
	in North hall & access for that end
1030	RD requests inspection on glorebags that have been hung. RR observes several breaches + advises repairs. Aum has only prepped 20% of fittings due to limited lighting. Once removed Aum will has bags in other areas. It is relevant to note that TSI in basement has been tooked several times and is non-asbestos. Aum is only removing
1.61	RR observes several breaches + advises repairs. Aum has only
	prepped 20% of fittings due to limited lighting. Once removed Allewill
	has boos in other areas. It is relevant to note that TSI in basement
	has been tested several times and 15 non-asbestos. Acmis only removing
	titlings + not 151. Ke intorms van yanna about what to be once
	filtings has been removed.
1100	kun takes Juneh
1200	ALM back towerk + begins removal RR changes out samples. ALM completes slovebag removal
(33)	KR changes out samples. Acm completes slovebes removed
	and begins hanging additional bags ACM Stops Prep + 15 offsite
1420	ACM Stops Prep + 13 offsite
1440	All samples stopped + RR begins sample analysis
1530	All samples stopped + RR begins sample analysis All Packed up and offsite
1	

SHEET OF	
Industrial Hygienist:	pe pe

Date: 4/13/2010

Boggs Environmental Consultants, Inc.

AIR SAMPLING LOG

7/13/2010

BEC Onsite IH:

Date:

BEC Project No:

W/100 23

Flow Rate Calibration (Rotometer) Dwyer Precision, Other): Abatement Contractor ACM

Abatement Contractor License #: Project Manager:

Turner Hall

2

Project Location:

7/13/2010 Date Analyzed: Page:

SAMPLE INFORMATION

7/13/2010 Calibration Test Performed (Technician/Date): RP.

Jo

			ä	Liters Per Minute		φ,	Sampling Period	72		
Sample Number	Sample Location	Sample Description	Pre	Post	Average	Begin	Bnd	Total Minutes	Total Volume (L)	Results I/cc
7-316-1	South Crawl Space Hall at Stownell Area Surv	Ara Surv	5	8	5	835	1235	340	1900	K0.003
1713-10-3	South Crawl Spuc. Hell at Entrang Area Surv	Are Suru	5	6	S	835	1,235	340	1200	600.07
71310-3	North Cruid Sprickell at Entrue Are	Are Sun	6	5	6	845	9461	235	1175	20.00
7-91214	Kath (min) Snace Hall of Starwell Area	Area Surv	5	5	5	1235	1435	190	600	0.00K
430-5	C. Il (na) Suce Outside Decord	Area Surv	8	5	5	1235	1435	120	999	0.000
71310-6	North Cray Space of Entrance	Area Sur	5	5	مر	OHO!	1440	190	009	6,004
七-015年	Box Blank	00/00								1050
71310-8	Freld Blook	an/ac								NFo

COMMENTS

Name: Of

Date: 7/13/2016

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Date:

BEC Onsite IH:

Project Location:

Turner Hall

BEC Project No:

WV10023

Project Manager:

Abatement Contractor

ALM Services

Abatement Contractor License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst: Place

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07 - NIOS H34

Date:	7/13/2010		
BEC Onsite IH:	RR	Project Location:	Turner Hall
BEC Project No:	MNIOORD	Project Manager:	RR
Abatement Contractor	Aun	Abatement Contracto	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst:

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07-NIOSH3C

Boggs Environmental Consultants, Inc.

PRE-COMMENCEMENT INSPECTION LOGSHEET Date: Turner Hall RR Project Location: BEC Onsite IH: WYLOODY Project Manager: BEC Project No: Abatement Contractor Lic. #: ACM Abatement Contractor: **Pre-Commencement Inspection Checklist** OSHA Regulations 1910.1001 and 1926.1101 posted? No N/A 1. Copies of plans and specifications on site? 2. No N/A Emergency Telephone Numbers Posted: A. Police Yes No" N/A 3. 4. Yes No. N/A B. Fire C. Emergency Squad 5. Yes No N/A Yes N/A D. Local Hospital 6. E. Contractor's Office and/or Supervisor Yes N/A 7. F. Contractors Monitoring Firm 8. No N/A Yes No N/A **Evacuation Plan Posted** N/A Waste removal route as per design? 10 No N/A Bag chamber acceptable? No 11. N/A Decontamination facility acceptable? No 12. Yes 5 μm wastewater filter in place and operational? No N/A 13. Interior plastic preparation acceptable? No 14. Double layer on all floors? No N/A 15. Critical barrier construction acceptable? N/A No 16. OSHA warning signs at all points of access? 17. No N/A Fully lockable waste storage container on site? Yes 18. No. N/A Name of waste hauler and landfill provided? Yes No N/A Adequate negative pressure (changes/hour)? 20. No N/A HVAC locked off and/or blanked 21. Yes No N/A I have inspected the job site and found it to be acceptable to begin asbestos abatement. All work has been performed in an acceptable manner and meets the requirements of the technical specifications. Environmental Technician COMMENTS:

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Boggs Environmental Consultants, Inc.
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Date: 7/13/2010
BEC Onsite IH: R.E.

BEC Project No: WUJOO

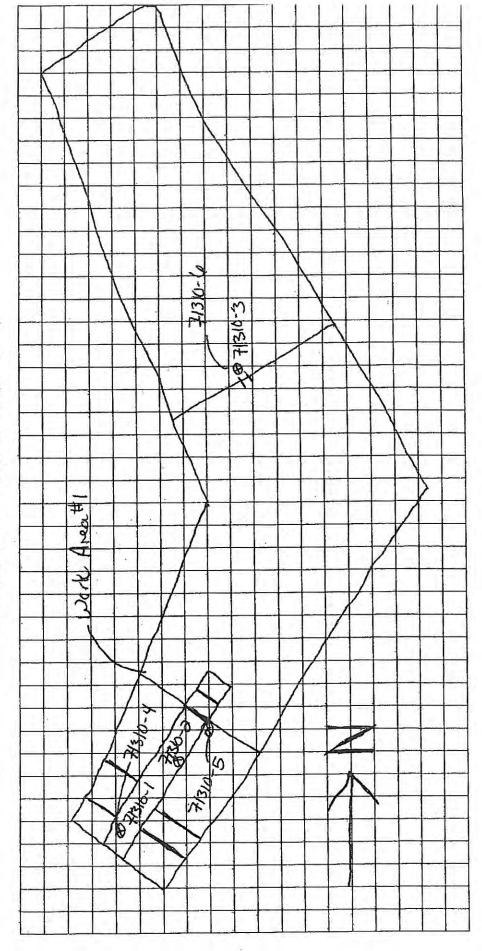
Abatement Contractor: ACM

Project Location: Turner Hal

Project Manager: RR

Abatement Contractor License #:_

SUBJECT SITE/ WORK AREA SKETCH



BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page

BEC Onsite Enviro. Tech: Ricky Robinson

BEC Project No: WY 10023

Abatement Contractor: Acm Services Client: Skeplerd

WEATHER CONDITIONS

Time	Temperature	Conditions	Precipitation .
FOW AM	70	Cloudy	No
200 PM	77	Partly Cloudy	No
ABATEMEN	IT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isola	tion	Yes 🗆 No	Full Body Coveralls
☐ Mod – Part	tial Isolation	Exhaust to Exterior	☐ Light Weight ☐ Poly
Containme	nt Bag (Gloveb	g) # Of AFDs _ ~	Head/Foot Covers Glove
☐ Mini – Cor	ntainment		Hard Hat D Eye Protection
☐ Exterior			☐ Full Face Shield
NESHAP	□ NON – NES	HAP	Boots
QtyS	quare Feet 46	GHINGS <u>CLEARANCE TYPE:</u>	
QtyL	inear Feet	□ TEM	
QtyC	ubic Feet	PCM	
☐ 3 Stage De	con 2 2 Stage	Decon	
Work Area Siz	ze:		
RESPIRATO	RS:	4.	1
Half - Face	e APR (Type A	# Supervisors	Work Area#
	APR (Type A)	# Abatement Workers	Building # Turner
☐ Full – Face	PAPR (Type E)	Room#
SCBA (Ty	pe C)		Floor #
☐ Supplied A	ir (Type C)		
		SUMMARY OF WORK PERFORMED	
A	cm tem	oved ~40 fillings and prepped	additional glovebass
		,	9 0

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

RR
W410023
RR
3/14/10

650	lk onside + meets Dean Conway
F13	Arms anxity Result Divini Intorne Re half of crew will continue
	abatement and Drep of crawl space within lumb Hall. It other narrot
	Crew will continue work at Bardner Hall
745	10.11
905	Aun regrests visual on glovebags. RR into PPF & into containment
950	Acre into PPE a Into Containment. Acre requests visual on glovebags. PR into PPE a Into containment Glovebags on ~40 fittings pass Visual inspection and Acre Begins removal. Re out of containment
,,,,,,	Beains removal, le out of containment
1100	Acm Stros work and takes lunch
1200	Acre Stops work and takes lunch Acre back to work
1230	RD intorms RR removal complete and ACM will begin
	Proping additional fittings-
1245	AUM HEGINS removing Weste
1741	RR into PPG + into contamment, trep work continues
1500	ACM Stops work + 15 offsite
1	

SHEET OF Industrial Hygienist: DURL

Date: 7/14/10

ENVIRONMENTAL SCIENCE, ENGINEERING & INDUSTRIAL HYGIENE SERVICES

DEC			
BOGGS ENVIRONME	NTAL CONSULTANTS, INC.		
Date:	7/14/2010		
BEC Onsite IH:	RR	Project Location:	Turner Hall
BEC Project No:	WV100 23	Project Manager:	RR
	Acm	Abstement Contract	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.) 2.6972

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07 いらいろう

Phase Contrast Microscopy Analyst: DU

Boggs Environmental Consultants, Inc.

Date:

AIR SAMPLING LOG

BEC Onsite IH:

WVIDORS

Abatement Contractor AUM BEC Project No:

Flow Rate Calibration (Rotometer, Dwyer Precision, Other):

Project Location: Project Manager:

Turner Hall

Abatement Contractor License #:

Date Analyzed: Page:

> Calibration Test Performed (Technician/Date): R 7/14/10 SAMPLE INFORMATION

735 1335 310 1550 0.00[735 1335 310 1550 0.00[730 1240 310 1550 60.00[735 1450 135 675 60.00[735 1450 135 675 60.00[735 1450 135 675 60.00[740 1455 135 675 60.00[1935 3/2 560 1935 3/2 1550 1940 3/2 1550 1550 1550 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 135 645 1450 14
310 1560 310 1550 310 1550 135 675 135 675	1235 310 1560 1235 310 1560 1240 310 1560 1450 135 645 1455 135 645
1335 316 1550 1240 316 1550 - 1450 135 675 1450 135 645 1455 135 675	1335 316 1550 1246 316 1550 - 1450 135 675 1450 135 645 1455 135 675
1550 675 645 675	645 645 645 645 645 645 645 645 645 645
675 675 675	645 645 645
675	675
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COMMENTS:

Name:

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Boggs Environmental Consultants, In
Boggs

Bogs Environments

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BEC Onsite H: 22

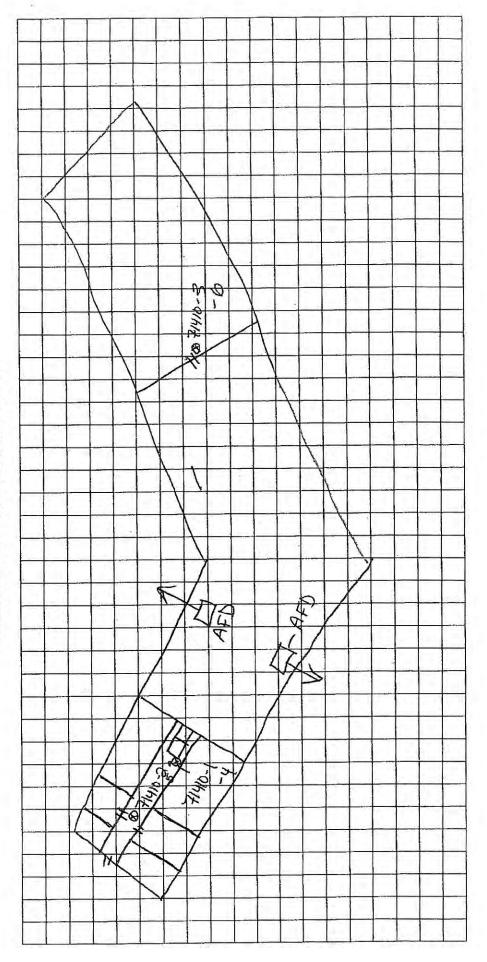
BEC Project No: WV\0033 Abatement Contractor: ACM

Project Location: Twngr Hall

Project Manager: RR

Abatement Contractor License #:

SUBJECT SITE/ WORK AREA SKETCH



BOGGS ENVIRONMENTAL CONSULTANTS, INC.

		WEATHER CONDITIONS	
Time	Temperature	Conditions	Precipitation
700 AM		Partly Clardy	No
200 PM	89	Hot Humid	
ABATEME	NT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isol		¥ Yes □ No	Full Body Coveralls
□ Mod – Par	rtial Isolation	Exhaust to Exterior	☐ Light Weight ☐ Poly
Containm	ent Bag (Glovebag)	# Of AFDs 2	Head/Foot Covers Gloves
☐ Mini – Co		4	Hard Hat DEye Protection
☐ Exterior			☐ Full Face Shield
X NESHAP	□ NON – NESHAP		Boots
QtyS	Square Feet 72 Filling 5	CLEARANCE TYPE:	174 777 A B
QtyI	Linear Feet	TEM	
Qty(Cubic Feet	PCM	
☐ 3 Stage D	Occon 2 2 Stage Decon		
Work Area S	ize:		
RESPIRATO	ORS:		
Half-Fac	ce APR (Type A)	# Supervisors	Work Area #
□ Full – Fac	ce APR (Type A)	# Abatement Workers	Building #
☐ Full – Fac	ce PAPR (Type B)		Room #
SCBA (T	ype C)		Floor #
☐ Supplied.	Air (Type C)		
		SUMMARY OF WORK PERFORMED	- W
1	4cm removed ~:	72 fittings was streeting in Ci	raul space
		0 0	

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

BEC Onsite IH:	Ricky Robinson
BEC Project No:	W10623
Project Manager:	er
Date:	7/15/10

		7
700	ce onsite + meets DC + 20	\dashv
765	RR calibrates & turns on there high volume pumps. All will begin by prepring glovebays in cravispace De Notifies PR there is a heating trul leak in Gardiner Hall. RR into 786 + turns at value. RR intovines Daw Vanna that ~2-3 gallers of heating trul oil has released into bouter room. RD regrests visual an preprint glovebags. RR into PPE & Into Containment.	_
) III	prepring glorebass in cravispace	
830	De Notified PR Here is a heating fuel leak in Gardiner Hall. Re into	4
	TRE + turns of value.	1
845	Reintorns Das Vanna that 2-3 gallers of heating treloil	
	has released into boiler room.	_
1620	RD regrests visual on proped glovebass. RR into PPE & Into	_
The second	Containment.	
1058	RR out of containment 272 glackass prepared + ready to go	
1140	Containment. PRovi of containment 272 glasbags prepped + ready to go AUM stops work + takes lunch	
11030	ACM book to work	
1240	Re changes out scurples. ACM is abating filtings from	
	Re changes out samples, ACM is abating filtings from alovebass which were prepped in the morning aboutoring RB intorns RR that center area of crawl space	
1345	es intorns RR that center area of crawl space	
	has very low overlead clearance and 15 slowing progress Acm out of containment and begins removing wester All weste removed. Acm offsite	
1445	Acm out of containment and begins removing weste	
1515	All weste removed. Aun offsite	
1530	RN 076site	
		4
		_

Industrial Hygienist: Pl Dl

Date: 7/15/10

ENVIRONMENTAL SCIENCE, ENGINEERING & INDUSTRIAL HYGIENE SERVICES

Boggs Environmental Consultants, Inc.

AIR SAMPLING LOG

7 15 2010

WIDDAS

BEC Project No:

BEC Onsite IH:

Date:

Project Location:

Turner Hall

Project Manager:

Abatement Contractor License #:

7/15/2010 Date Analyzed: Page:

SAMPLE INFORMATION

Calibration Test Performed (Technician/Date): Re 7/15/3010

Flow Rate Calibration (Rotometer, Dwyer Precision, Other):

Abatement Contractor AUM

TATIMED	SAMFLE INFORMATION									
			7	Flow Rate Liters Per Minute		3,	Sampling Period	po		
Sample Number	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total Minutes	Total Volume (L)	Results f/cc
7/210-1	Mitside Clean Room	Ara Surv	2	S	5	Sot	Shel	340	1,706	B.005
41510-3	Soth Hollings Adjacent to Stornell		2	S	S	765	1245	340	1,700	0.001
71510-3	Worth Hallman at Crown Sourchite		S	8	5	012	1350	340	1,700	0.005
h-91517	71510-4 A.tish Clean Room		8	Ŋ	۲۷	Shel	12.90	205	8009	2000
71510 - 6	S. Il Helliam Adjacent to Garall		4	5	6	she!	005/	205	5207	Co.006
71510-1-	Marth Holling at Crimi Spece Entrance	-	5	5	И	1350	ras	205	Seo /	0.000
4-01514	Box Blonk	QA/OC								
8-01VIL		QA/QC								

COMMENTS

Name

7/15/2010 Date:

ENVIRONMENTAL SCIENCE & ENGINEERING

Date:	7/15/10		
BEC Onsite IH:	pr	Project Location:	Turser Hall
BEC Project No:	PA10033	Project Manager:	pr
Abatement Contractor	Acm	Abatement Contracto	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection = Phase Contrast Microscopy Analyst: 2

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07-10105H 30



	Alicha	•	
Date:	TIISIIV		اد اد س <u>ن</u>
BEC Onsite IH:	RR	Project Location:	Turner Hall
BEC Project No:	WU10023	Project Manager:	er
Abatement Contractor	ACM	Abatement Contracto	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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L. HETLI	Area:	11.	1111	10.1

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

Phase Contrast Microscopy Analyst: Reac

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Date: $\frac{2|/5|/0}{|B|}$ BEC Onsite IH: |B|C

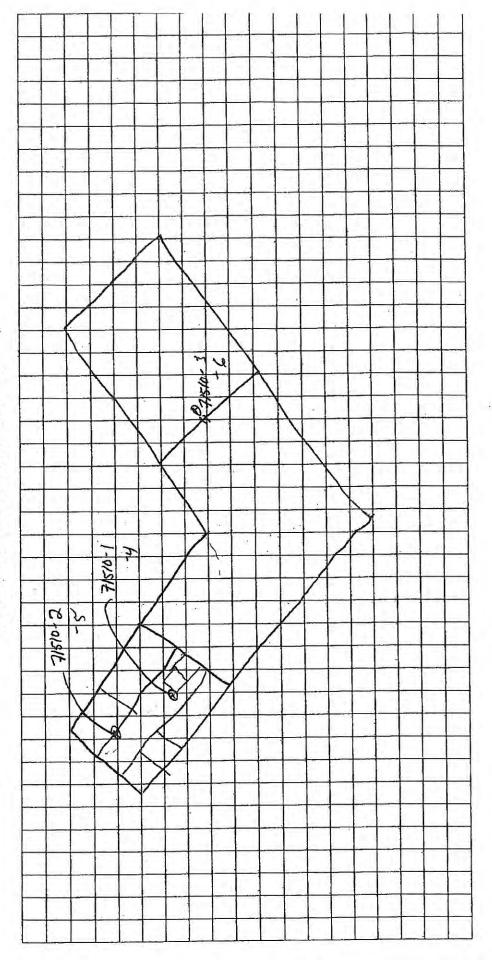
BEC Project No: W/100 23

Abatement Contractor: Aum

Project Location: Turner Holl

Project Manager: 102
Abatement Contractor License #:

SUBJECT SITE/ WORK AREA SKETCH



BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page

Time	Temperature	Conditions	Precipitation
TOO AM	80	Sunny	No
200 PM	95	Sunny	No
<u>ABATEMEN</u>	NT:	NEGATIVE PRESSURE:	WORKER PPE
☐ Total Isola	tion	Yes □ No	Full Body Coveralls
☐ Mod – Par	tial Isolation	Exhaust to Exterior	☐ Light Weight ☐ Poly
Containme	nt Bag (Gloveba		Head/Foot Covers □Gloves
⊂ □ Mini – Coı			Hard Hat D Eye Protection
☐ Exterior			☐ Full Face Shield
NESHAP	□ NON - NES	HAP CLEARANCE TYPE:	Boots
QtyL	E WILLIAM	☐ TEM	
QıyC		₽ PCM	
7	con X 2 Stage		
	ze:		
RESPIRATO	RS:		
	e APR (Type A)	# Supervisors	Work Area #/
	APR (Type A)	7	Building # Turner Room # Crawl Space
☐ Full – Face	PAPR (Type B		Room # Crawl Space
□ SCBA (Ty			Floor #
☐ Supplied A			
	3,526	SUMMARY OF WORK PERFORMED	
Acu	1 prepa	ed ~ 175 fillings of TSI in crowl s	pace
	removed	~125 of these littings	
		0	

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

i	
BEC Onsite IH:	Licky Robinson
BEC Project No:	WVIOO23
Project Manager:	ee
Date:	7/6/2010

450	ll onsite
658	Acus onsite. Rosalba Duran Intorms RR they will continue abatement of TSI tiltings in crawl space
	abatement at TSI tiltings in crawl space
725	ACM into PPE & into containment. ALM will preport
	remaining fittings in crawl space
915	Remaining fittings in crawl space Re into ppe & into containment.
950	PL approves 70 glovebags which covers ~ 175 fiftings. It out of containment ALM DEGINS removal
	Acm begins removal
1130	Aun Stops work + takes lunch
1766	Aut bek to week
1300	RD informs RR that about 70% of remaining fittings
	ed intorms RR that about 70°10 of remaining fittings will be removed and the rest shall be completed tomorrow
1430	Wester bass removed to the box truck
1455	Wester bass removed to the box truck
1570	Acm oftsite.
1515	All locke up RR offsite
ų	
1	

SHEET ____OF ____ Industrial Hygienist: _____DL DL

Date: 7/16/2010

AIR SAMPLING LOG

7/16/2010

WVIOOBS

BEC Project No:

BEC Onsite IH:

Date:

Project Location:

Turner Hall

Project Manager:

Abatement Contractor License #:

7/16/2010

7/16/2010 Date Analyzed:

Calibration Test Performed (Technician/Date): R

Flow Rate Calibration (Rotometer, Dwyer Precision, Other):

Abatement Contractor ACM

SAMPLE INFORMATION

משוניי חדו החיים	WOLLES INTO THE STATE OF			***		The second second	Contract of the Contract of th			
			П	Flow Rate Liters Per Minute		S	Sampling Period	po		
Sample	Sample Location	Sample Description	Pre	Post	Average	Begin	Fod	Total Minutes	Total Volume (L)	Results f/cc
1-017/1	Clear Room South Hall	Area Sur	7	5	72	720	1130	240	1200	300.0
21610-3	South Hell Abrest to Stainell	AraSur	5	5	6	720	1130	940	(300	300.0
2-017115	Almyl. Hall at Cail England Are Sur	Ara Sur	6	5	4	725	1125	व्रक	(200	5.007
7-11914		Aca Surv	7	7	6	1130	2:50	210	0501	0,000
7/11/2		Are Surv	7	5	6	nen	2:50	310	1,050	0.005
21/211-12	Abdill 11 chow I have before		7	V	7	1125	2:55	310	2507	0.00S
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Name:

Date: 7/16,

ENVIRONMENTAL SCIENCE & ENGINEERING

DEC			
Boggs Environmen	ntal Consultants, Inc.		
Date: 7/16/10			_
BEC Onsite IH:	ER.	Project Location:	lurner Hall
BEC Project No:	WU10073	Project Manager:	RR
Abatement Contractor:	Acm	Abatement Contrac	etor Lie. #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field	Area:	0.00785	

DEC

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: O7-NIOSH 50

Limit of Detection =
Phase Contrast Microscopy Analyst:

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gs Environmental Consultants, Inc.
Boggs Enviro

Date: 7/14/2010
BEC Onsite IH: 2R

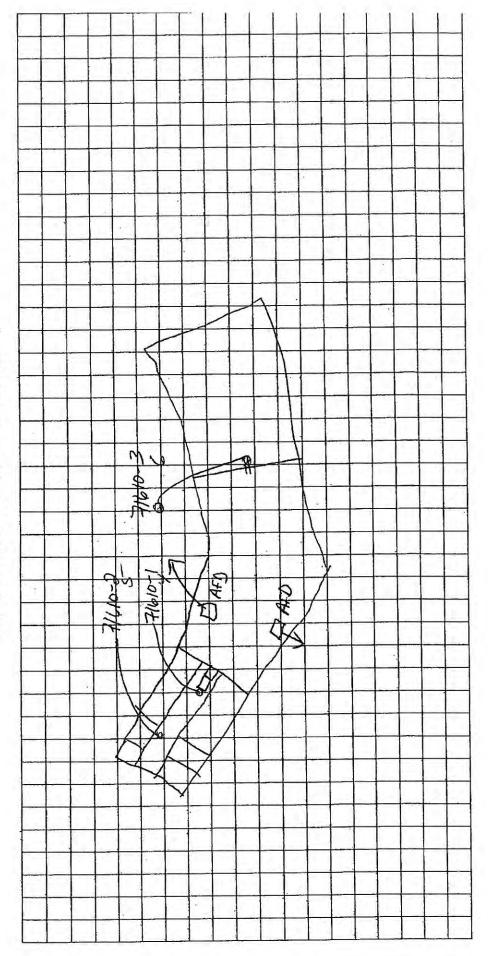
BEC Project No: WV loca 3

Abatement Contractor: ALIM

Project Location: Turner Hall

Project Manager: Alc Abatement Contractor License #:_

SUBJECT SITE/ WORK AREA SKETCH



BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Asbestos Abatement Daily Log Sheet Cover Page DATE: 7 19 2010 BEC Onsite Enviro. Tech: Ricky Robinson Project Location: Turner Hall Project Manager: RR
Client: Snepher BEC Project No: Abatement Contractor: WEATHER CONDITIONS Time Temperature Conditions Precipitation Cloudy No 850 No 200 ABATEMENT: **NEGATIVE PRESSURE:** WORKER PPE ☐ Total Isolation Full Body Coveralls Yes I No ☐ Mod – Partial Isolation Exhaust to Exterior ☐ Light Weight ☐ Poly # Of AFDs 2 Containment Bag (Glovebag) Head/Foot Covers Gloves Hard Hat D Eye Protection ☐ Mini - Containment ☐ Exterior ☐ Full Face Shield X NESHAP □ NON – NESHAP Boots Qty Square Feet CLEARANCE TYPE: Oty Linear Feet ☐ TEM Qty Cubic Feet PCM ☐ 3 Stage Decon 🗷 2 Stage Decon Work Area Size: RESPIRATORS: Half-Face APR (Type A) Work Area # /

□ SCBA (Type C)
□ Supplied Air (Type C)

☐ Full - Face APR (Type A)

☐ Full - Face PAPR (Type B)

ACM removed ~50 filtings of TSI in crawl Space + encapsulated

ACM prepped ~73 tiltings in South Basement area + removed (WA#2)

Abatement Workers

SUMMARY OF WORK PERFORMED

Building # Turner

Floor#___

Room # Crawl Space

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

BEC Onsite IH: BEC Project No: Project Manager: RR Wito 23

Date:

7/19/2010

700	RR onsite and waits tour ALM Services to arrive
BIF	ACM Services onsite and RR meets Rosalba Duran (Supervisor)
	The plan for today is to prep out south hallway and construct
	decon at North crowspace entrance once North entrance is
	sealed the south will be closed off.
745	ACM into PAE to finish crawl space a prep south hallway
900	Acm requests visual at south basement hallway. RD closed off
	South Crawl Space entrance and opened North Entrance. ACM
	Sealed all criticals in south basement and made it accessible
	through decon, which is constructed at stairmell. KK inspects
	glovelags via visual + smoke fest on 25 bags. RR approves glovebags
920	ACM gets negative air tunitional being work.
923	ACM reguests final visual of Crawl space. RR into PPE
	+ accesses through North entrance. RR thoroughly inspects
	all three sides and only finds one titing. The advists RD to remove
	one filling.
	It is relevant to note that Calcium Silicate Pipe Insulation 15
	located throughout crawl space.
1005	Re out at containment & informs Acm once final fitting 15
	removed they can Encapsulate area
1046	ACM requests visual in south basement area. RR observed
	that 2 \$3 fittings are prepped with glovebays. RR visually inspects att glovebays and approves
	inspects all glove bass and approves
NOTE	That additional fiftings, may be present above ceiling
	due to direction of Pipecheses
1110	Acm takes lunch
150	ALM back to work + begins removal. RR observes that
	Crawlspace is not ready to finals & will wait for tomorrow
	ACM requests UISUAl for South basement.
	Visual good Acm lightly mists air
430	Samples stopped. El out of containment
545	Ottsite

SHEETO	
Industrial Hygienist:	Ripe

Date: 7/19/2010

AIR SAMPLING LOG

Date:

BEC Onsite IH:

WVIDODS BEC Project No:

Abatement Contractor Acm

Flow Rate Calibration (Rotometer, Dwyer Precision, Other):

Turner Hall

Project Location: Project Manager:

Abatement Contractor License #:

7/14/2010 Date Analyzed:

Page:

SAMPLE INFORMATION

Calibration Test Performed (Technician/Date): RA 7/19/2010

	Results f/cc	0.00%	6.004	5,002	MFO	WFB			
	Total Volume (L)	2030	2070	2070					
70	Total Minutes	h/h	414	414					
Sampling Period	End	1430	1430	1435-					
8	Begin	736	736	145					
	Average	م	7	5					
Flow Rate Liters Per Minute	Post	h	5	5					
Lite	Pre	S	2	2					
	Sample Description	Area Sun			CARCO	20/00			
	Sample Location	Outside Clean Rown	South Hell at Stairs	North Hall of Guil So Color	Box Blank	'			
	Sample Number	1-015/1	رم- رم-	-3	<i>h</i> -	5			

COMMENTS:

Name: DLPL

Date: 7/19/2016

BEC				
BOGGS ENVIRONN	MENTAL CONSULTANTS	, NC.		
Date:	7/19/2010			
BEC Onsite IH:	ne	Project Location:	Turne	r Hall
BEC Project No:	WV10023	Project Manager:	RR	

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #:

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Field Area: 0.00785

Abatement Contractor

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

(Total Fibers/100) x (Filter Area)

Fibers Per Cubic Centimeter =

Field Area x Volume X 1000

Limit of Detection =

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume

Phase Contrast Microscopy Analyst: Dell

NIOSH 582 Certification: 67 NIOSH 30

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Date: 4/14/2010 BEC Onsite IH: RR

BEC Project No: WVIOU23

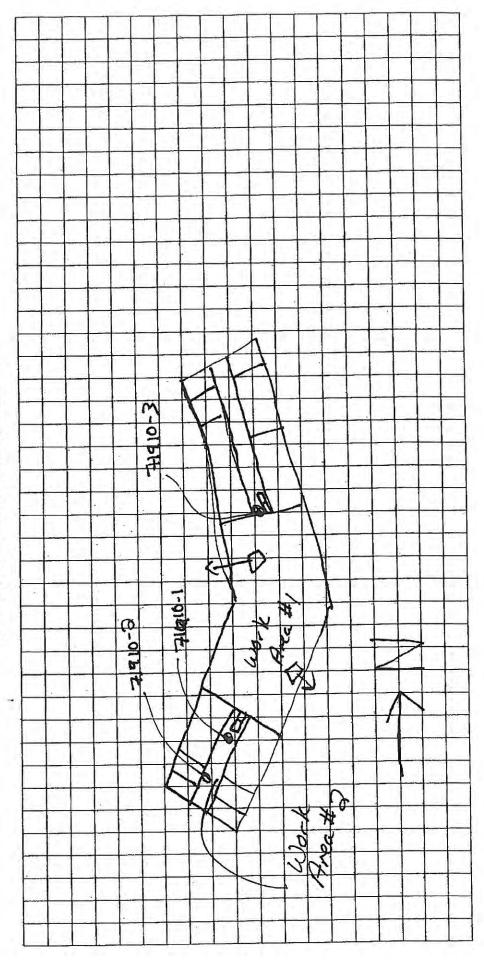
Abatement Contractor: Acm

Project Location: Tuner Hell

Project Manager: RR

Abatement Contractor License #:

SUBJECT SITE/ WORK AREA SKETCH



PRE-SEALANT CHECKLIST

BEC Or	nsite IH: Dject No:	MN10033		Project Location: Turner Hall Project Manager: PR
Abatem	ent Contractor:	ACM		Abatement Contractor License #:
	YES	(OF)	A. A. A. A.	
1.	X	()	()	Are critical barriers in place and secure?
2.	98	()	()	Are negative air systems being maintained?
3.	Ø	()	()	Is work area free of any visible asbestos-containing material?
4.	Ø	()	()	Has all waste been removed from the building to a lockable dumpster?
5.	Ø	()	O	Has the contractor requested (in writing if possible) an inspection?
6.	Ø	()	()	Are workers fully protected against asbestos exposure?
7.	N	()	()	Is the decontamination unit in place and functional?
8.	D	Ö	()	Is there sufficient protection of existing building systems against overspray?
9.	8	()	()	Is the proper encapsulating agent being utilized in conformance with the specifications?
COMM	ENTS: C	rawl Space	u q	South Besement

requirements of the technical specifications.

Industrial Hygienist Signature

Abatement Contractor Supervisor

7/19/2010 Date 07/19/2010.

ENVIRONMENTAL SCIENCE & ENGINEERING

Date: July BEC Onsite Envir	ro. Tech: H.	Desn Conny	Project Location:	Shepherd Univ. Turner Holl
BEC Project No:	WV/00	123	Project Manager:	RC
Abatement Contra	ictor: Acm	Seevices	Client: Theph	erd Univ.
			CONDITIONS	
Time Temp	perature	. Ca	onditions	Precipitation
	75°	Hot,	Humad, cloudy	
1315 PM 9	720		Humiel	
ABATEMENT:		NEGATIV	E PRESSURE:	WORKER PPE
☐ Total Isolation		⊠ Yes □	No	□ Full Body Coveralls
Mod - Partial Iso	olation	Exhaust	t to Exterior	🛛 Light Weight 🖾 Poly
Containment Bag	(Glovebag)	# Of AFDs		Head/Foot Covers EGlove
☐ Mini – Containme				Hard Hat Eye Protection
XNESHAP □ NO				☐ Full Face Shield
QtySquare I		CLEARAN	NCE TYPE:	Ø Boots
Qty Linear F	Feet 2 Filtings 1	Kn 101 □ TEM	1000	
QtyCubic F		PCM		
☐ 3 Stage Decon 🎗		₩ 1 × 2×0		
RESPIRATORS:				
ZHalf – Face APR	(Type A)	# Superviso	ors	Work Area # _ \$ 4
☐ Full – Face APR	(Type A)	# Abateme	ent Workers 4	Building # Turner Hell
☐ Full – Face PAPF				Room # 4 Rooms
SCBA (Type C)				Floor # Basemy
Supplied Air (Typ	pe C)			
		SUMMARY OF W	ORK PERFORMED	
F	Acry Rever	1 ~50 FIHYS	VIA glovebry in	the Desthwing of
	Barnet	100		

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

BEC Onsite IH:	H. Dear Convy &
BEC Project No:	WV/0023 /
Project Manager:	RR
Date:	JULY 20, 2010

715	BEC on Site met (w/ Rosalba Dvan (An Sup) + 5 workers. The crew contined to prep the glovebass on fittings located in the basenet of the west wing. Which included RMS 101, 102, 103, and Landy Rm.
	The craw continued to prop the glovebass on fittings located in
	the basent of the west wine which included RMS 101, 102
	123 and Lander Ru
	103, and Landy Rn. That set up (2) Fret sweller samples during the glovebas set
	120
120	T set I Cal Na cleane soundes in the Crawl Joace
7.50	and Hall is a file to the Till 19 ton late day.
	I set up the Final Air cleaves samples in the crawl space Arch that was completed on the July 19, 2010 / Afeday.
192m	I a to it a want a such at the ababase breated in the
0/30	Localt with (W#3) of colol I Take (2) Are Sociellar.
	1 (1 d d) 1 de sando
	I pertoned A UISSA Inspection of the glorebass located in the basenet west wing was soushed. I satup (2) Area Sorvellar samples during the glorebas removal. a 50 fittings will be revoid.
	1 1 1 6 1 0 1 6 1 1 1 1 1 1 1 1 1 1 1 1
1040	I collected the final than cletter strates in the corter strate
	Writy the Collection I droped A High vol romp + Trans or the
	AIR regulator flow component.
	I then sot up (3) pen Final the cloter in the bottom wing
	Baseret HAI(wy (WA"2)
1200	Acm crew of (2) went to the 1st flow Kn 101 t prep & glovel as on (2) fittings located in the Blu corne of Room following A prisecul Visual impreha the crew revord the (2) fittings. I set up & ran A tree somethin single in the Room during the prep t remarkant fittings VIX gloveling methods.
	on (2) fittings located in the Stuture of Koon tollowing A prosect
	Visual impoch the come verond the (2) fittings. I set up & ran
	A Arcs swellar sample in the Room during the prept remortat
	fithings VIA ghreby methods.
1315	acceptable limits. The crawl space + Basent Frankling for reaccipany The analytical results on the AIR Suevelland Frankling for reaccipany was well within acceptable limits + 18 cleared for reaccipany with
	acceptable /mits. The crawl space + Basent Are cleared Broccupsing
	The Analytical results on the AIR Suevellow From AIR SAMPLE DE KM 181
	was well within acceptable (Inits + 15 cleared for reaccopying
1415	1500 Acm worker paged gloodings in war #5 151 Rm

Date: 7/20/18

ENVIRONMENTAL SCIENCE, ENGINEERING & INDUSTRIAL HYGIENE SERVICES

Timer KAI Date Analyzed: Page: Abatement Contractor License #: Flow Rate AIR SAMPLING LOG Project Location: Project Manager: Flow Rate Calibration (Rotometer, Dwyer Precision, Other): Calibration Test Performed (Technician/Date): JULY 30, 2010 560010cm SAMPLE INFORMATION Abatement Contractor BEC Project No: BEC Onsite IH: Date:

		The second secon	חייד	PARCES I CL INTIMES						
	Sample Location	Sample Description	Pre	Post	Average	Begin	End	Total Minutes	Total Volume (L)	Results f/cc
18-010E-	North wing HAllwy At Mech.	Het Euroellene	5.0	2.0	5.0	074S	0460	115	345 0,005	5000
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72010-3	Gran Spre Southwing	Final Cleanue	16.8	0.01	10.0	0830	1030	130	1300	0.003
~	Crowd Space Southwing NE					0840 1640	1640	130	1400	0,000
	Grawl Space worth sing			130		0855	1055	120	1200 0,003	0,003
	CAWI Space North wing					0710	11/10	130	900	60.07
	South wing baseuct WAHA					1630	1230	120	- 2	1200 0,00A
	South Out stome Control					1035	1035 135	120	1400 0100A	0,003
0	CHUMUSHAY MASS LOS 6-0REL	4	-l	+	+	1037	1837 1337	120	1000	50010
Q	7200-10 North wing Basement 18#3	Aret Survella,	5,0	5.0	5.0	0955 1400 245	1400	348	1235	1235 60.002
=	73010-11 North 1017 Browled 12	+	+	Ŧ	7	6757	1405	150	1255	6,007

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Name:	

Date: 7/20/10

ENVIRONMENTAL SCIENCE & ENGINEERING

Date Analyzed: Tomas 0.01 Average Flow Rate Liters Per Minute Abatement Contractor License #: 0.0 Post 90/10 AIR SAMPLING LOG 0.01 Project Location: Project Manager: Retonday Pre Sample Description Flow Rate Calibration (Rotometer, Dwyer Precision, Other): Calibration Test Performed (Technician/Date): July 20, 2010 15TFLOOR RM 10/(WAH4 Boggs Environmental Consultants, Inc. BC40K Acms W110023 Sample Location SAMPLE INFORMATION MEDIA Treld Abatement Contractor BEC Project No: BEC Onsite IH: 72010-12 72010-14 32010-13 COMMENTS Sample Number Date:

0000

1300

3

1400

1200

Total Volume (L)

Total Minutes

End

Begin

Sampling Period

Page:

ENVIRONMENTAL SCIENCE & ENGINEERING

Name:

Date:

BEC			
BOGGS ENVIRONA	MENTAL CONSULTANTS, INC	C.	
Date:	July 20,2010		(1)
BEC Onsite IH:	DC	Project Location:	Turner Hall
BEC Project No:	WU60023	Project Manager:	RR

Acm

Abatement Contractor

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

Abatement Contractor License #:_

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Field Area: 0.00785	Filter Size: 25MM (385 sq. mm.)
Total Fibers = Fibers Counted, Total/ Fields Counted,	Total x 100 - QC Blank Fiber Count
Fibers Per Cubic Centimeter =	(Total Fibers/100) x (Filter Area)

2.6972. Field Area x Volume X 1000

Limit of Detection =

2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification:

Phase Contrast Microscopy Analyst:

Date:	July 20,2010		
BEC Onsite IH:	DC	Project Location:	Turna HAH
BEC Project No:	6010023	Project Manager:	RR
Abatement Contractor	Acm	Abatement Contracto	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Field Area: 0.00785			Filter Size: 25MM (385 sq. mm.)
Total Fibers = Fibers Counted,	Total/ Fields Counted,	Total x	100 - QC Blank Fiber Count
Fibers Per Cubic Centimeter =			(Total Fibers/100) x (Filter Area)

Fibers Per Cubic Centimeter =

2.6972 Field Area x Volume X 1000

Limit of Detection = $\angle o \cdot \cos 2$ Phase Contrast Microscopy Analyst: 21 2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification:

Date:	July 20, 2010		
 BEC Onsite IH:	DC	Project Location:	Torna Hall
BEC Project No:	Effolla_	Project Manager:	RR
Abatement Contractor	Acm	Abatement Contracto	or License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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Fibers/CC:	17	产	5	-	11-		000					_	_		1			_		11	_				1				

Field Area: 0.00785	Filter Size: 25MM (385 sq. mm.)
Total Fibers = Fibers Counted, Total/ Fields Counted,	Total x 100 - QC Blank Fiber Count
Fibers Per Cubic Centimeter =	(Total Fibers/100) x (Filter Area)

2.6972 Field Area x Volume X 1000

-2.792/Volume *Mandatory 5.5 Fibers or Less Than Value

NIOSH 582 Certification:

Limit of Detection = < > 00 %

Phase Contrast Microscopy Analyst: 7

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Date: 7/30/10
BEC Onsite IH: 4 Den Conwy JR
BEC Project No: 600/10033

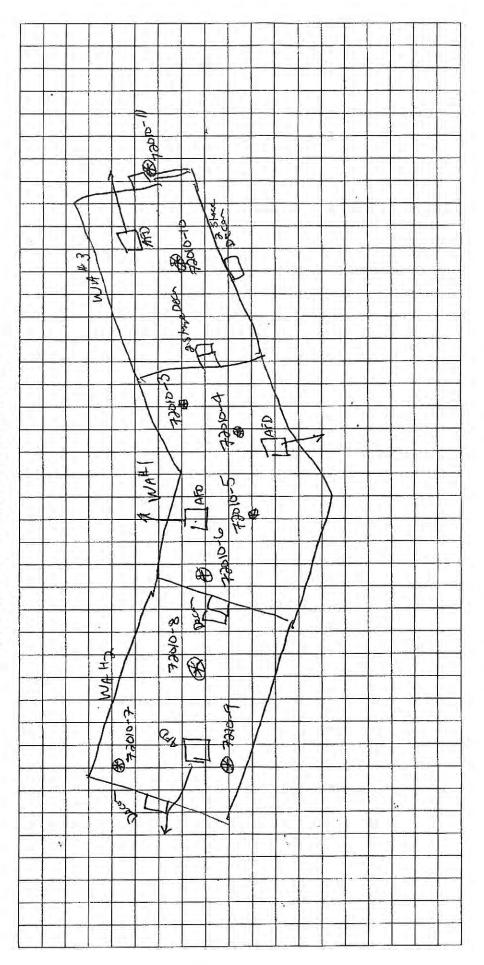
Abatement Contractor: Acm

Project Location: Tourse HAI

Project Manager:

Abatement Contractor License #:_

SUBJECT SITE/ WORK AREA SKETCH



REC

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The state of the s	Boggs Environmental Consultants, Inc.
-	talC
	onmen
	Envir
	Boggs

Date: 7000 BEC Onsite IH: DC

BBC Project No: [DV | 1003)

Abatement Contractor: PC.

Project Location: Torne [441]

Project Manager: Abatement Contractor License #:_____

SUBJECT SITE/ WORK AREA SKETCH

		73010-14	WAHA RM #161 151-flows (4 GIHLMS)		
--	--	----------	-----------------------------------	--	--

BEC Pro		10023		Client: Nepherd Unio.
Abateme	nt Contractor: _	Acn		Abatement Contractor License:
	Yes	No	N/A	
1.	(%)	()	()	HVAC locked off or blanked?
2.	(<)	()	()	HVAC filters changed?
3.	×	()	()	Decontamination facility in place?
4.	(4)	()	()	Negative air machines functional?
5.	Ø	()	()	Critical containment barriers sound?
6.	Ø ≤ee	() Attatelectus	()	Has all waste been properly packaged and removed to a lockable dumpster?
7.	()	()	()	Has waste been removed from the site? List hauler, time and date in comments section below or complete waste tracking log.
8.	(4)	()	()	Non-critical plastic sheeting removed and properly disposed of properly?
9,	— 14	()	()	Have substrate surfaces been treated with a sealant?
10.	()	Ø	()	No visible dust in work area?
11.	()	(4)	()	Damage to floors, walls, fixtures, etc? Attach Punchlist form.
12.	()	6d	()	Are negative air machines shut off during post testing?
COMMI	ENTS: The	ARAS IS	dead to	proceed a / Final An cleren

ENVIRONMENTAL SCIENCE & ENGINEERING

DAILY WORK AREA CHECKLIST

Date: July 20, 2010	F	Page of
PROJECT INFORMATION		. / . 0
BEC Onsite IH: DC	Project Location: Jury	nec Hall
BEC Project No: WU/0023	Project Manager:	RR
Abatement Contractor: Acm	Abatement Contractor Lic. #:	
WORK AREA CONTAINMENT		YES NO
Floor Covered Walls Covered Facility Power Shut Down Area Ventilation Sealed and Off Penetrations, Holes, Cracks, etc. Sealed D/Con Chamber Sufficient		Wild Wild
HEPA EQUIPPED AIR FILTRATION DEVICE	ES	YES NO
Negative Pressure (-w.c. inches 0.03 to Negative Pressure Constant	41	<u>v</u> =
SIGNS/OSHA REQUIRED DOCUMENTS POS	00-14	YES NO
Work Area Entrance Signs Regulated Area Signs OSHA Documents Bagged Waste/Drums Labeled		
WORK PRACTICES		YES_NO
Work Area Wetted Sufficiently NO Smoking, Chewing Tobacco, Eatin HEPA Vacuum In Use Work Area Cleaned Sufficiently At Eng Bagged Waste/Drums Decontaminated All Bagged Waste/Drums Removed At	g I Of Shift Before Load Out	
PERSONAL PROTECTIVE EQUIPMENT		YES NO
Disposable Clothing Provided & Used NIOSH Approved PAPR's & Cartridge Hard Hat	DID AND V THE	
SHOWERS		YES NO
Hot/Cold Water Sufficient Pressure Soap & Towels Used By All Personnel Exiting Contain	oment	W N/A

Boggs Er	ivironment	al Consultar	nts, Inc.		
_		ESTOS ABAT	EMENT DAILY LOG SHEET CO	VER PAGE	C
	21/2010	-			
BEC Onsite	Enviro. Tech:	Ricky Rob	Msan Dean Cony Project Location:	Turker	He.11
	t No: WV		Project Manager:	RR	
			Project Manager: Client: She	, 1	
Abatement (Contractor: _	1 con	Client: She	plerd	
			WEATHER CONDITIONS		
Time	Temperature		Conditions		Precipitation
630 AM	77		Partly Cloudy		No
100 PM	86°		Cloudy		No
ABATEMEN	NT:		NEGATIVE PRESSURE:	WORK	ER PPE
☐ Total Isola	7		✓ Yes □ No		Body Coveralls
Mod - Par	tial Isolation		Exhaust to Exterior		t Weight 🗆 Poly
	nt Bag (Gloveba	ag)	# Of AFDs	Head	d/Foot Covers □Glove
, □ Mini – Cor	ntainment			☐ Hard	Hat D Eye Protection
NESHAP	□ NON NES	HAP		☐ Full	Face Shield
QtyS	quare Feet		CLEARANCE TYPE:	₩ B00	ts
QtyL	inear Feet		☐ TEM	0	
QtyC	ubic Feet		₽ PCM		
☐ 3 Stage De	con 2 Stage	Decon			
RESPIRATO	DRS:				
1.00	e APR (Type A)		# Supervisors /	Work A	rea #
)	APR (Type A)		# Abatement Workers 6	Buildin	g#
	PAPR (Type B			Room	#
□ SCBA (Ty		1.		Floor #	!

ACM	removed	~ 2 fillings	in	Room # 119	Work Area #5	
ACM	removed	~ 2 fillings	in	Room # 103	Work Area #6	
Acm	removed	~ 2 fillings	in	Residents lifi	Office Work Area #7	
	Completed	removal in	W	lork Area # 3	Basement (North Hall	リ
		30	116	as for protect		
				0		

BOGGS ENVIRONMENTAL CONSULTANTS, INC

DAILY OBSERVATIONS LOGSHEET

'9	e o
BEC Onsite IH:	Mr.
BEC Project No:	MV10033
Project Manager:	el
Date:	712112010

620	and Civil War Museum and Civil War Museum
	and Civil War Mukeum
INTE	ACIM ANGLES
Fix	RP. Into PPE a into containment. ALM still needs to complete
	removal of 4 filtings. i
705	RR Calibrates + turn's pumps on
70+	le out of PPE a out of containment
1709 I	Re inspects bass on first floor
713	En passes giorebass & informs ALM flex can begin removal
730	en passes glosebags of informs ALM they can begin removal
	THIST TIMY A WEG
158	RD Intorns RR that WA#3CN. basement 13 completed)
40	WA# 5, 6 +7 completes
905	RR Stops pumps in WATER Intovins RD that area looks good
	They can Spray area Ughtly, Dean Conway onsite
130	All samples stopped at thist floor single slow bag wrotes.
	All rooms observed & no visible debris
1035	RD Intorns RR that WA#3CN. Basement 13 completed) WA#5, 6 + 7 complete. RR stops pumps in WA#3 ~ intorns RD that area looks good Y thuy can Spray area lightly. Dean Conway ansite, All samples stopped at this thoor single slow bas areas. All rooms observed & no visible debris RR calibrates & setsup 3 high vol pumps in WA#3(N. Basement) Rumps on RR ord containent
ionol	kumps on Re ord containment
1000	LE PRO CATUINOU
240	Stops pumps + collects samples RR reads samples. Samples all below 0.1 t/ce, Rl informs RD
1242	CK Mads Samples. Samples all below 0.1 Tec, Re means Res
	they can tear down.
-	
-	

SHEET OF Industrial Hygienist:

Date: 1/21/2018

ENVIRONMENTAL SCIENCE, ENGINEERING & INDUSTRIAL HYGIENE SERVICES

AIR SAMPLING LOG

7/21/2010

EE99IAN

BEC Project No:

BEC Onsite IH:

Date:

Abatement Contractor

ACM

Flow Rate Calibration (Rotometer, Dwyer Precision, Other):

Project Location: Project Manager:

Turner Hall

Bri

Abatement Contractor License #:

3

7/21/2010 Jo Date Analyzed: Page:

SAMPLE INFORMATION

Calibration Test Performed (Technician/Date):

0.003 5000 80000 60.00 0.004 6,002 60007 0,004 Total Volume (L) 1200 1200 1200 1200 1200 1200 1200 1200 Total Minutes 120 930 120 120 12% 120 120 020 120 120 20 Sampling Period 905 1250 226 300 R 765 330 765 355 130 1040 1840 1640 Begin Average 2 2 2 20 2 2 2 Liters Per Minute Flow Rate Post 9 2 9 9 2 2 Pre 9 2 2 2 2 0 10 2 Working Flack Sample Description North Hall Basement lenke Area Surv North Hall Coundry Boom Area Surv Q9/00 North Hall Basement leady Finals Finals Hatt Hall Coundry Room Finals Resident Lite Other Mark Hell South End Sample Location Box Blank Room # 119 Room # 103 5 00 72/10-1 5 00 6 Sample Number 4

COMMENTS:

00/00

Fred Blank

0

Name:

0100/10/2 Date:

ENVIRONMENTAL SCIENCE & ENGINEERING

Date:	7/21/10		
BEC Onsite IH:	RR 1	Project Location:	Turner Hall
BEC Project No:	WVIOCAZ	Project Manager:	PL
Abatement Contractor	ALM	Abatement Contractor	License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

·	1	2	3 4	5	1	2	3	4	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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Field Area: 0.00785.

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

Fibers Per Cubic Centimeter =

(Total Fibers/100) x (Filter Area)

Field Area x Volume X 1000

Limit of Detection =

*Mandatory 5.5 Fibers or Less Than Value 2.792/Volume

Phase Contrast Microscopy Analyst:

NIOSH 582 Certification: <u>カネール」のとけ</u>るも

Date:	7/21/2010		3.11
BEC Onsite IH;	RR	Project Location:	Turner Hall
BEC Project No:	WV16023	Project Manager:	er
Abatement Contractor	ALM	Abatement Contracto	r License #:

PCM ANALYSIS BENCH SHEET NIOSH 7400 REVISION #3 FIBERS PER FIELD COUNTING GRIDS

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30		1	+	+	╁	+	+		H	Н				٦		٦				Г									
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70	Н	+	+	+	╫	+	+	+		-				H	-		-		H		†		T	T	⇈	1	1	T	1
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80	H	+	+	+	╁	+	+	t				-		H	H					╟	1	1	T	1	11			T	1
85	H	+	+	1	╫	+	+	+	Н	\vdash	-		-	Н	H	-	-		-	╟	1	t	1	+	1	1	T	T	1
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Sample Number:	13	12/	10.	- 7	1	7	211	0-	8	9)Z.	118	, = (9	5	2	"	ツー	10	Ï					I		_		=
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Fibers:		2/	10	0		-		100				0			L		0			1		_	_		4	_	_	_	_
Blank Count:		-	3		1		0)	- 1	L		0			L		9			1					4	_			_
Total Fibers:							7		- 1			_	_		L	_	_			1			_		4		_	_	_
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10100		_		
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rieid	Alca.	v.	·vv	(0)

Filter Size: 25MM (385 sq. mm.)

Total Fibers = Fibers Counted, Total/ Fields Counted, Total x 100 - QC Blank Fiber Count

(Total Fibers/100) x (Filter Area)

Fibers Per Cubic Centimeter =

Field Area x Volume X 1000

Limit of Detection = Phase Contrast Microscopy Analyst: 2.792/Volume *Mandatory 5.5 Fibers or Less Than Value NIOSH 582 Certification: 07~NIOSH 30

First Floor SUBJECT SITE/ WORK AREA SKETCH 22/10-4 2-012 Busement

BEC

Boggs Environmental Consultants, Inc.

Project Location: Drove Hal

Abatement Contractor License #:_

Project Manager: LR

BEC Project No: 61/6033

Date: 7/21/2616 BEC Onsite IH: RC Abatement Contractor; ACM

PRE-SEALANT CHECKLIST

Date: 7/21/201	7)		
Date: 11/21/201	0 1		
BEC Onsite IH:	RR.		Project Location: Turner Hall
BEC Project No:	WV10023	•	Project Manager:
Abatement Contractor:	ALM		Abatement Contractor License #:
YES	NO	***N/A	
1.	()	() .	Are critical barriers in place and secure?
2.	()	()	Are negative air systems being maintained?
3.	()	()	Is work area free of any visible asbestos-containing
1			material?
4.	()	()	Has all waste been removed from the building to a lockable dumpster?
5. X	()	-()	Has the contractor requested (in writing if possible) an inspection?
6. X	()	O	Are workers fully protected against asbestos
		•	exposure?
7.	()	()	Is the decontamination unit in place and functional?
8.	O	()	Is there sufficient protection of existing building
0 ().	()	73	systems against overspray? Is the proper encapsulating agent being utilized in
9.	()	()	conformance with the specifications?
COMMENTS: W	143		- A - C - C - C - C - C - C - C - C - C
		1)	
I have inspected the re	moval zone and fo	and it accentable	e to being sealing of substrate surfaces. The work area is
free of all visible due	et and debris and	all work has he	een performed in an acceptable manner and meets the
requirements of the tec			on performed in an appellant in an appellant
roquinomonia or die toe	innour specification		
210	4:		7/21/2010
Industrial Hygienist Sign	ahire		Date
www.im ril Prompt pign			*
Ronalba	\rightarrow		67/21/10
- princes	0.		

ENVIRONMENTAL SCIENCE & ENGINEERING

a lockable dumpster? Has waste been removed from the site? List hauler time and date in comments section below or complete waste tracking log. Non-critical plastic sheeting removed and properly disposed of properly? Have substrate surfaces been treated with a sealant? Have substrate surfaces been treated with a sealant? No visible dust in work area? Damage to floors, walls, fixtures, etc? Attack Punchlist form. Are negative air machines shut off during positive search and properly disposed of properly? Are negative air machines shut off during positive search and properly disposed of properly?	BEC Project #: WV10023				Abatement Contractor License:
1. () () HVAC locked off or blanked? 2. () () HVAC filters changed? 3. () () Decontamination facility in place? 4. () () Negative air machines functional? 5. () () Critical containment barriers sound? 6. () () Has all waste been properly packaged and removed to a lockable dumpster? 7. () () Has waste been removed from the site? List hauler time and date in comments section below or complete waste tracking log. 8. () () Non-critical plastic sheeting removed and properly disposed of properly? 9. () () Have substrate surfaces been treated with a sealant? 10. () () No visible dust in work area? 11. () Damage to floors, walls, fixtures, etc? Attack Punchlist form.	Abatement Contractor: Acm				
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Punchlist form. 2. () () Are negative air machines shut off during pos	10.	()	()	()	No visible dust in work area?
	11.	()	X	()	
	2.	()	X	()	Are negative air machines shut off during post testing?

ndustrial Hygienist Signature

7/21/2010 Date

APPENDIX B

BEC STAFF CERTIFICATION

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

RICHARD ROBINSON

has met the attendal

quirements an

e course en

cessfully completed

YZING AIR

40-HOUR COLLECTING &

ES (NIOSH 582 EQUIVALENT)

Principal I ROBERTA.

E. Kinh Barnet

9/24/2007 to 9/28/2007 Course Date

Certification No. 07-NIOSH30

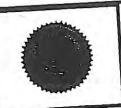
P.O. Box 646

P: 410-684-3327

1331 Ashton Road

www.amatraining.com Hanover, MD 21076

F: 410-684-3724



WEST VIRGINIA

Asbestos Program

Richard C. Robinson ,

AA001879 ASBESTOS AIR CLEARANCE MONITOR License #

2/17/2010

Issued: 2/28/2011 Expires:

Randy C. Curtis Dir., WV RTIA DIV

INDUSTRIAL TRAINING COMPANY

H. Dean Conway Ir. This certifies that



Has attended and satisfactorily completed an

NIOSH 582 Equivalent - Asbestos Air Sample Analysis Course

120372

Certificate Number 187-54-0624

TC TRAINING COMPANY

Social Security Number

Course Dates 12/14/98 through

Richmond, Virginia

Donga, Scalloged
Conse Director

Anground On language Pauley
Instructor

10821 Trade Road Richmond, Virginia 23236 (804) 378-9033



WEST VIRGINIA

Asbestos Program

Harold Dean Conway, Jr.

License #

Issued:

Expires 2/28/2010

IS LICENSED AS AN AA001781 ASBESTOS AIR CLEARANCE MONITOR

Randy C. Curtis Dir., WV RTIA DIV

APPENDIX C

BEC WV LABORATORY LICENSE

State of West Virginia

Office of Environmental Health Services Radiation, Toxics and Indoor Air Division Bureau for Public Health

This is to certify that

Boggs Environmental Consultants

Frederick, MD 21701 1 College Avenue

Licensing Rules and Regulations and is hereby licensed as an Asbestos Has complied with Chapter 16, Article 32, of the Asbestos Abatement Air and Bulk Sample Analytical Laboratory.

Asbestos Laboratory License Number:

LT000374

Expires: 4/30/2011

Radiation, Toxics and Indoor Air Division Randy C. Curtis, K.L., Director

. Issued:

4/30/2010

APPENDIX D

BEC CERTIFICATES OF ANALYSIS

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 Office (301) 694-5687 (301) 694-9799 Fax

363 High Street Morganlown, West Virginia 26505 Office (304) 292-1095 (304) 292-2320 Fax

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 13, 2010

Project Number:

WV10023

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
71310-1	South Crawlspace Hall at Stairwell	1200	100	5	< 0.002
71310-2	South Crawlspace Hall at Entrance	1200	100	1	< 0.002
71310-3	North Crawlspace Hall at Entrance	1175	100	3	< 0.002
71310-4	South Crawlspace Hall at Stairwell	600	100	10	0.008
71310-5	South Crawlspace Outside Decon	600	100	12	0.009
71310-6	North Crawlspace Hall at Entrance	600	100	5	0.004
71310-7	Box Blank	0	100	0	No Fibers Observed
71310-8	Field Blank	0	100	0	No Fibers Observed

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 14, 2010

Project Number:

WV10023

Analysis: Method:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Phase Contrast Microscopy (PCM) NIOSII 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
71410-1	Outside Clean Room	1550	100	20	0.006
71410-2	Ground Floor Hall (Adjacent to Stairwell)	1550	100	5	<0.001
71410-3	North Hall at Crawlspace (Entrance)	1550	100	4	< 0.001
71410-4	Outside Clean Room	675	100	3	< 0.003
71410-5	Ground Floor Hall (Adjacent to Entrance)	675	100	3	<0.003
71410-6	North Hall at Crawlspace (Entrance)	675	100	1	< 0.003
71410-7	Box Blank	0	100	0	No Fibers Observed
71410-8	Field Blank	0	100	0	No Fibers Observed

NFO – No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 Office (301) 694-5687 Fax (301) 694-9799

363 High Street Morgantown, West Virginia 26505

Office (304) 292-1095 Fax (304) 292-2320

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 15, 2010

Project Number:

WV10023

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
71510-1	Outside Clean Room	1700	100	18	0.005
71510-2	South Hallway Adjacent to Stairwell	1700	100	24	0.006
71510-3	North Hallway at Crawlspace Entrance	1700	100	19	0.005
71510-4	Outside Clean Room	1025	100	6	0.002
71510-5	South Hallway Adjacent to Stairwell	1025	100	4	< 0.002
71510-6	North Hallway at Crawlspace Entrance	1025	100	4	0.002
71510-7	Box Blank	0	100	0	No Fibers Observed
71510-8	Field Blank	0	100	0	No Fibers Observed

NFO – No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

1 College Avenue Frederick, Maryland 21701 Office (301) 694-5687 Fax (301) 694-9799

363 High Street Morgantown, West Virginia 26505

Office (304) 292-1095 Fax (304) 292-2320

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 16, 2010

Project Number:

WV10023

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSII 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
71610-1	Clean Room South Hall	1200	100	16	0.006
71610-2	South Hall Adjacent to Stairwell	1200	100	17	0.006
71610-3	North Hall at Crawlspace Entrance	1200	100	19	0.007
71610-4	Clean Room South Hall	1050	100	14	0.006
71610-5	South Hall Adjacent to Stairwell	1050	100	12	0.005
71610-6	North Hall at Crawlspace Entrance	1050	100	12	0.005
71610-7	Box Blank	0	100	0	No Fibers Observed
71610-8	Field Blank	0	100	0	No Fibers Observed

NFO – No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 Office (301) 694-5687 Fax (301) 694-9799

363 High Street Morganlown, West Virginia 26505 Office (304) 292-1095 Fax (304) 292-2320

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 19, 2010

Project Number:

WV10023

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters,

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
71910-1	Outside Clean Room	1200	100	26	0.006
71910-2	South Hall at Stairs	1200	100	17	0.004
71910-3	North Hall at Crawlspace Entrance	1200	100	10	0.002
71910-4	Box Blank	0	100	0	No Fibers Observed
71910-5	Field Blank	0	100	0	No Fibers Observed

NFO – No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 Office (301) 694-5687 Fax (301) 694-9799

363 High Street Morgantown, West Virginia 26505 Office (304) 292-1095 Fax (304) 292-2320

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION:

Mr. Dan Yanna, Director of Facilities Management

REFERENCE:

Turner Hall - Asbestos Abatement Project

Fieldwork Date:

July 20, 2010

Project Number:

WV10023

Analysis:

Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Method:

Phase Contrast Microscopy (PCM) NIOSH 7400 Method

Filter Diameter: 25 mm

Blank Correction:

0 f/mm2

Field Area:

0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
72010-1	North Wing Hallway at Mechanical Room	575	100	6	0.005
72010-2	North Wing Hallway at Laundry Room	600	100	7	0.006
72010-3	Crawlspace South Wing East	1200	100	8	0.003
72010-4	Crawlspace South Wing Northeast	1200	100	6	0.002
72010-5	Crawlspace North Wing North Center	1200	100	7,5	0.003
72010-6	Crawlspace North Wing Southwest	1200	100	5	< 0.002
72010-7	South Wing Basement Janitor Room	1200	100	6	0.002
72010-8	South Wing Storage Room	1200	100	6.5	0.002
72010-9	South Wing Hallway	1200	100	7	0.003
72010-10	North Wing Basement	1255	100	4	< 0.002
72010-11	North Wing Basement at Decon	1255	100	6	0.002
72010-12	Media Blank	2400	100	4	No Fibers Observed
72010-13	Field Blank	2400	100	2.5	No Fibers Observed
72010-14	1st Floor Room #101	1200	100	6.5	0.003

NFO – No Fibers Observed in 100 Fields Counted < Less than the Limit of Quantitation

Laboratory Analyst, H. Dean Conway Jr. NIOSH 582 (#120372)

Morgantown, West Virginia 26505

(304) 292-2320

Fax

PCM AIR ANALYSIS LABORATORY REPORT

Shepherd University

Office of Facilities Management North King Street Shepherdstown, West Virginia 25443

ATTENTION: Mr. Dan Yanna, Director of Facilities Management

REFERENCE: Turner Hall - Asbestos Abatement Project

Fieldwork Date: July 21, 2010

Project Number: WV10023

Analysis: Fibers greater than or equal to 5 um long and greater than 0.25 um in diameter) on Mixed Cellulose Ester Filters.

Method: Phase Contrast Microscopy (PCM) NIOSII 7400 Method

Filter Diameter: 25 mm Blank Correction: 0 f/mm2 Field Area: 0.00785mm2

Sample ID#	Sample Location	Volume (Liters)	Fields Counted	Total Fibers	Airborne Fiber Concentration (Fibers/cc)
72110-1	North Hall Basement Center	1200	100	11	0.004
72110-2	North Hall Laundry Room	1200	100	6	0.002
72110-3	Room #119	1200	100	19	0.008
72110-4	Resident Life Office	1200	100	5	< 0.002
72110-5	Room #103	1200	100	2.5	< 0.002
72110-6	North Hall Basement Center	1200	100	8	0.003
72110-7	North Hall Laundry Room	1200	100	9	0.004
72110-8	North Hall South End	1200	100	7	0.003
72110-9	Box Blank	0	100	0	No Fibers Observed
72110-10	Field Blank	0	100	0	No Fibers Observed

NFO - No Fibers Observed in 100 Fields Counted

< Less than the Limit of Quantitation

Laboratory Analyst, Richard Robinson NIOSH 582 (#07-NIOSH30)

Asbestos Operations and Maintenance Program

Turner Hall

SHEPHERD UNIVERSITY

PREPARED FOR:

Dan Yanna,
Director of Facilities Management
Shepherd University
PO Box 3210
Shepherdstown, WV 25443

May 2005

PREPARED BY

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

1 College Avenue Frederick, Maryland 21701 301.694.5687 Fax 301.694.9799 363 High Street Morgantown, West Virginia 26505 304.292.1095 Fax 304.292.2320

ASBESTOS OPERATIONS AND MAINTENANCE PROGRAM TURNER HALL Shepherd University

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1.0 INTRODUCTION

Boggs Environmental Consultants, Inc. (BEC) was retained by Shepherd University to develop an Operations and Maintenance (O&M) program for all known asbestos-containing building construction and insulating materials throughout the Turner Hall Student Residence building located on the campus of Shepherd University in Shepherdstown, West Virginia.

Between September 28, 2004 and February 1, 2005 BEC conducted visual inspections of all accessible areas throughout Turner Hall known to contain asbestos-containing materials. The purpose of the inspections were to locate materials identified as asbestos-containing materials (ACM) based on information from building survey data, visually inspect the ACM, assess the condition of the ACM, visually verify areas where previous asbestos removal operations occurred and develop an O&M program including recommendations for remedial actions to reduce the possibility of asbestos fibers being released into occupied areas of the building. BEC also inspected, sampled, assessed, and quantified previously unidentified suspect ACM and is included in the O&M program. The inspections, hazard assessments and development of the O&M program were conducted by BEC staff members who are accredited Environmental Protection Agency (EPA) and licensed in the State of West Virginia as asbestos building inspectors and management planners. The inspections and management plan development were performed in accordance with the Asbestos Hazard Emergency Response Act (AHERA) Regulations.

2.0 BUILDING SURVEY AND BACKGROUND INFORMATION

Between September 28, 2004 and February 1, 2005 BEC conducted an asbestos material location survey of all accessible interior areas of Turner Hall. Representative samples of suspect friable (easily crumbled under hand pressure) and non-friable materials were collected from plaster wall material, plaster ceiling material, pipe insulation, pipe fitting insulation, floor tile, floor tile mastic, ceiling tiles, vapor barrier material, and carpet mastic. Destructive testing methods, including cutting into fire doors or interior demolition and excavation to examine inaccessible areas, were beyond the scope of this assignment and were therefore not attempted. Inaccessible areas included spaces within enclosed ceilings, columns, walls and pipe chases. The laboratory data from the survey is contained in Appendix B of the O&M program. Laboratory analysis from the samples collected during the survey indicates friable and non-friable asbestoscontaining materials are present within the subject site. Based on the results of the survey data, Shepherd University requested that BEC develop an Operations and Maintenance (O&M) Program to manage and maintain in place the identified asbestos-containing materials throughout Turner Hall.

Although it is not required by law that Shepherd University develop or implement an O&M program for Turner Hall, it is however, the policy of Shepherd University to protect its employees, students, customers, visitors, maintenance personnel and all other occupants from potentially hazardous asbestos-containing materials while employed at or occupying its defined properties. Therefore, the O&M program has been developed in accordance with the EPA Asbestos Hazard Emergency Response Act regulations. The procedures presented in the following O&M Program are intended as a tool to supplement this policy.

As a result of the increasing awareness of the potential health risks associated with the inhalation of asbestos fibers, the U.S. EPA promulgated regulations which require all public and private schools, as defined in Section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2854), to inspect all buildings for the presence of asbestos-containing building materials (ACBM). The Asbestos Hazard Emergency Response Act (AHERA) is detailed in Volume 40

of the Code of Federal Regulations (CFR) Part 763. The Act outlines procedures for the location, collection, and analysis of suspected ACBM. The building inspections and management plans are required to be performed and are developed by accredited inspectors and management planners. The management plan details how to maintain the ACBM in buildings until abatement can be efficiently accomplished. Schools are required to train essential personnel to oversee the O&M Program which details procedures to reduce the possibility of the release of asbestos fibers by outlining methods to effectively manage asbestos-containing materials. The Management Plan requires personnel training and the notification of building occupants, contractors or others involved in charge of maintaining the school building, regarding the location of the ACBM, its condition, and the proper procedures for addressing each type of ACBM. This document is based upon data obtained from the survey data dated September 28, November 23-24, 2004 and February 1, 2005 performed by BEC.

3.0 SURVEY FINDINGS

As part of the development of the O&M Plan, BEC staff reviewed previous inspection and abatement reports of Turner Hall. Table 3.1 details previously identified ACM, including the following: (1) the location of those materials identified throughout Turner Hall that contain 1% asbestos or greater in homogeneous areas, (2) a physical description of each material, (3) whether any remedial action such as removal, enclosure, or encapsulation has been performed.

TABLE 3.1 Previously Identified Asbestos Containing Materials

LOCATION	PHYSICAL DESCRIPTION	REMEDIAL ACTIONS	
Stair Tower	9"x 9"Floor Tile and Mastic	D 1.10/15/0004	
(North, South, Center)	(1808 SF)	Removed 12/15/2004	
	35 LF of TSI		
Basement Laundry Area	4 Pipe Fittings	Removed 6/6/02	

During the Asbestos inspections conducted on November 23-24, 2004 and February 1, 2005 BEC staff collected bulk samples of suspect asbestos containing materials. Table 3.2 includes the following: (1) Sample Number, (2) Sample Description (3) Homogenous Area (HA) Number, (4) Homogenous Area Location and (5) Percent and Type of Asbestos:

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA#	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
TUR112304 – B1	9" x 9" Tan Floor Tile & Black Mastic	13	Janitors Closet; First Floor Dining Hall Side (Wing A)	7.1 % Chrysotile
TUR112304 – B8	Black floor tile mastic	15	Basement Hall – Gardiner Side (Wing B)	8 % Chrysotile
TUR112304 – B15	Pipe Fitting insulation	14	Domestic Cold Water Line in Janitors closet Basement Gardiner Side (Wing B)	20% Chrysotile
TUR112304 – B16	9" x 9" White Floor Tile and Black Mastic	13	Under Carpet in Basement Activity Room; Gardiner Side (Wing B)	3 .8% Chrysotile
TUR112304 – B17	Pipe Fitting insulation	14	Domestic Hot Water Line in Crawl Space	25 % Chrysotile
TUR112304 – B18	9" x 9" White Floor Tile and Black Mastic	13	Under Carpet in Hall outside Room 102	4.8 % Chrysotile
TUR112304 – B20	9" x 9" White Floor Tile and Black Mastic	13	1st Floor Janitors Closet; Gardiner Side of Building (Wing B)	4.1 % Chrysotile
TUR112304 – B22	Valve insulation	14	Janitors closet First Floor Gardiner Side (Wing B)	20 % Chrysotile

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA#	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
TUR112304 – B24	White Floor Tile (bottom layer)	13	First Floor Lobby under 12"x 12" Green Floor Tile	1.8 % Chrysotile
TUR112304 – B27	9" x 9" Tan Floor Tile & Black Mastic	13	Under Carpet, Room 116	5.6 % Chrysotile
TUR112304 – B28	9" x 9" White Floor Tile & Black Mastic	13	Under Carpet in Second Floor Lounge	6.8 % Chrysotile
TUR112304 – B31	9" x 9" Pink Floor Tile & Black Mastic	13	Janitors closet, Third Floor Gardiner Side (Wing B)	6.5 % Chrysotile
TUR112304 – B35	Pipe Fitting insulation	14	Applied to Pump Line #1 in Mechanical Room; Dining Hall Side (Wing A)	10 % Chrysotile
JDTH050201-01	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	20% Chrysotile
JDTH050201-04	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	5.0% Chrysotile
JDTH050201-05	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	10% Chrysotile
JDTH050201-08	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25 % Chrysotile
JDTH050201-11	Pipe Fitting Insulation on 4" Outside Diameter line	14	Crawl Space	25% Chrysotile

TABLE 3.2 Asbestos Containing Materials

SAMPLE NUMBER	SAMPLE DECRIPTION	HA #	HOMOGENEOUS AREA LOCATION	RESULT (% of asbestos)
JDTH050201-13	Pipe Fitting Insulation on 6" Outside Diameter line	14	Crawl Space	15% Chrysotile
JDTH050201-14	Pipe Fitting Insulation on 6" Outside Diameter line	14	Crawl Space	25% Chrysotile
JDTH050201-17	Pipe Fitting Insulation	14	Basement Hall - Gardiner Side (Wing B)	25% Chrysotile

Table 3.3 lists the materials considered to be asbestos-containing, as they are similar in appearance, color, and texture (homogeneous) with those materials within the building identified, through laboratory analysis, as asbestos containing.

TABLE 3.3 Homogeneous Materials

НА	Description	Location(s)	Homogeneous with Samples Numbers
13	9" x 9" Floor tile and black mastic	Throughout the Building (Hallways, Dorm Rooms, Lobby, Kitchen, Study Lounge, Custodial Closets, Storage Closets, Basement Activity Room)	TUR112304 - B1 TUR112304 - B16 TUR112304 - B18 TUR112304 - B20 TUR112304 - B24 TUR112304 - B27 TUR112304 - B28 TUR112304 - B31
14	Pipe Fitting Insulation	In Crawl Space and Throughout Building	TUR112304 – B3 TUR112304 – B15 TUR112304 – B17 TUR112304 – B21 TUR112304 – B35 JDTH050201-01 JDTH050201-04 JDTH050201-05 JDTH050201-08 JDTH050201-11 JDTH050201-13 JDTH050201-14
15	Black Mastic	Basement Hallway (Gardiner Side)	TUR112304 – B8

The materials listed in Table 3.4 collected during the asbestos inspection were determined, through laboratory analysis to have no detectable level of asbestos..

Table 3.4 Non-Asbestos Containing Materials

HA Number	Homogenous Area Location	Associated Sample Number(s)	Result % Asbestos
1	Wall Plaster Throughout Building	TUR112304-B4 TUR112304-B19 TUR112304-B30 TUR112304-B26	ND
2	Ceiling Plaster Throughout Building	TUR112304 – B13 TUR112304 – B32	ND
3	Pipe Insulation on 2" Outside Diameter lines Throughout Building	TUR112304 – B2 TUR112304 – B29 JDTH050201-15 JDTH050201-18 JDTH050201-19	ND
4	Pipe Insulation on 4" Outside Diameter lines in Crawl Space and Throughout Building	JDTH050201-02 JDTH050201-03 JDTH050201-07 JDTH050201-09 TUR112304 – B33	ND
5	Pipe Insulation on 6" Outside Diameter lines in Crawlspace and Throughout Building	JDTH050201-10 JDTH050201-12 JDTH050201-16 TUR112304 – B10	ND
6	Insulation applied to piping located behind hot water tanks in mechanical room	TUR112304 – B34	ND

Table 3.4 Non-Asbestos Containing Materials

HA Number	Homogenous Area Location	Associated Sample Number(s)	Result % Asbestos
7	Insulation applied to large diameter steam feeder line in mechanical room	TUR112304 – B36	ND
8	1' x 1' interlocking ceiling tile (ICT) Throughout the Building	TUR112304 – B5 TUR112304 – B7 TUR112304 – B12	ND
9	Vapor barrier applied to the underside of the concrete decking throughout building	TUR112304 – B6 TUR112304 – B11 TUR112304 – B14	ND
10	Pipe insulation debris from ground in crawl space	TUR112304 – B9	ND
11	12" x 12" green floor tile (top layer) First Floor Lobby	TUR112304 – B23	ND
12	Yellow carpet mastic Throughout the Building	TUR112304 – B25	ND

ND -No Asbestos Detected

4.0 ASBESTOS-CONTAINING MATERIAL HAZARD ASSESMENT

The table below details the following: (1) Homogeneous sampling area number (HA), (2) a physical description of each material (3),material category (4), type of asbestos (5), quantity (6), friability (6), AHERA assessment category and (7), the location of those materials identified throughout the Turner Hall that contain 1% asbestos or greater.

TABLE 4.1 Hazard Assessment of Asbestos-Containing Material Identified in Turner Hall

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	Friability	AHERA Assessment Category (1-7)	Homogenous Area Location
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	19200 SF	NF	X	Under Carpet in Dorm Rooms, Hallways, and Study Lounges
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	1040 SF	NF	X	Under Floor Tile (1st Floor Lobby and Kitchen Area)
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	450 SF	NF	X	1 st , 2 nd , 3 rd Floor Custodial Closets
13	9" x 9" Floor Tile and Black Mastic	Misc	Chrysotile	200 SF	NF	X	Storage Rooms
14	Pipe Fitting Insulation	TSI	Chrysotile	450 LF	F	1	Crawl Space, Basement Floor

TABLE 4.1 Hazard Assessment of Asbestos-Containing Material Identified in Turner Hall

НА	Material Description	Material Category	Type of Asbestos	Quantity (Total)	Friability	AHERA Assessment Category (1-7)	Homogenous Area Location
14	Pipe Fitting Insulation	TSI	Chrysotile	75 LF	F	7	1 st , 2 nd , 3 rd Floor Custodial Closets Rooms 101, 103, 119, the Resident Manager's Office, Residence Life Apartment
15	Black Mastic	Misc	Chrysotile	360 SF	NF	X	Basement Hallway (Gardiner Side)

Friability: (F) = Friability, (NF) = non-friable

AHERA Assessment Category:

1 = Damaged or significantly damaged TSI ACBM,

2 = Damaged friable surfacing ACBM

3 = Significantly damaged friable surfacing ACBM

4 = Damaged or significantly damaged friable miscellaneous ACBM

5 = ACBM with potential or damaged

6 = ACBM with potential for significant damage

7 = Any remaining friable ACBM or friable suspected ACBM

X = Not applicable (material is non-ACBM or non-friable surfacing or miscellaneous material)

None = No assessment provided in original inspection

5.0 OPERATIONS AND MAINTENANCE PROGRAM

The purpose of the O&M program is to minimize future risk of contamination and fiber release episodes by controlling access to asbestos-containing materials, and to render the ACBM to a non-harmful state. This approach is intended to be a short to mid-term solution, since all asbestos containing materials should eventually be properly removed so that potential hazards are permanently eliminated.

Shepherd University should periodically review and update the O&M program to incorporate regulatory changes and advancements within the asbestos management field. The outline of specific work practices contained in this O&M program specifies procedures and practices to be employed by all persons required to work in and around ACBM at the Turner Hall Residence Building. The O&M program detail procedures to reduce the possibility of the release of asbestos fibers by outlining methods to effectively manage asbestos-containing materials. The O&M program contains the following elements:

- ! Notification and labeling
- ! Training
- ! Employee protection and medical surveillance
- ! Specialized cleaning procedures
- ! Maintenance and renovation practices
- ! Special maintenance work practices
- ! Special renovation work practices
- ! Emergency response procedures
- ! Periodic surveillance of ACBM
- ! Record keeping requirements
- ! Special precautionary measures

An operations and maintenance program becomes necessary when any friable or non-friable ACBM is identified or assumed to be present within a building to reduce the chances of an asbestos fiber release.

5.1 Notification and Labeling

Assuring that all persons who may come in contact with ACBM within the Turner Hall Residence Building are notified of the presence and location of the material requires an appropriate degree of communication between Shepherd University and the Turner Hall Residence Building occupants. Persons using the facilities should be made aware of the presence of asbestos-containing materials. The locations of these materials must be specifically identified to outside contractors working in the Turner Hall Residence Building. The purpose of this section is to discuss the necessary steps to inform Shepherd University employees and its outside contractors who may perform work in any area where ACBM has been identified throughout Turner Hall about the inspection, periodic re-inspections, and response actions taken by Shepherd University to manage the asbestos-containing materials within Turner Hall.

The essential elements in achieving this objective are the notification of occupants of Turner Hall Residence Building, proper training of key people in the Asbestos Management Program, the periodic surveillance of the asbestos-containing materials (including periodic re-inspections), and the proper implementation of the Operations and Maintenance program. The notification should contain the following information:

- ! Potential health hazards associated with asbestos
- ! The type(s) of material containing asbestos
- ! The condition of the asbestos-containing material(s)
- ! The location of asbestos-containing material(s)

- ! Instructions to avoid disturbing the asbestos-containing materials (e.g., do not puncture the floor, do not grind furniture against the floor tile), and to report any evidence of disturbance or damage of the identified ACBM.
- ! Any action that cleaning and maintenance personnel are taking as special precautions during their work to inspect areas for damage and to guard against disturbing the asbestos-containing materials.
- ! A statement that all asbestos-containing materials are inspected periodically and additional measures will be taken when needed to protect the health of building occupants.
- ! Instructions to report any damaged ACBM; any change in the condition of the asbestos-containing materials; or any improper action of building personnel to the Asbestos Program Manager.
- ! The name and telephone number of the Asbestos Program Manger and
- ! The location and availability of the O&M program for public inspection.

The O&M program must be kept on file in a designated area which is disclosed in the notification (usually the business office) for inspection. The O&M program must be updated as necessary to address any changes, alterations, maintenance activities and/or inspection documents that amend the original document.

Shepherd University should implement the labeling of Building Sketches or Diagrams to indicate areas where asbestos materials are present. Additionally, temporary signs should be posted in repair or renovation areas if the scheduled work may impact asbestos-containing materials.

These signs should denote the exact locations of all asbestos-containing materials in these areas in an effort to minimize accidental disruption of asbestos-containing materials. All workers should be alerted to the type and location of asbestos-containing materials prior to the commencement of work. During abatement or removal of asbestos-containing materials, the following sign should be displayed in accordance with Federal and State of West Virginia regulations:

Danger - Asbestos

Cancer and Lung Disease Hazard

Authorized Personnel Only

Respirators and Protective Clothing

Are Required In This Area

5.2 Training Programs

Asbestos Awareness Training - 2 Hours

Maintenance staff or other service personnel employed by Shepherd University (the Asbestos Program Administrator and others who may come in contact with asbestos-containing materials in the normal course of work) should receive two hours of awareness training which includes training on the requirements of EPA, Occupational Safety & Health Administration (OSHA) and the State of West Virginia regulations and details the Operations and Maintenance program. Currently this type of course is available on videocassette recordings, which present a generic format. This format allows for repetitive training of individuals as it becomes necessary.

Worker Training - 14 Hour Training Supplement

In addition to the two hour Asbestos Awareness Training, any maintenance or service personnel who will conduct activities that disturb asbestos-containing materials should receive an additional 14 hours of training which must include proper methods and procedures necessary for handling asbestos-containing materials, personal protection equipment, and the State of West

Virginia asbestos regulations. Shepherd University should avoid using in-house personnel for asbestos abatement work considering the record keeping, insurance, and other liability issues involved.

If any custodial or maintenance workers are to be used for remedial actions or to clean up asbestos-containing materials, they must be required to undergo an additional 14 hours of training (totaling 16 hours). This training should include the descriptions of the proper methods of handling ACBM, the proper training and use of respiratory protection and personal protective equipment in accordance with EPA, National Institute of Occupational Safety & Health (NIOSH) and OSHA regulations, all appropriate Federal and State regulations regarding asbestos, and proper work techniques, including hands on training.

Trained Shepherd University personnel would be responsible for correcting "small-scale, short-duration" cleanup efforts involving three square feet or less of asbestos-containing material. Small-scale, short-duration projects are defined in 40 CFR Part 763 Appendix B to Subpart E, which is incorporated by reference. OSHA requires a respiratory protection program whenever workers are to be exposed to fiber concentrations above the Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter (f/cc). At the discretion of Shepherd University, a program could be initiated if it is determined that work will be performed in-house by the trained personnel. Shepherd University may elect to have all work performed by outside contractors rather than incur the costs and liability of in-house programs.

The EPA-recommended respiratory program specifies (1) minimum levels of protection for different types of work, (2) requirements for worker training and respirator fit-testing, (3) procedures for respirator care, and (4) medical surveillance of workers who need to wear respirators. An industrial hygienist or health professional should assist the Asbestos Program Manager in designing the respiratory protection and medical surveillance programs if it becomes necessary. The properly trained employee(s) would be capable of responding to ACBM that

requires removal, cleanup, encapsulation, or other remedial action to minimize the potential of asbestos fiber release.

Any removal efforts shall be completed in compliance with all Federal and State of West Virginia regulations. Shepherd University must ensure that all contractor personnel that may impact ACBM have proper training prior to the commencement of any work.

6.0 RESPONSE ACTIONS

6.1 Floor Tile and Black Mastic under Carpet

Vinyl Asbestos Tile (VAT) is considered to be a non-friable material unless it is abraded, sanded, ground or cut. Under these conditions it could become friable causing a potential hazard. The 9"x 9" VAT and the adhesive black mastic located under the carpet in the student occupied residence hall rooms, hallways, and study lounges on the first, second and third floors is in good non-friable condition unless the material is removed, damaged, or broken in which case it could become friable causing a potential hazard. Since all of the aforementioned VAT and black mastic is located under carpeting, it is inaccessible unless the carpeting is removed. No further remedial actions are required at this time.

6.2 Floor Tile and Black Mastic under Floor Tile; First Floor Lobby and Kitchen

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. Under these conditions it could become friable causing a potential hazard. The 9"x 9" VAT and the adhesive black mastic located under the 12" x 12" non-asbestos containing green floor tile in the first floor lobby and Kitchen area is in good non-friable condition unless it is removed, damaged, or broken in which case the material could become friable causing a potential hazard. Since the aforementioned VAT is located under floor tile, it is inaccessible unless the carpeting is removed. No further remedial actions are required at this time.

6.3 Floor Tile and Black Mastic; Custodial Closets

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. The 9" x 9" VAT and the adhesive black mastic located in the custodial closets throughout the building is in fair condition. There is potential for damage to the aforementioned tile due to the frequency (more than once per week), of service personnel contact with these tiled custodial areas. These materials should be removed or covered with an impermeable type barrier before further deterioration of the tile occurs.

6.4 Floor Tile and Black Mastic; Storage Rooms

VAT is considered to be a non-friable material unless it is abraded, sanded, ground or cut. The 9"x 9" VAT and the associated black mastic located in the storage rooms was observed to be in good non-friable condition and can be maintained and kept intact by following these procedures. Wet methods should be used during maintenance activities such as mopping, scrubbing, and waxing of the identified VAT to minimize the likelihood of asbestos fibers becoming airborne. Waxing of the floors to reduce wear of the tile should be performed periodically as an additional precaution. The use of abrasive pads to wax or buff floors should not be permitted. Floor buffing should be performed using the least abrasive pad possible. Any loose tiles should be removed or replaced as noticed to eliminate the possibility of breakage and fiber release. If any doubt exists about the possibility of disturbing the asbestos-containing floor tiles during maintenance activities, adequate precautions should be taken to minimize the chance of fiber release, thus protecting workers and building occupants from exposure. No remedial action is required at this time.

6.5 Floor Tile Mastic

The adhesive mastic located in the basement hallway (Gardiner Side) is considered to be in poor condition. This material should be removed or covered with an impermeable type barrier before further deterioration of the mastic occurs.

6.6 Pipe Fitting Insulation – Crawl Space and Basement Hall Areas

The insulation applied to pipe fittings located in the basement crawl space area and basement hall were observed to be in fair to poor condition were condition. The damaged areas of pipefitting insulation should be repaired or the pipe fitting insulation should be removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel. Any activity which could potentially disturb the pipe fitting insulation must not be permitted.

6.7 Pipe Fitting Insulation – Custodial Closets / Resident Hall Rooms

The insulation applied to pipe fittings in the custodial closets on the first, second, and third floors, and Rooms 101, 103, 119, the Resident Manager's Office, and the Wing A Residence Life Apartment were observed to be in an intact condition. However, the condition of the pipe fitting insulation should be closely monitored for any damage or deterioration. If damage is observed, these areas should be repaired or the pipe fitting insulation removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel. Any activity which could potentially disturb the pipe fitting insulation must not be permitted.

6.8 Pipe Fitting Insulation; Assumed

There may be pipefitting insulation above hard plaster ceilings and other areas inaccessible during the inspection. All pipefitting material should be treated as asbestos containing until laboratory data determines otherwise. Any activity which could potentially disturb pipe fitting insulation must not be permitted. If damage is observed, these areas should be repaired or the pipe fitting insulation removed by a qualified asbestos abatement contractor or appropriately trained maintenance personnel.

7.0 FIBER RELEASE EPISODES

At any time, should asbestos materials become detached from a substrate, disturbed or damaged, Shepherd University must restrict entry into affected areas and post signs to prevent the unnecessary entry by persons other than those qualified. Air handling units should be immediately shut down and a technically qualified person should be contacted to remedy the situation. Two types of incidents which can occur are; a minor fiber release episode involving less than three square or linear feet, or a major fiber release episode involving more than three square or linear feet of asbestos-containing materials. In either case, the Asbestos Program Manager must be contacted immediately. If an in house person has received 16 hours of training, a medical examination, has been properly licensed by the State of West Virginia, and has been properly fit tested for a respirator, they can remediate the minor fiber release episode.

A major fiber release episode will require a properly trained asbestos abatement contractor. Shepherd University may elect to make appropriate plans with a contractor for their assistance in the unlikely event that this scenario takes place. In the event of either type of fiber release episode, Shepherd University should record the incident on the "Fiber Release Episode Report" attached to this Plan. This document should be completed by the person reporting the problem and incorporated into the O&M Program. All asbestos removal work must be performed by a qualified, licensed State of West Virginia asbestos contractor in accordance with all applicable federal and West Virginia regulations.

8.0 PERIODIC SURVEILLANCE AND AIR MONITORING

At lease once every six months after the O&M program is implemented, periodic surveillance should be conducted of all identified ACBM. Any newly identified asbestos-containing materials should be sampled and assessed in the same manner as the initial inspection required. An evaluation should be made of all ACBM for its present condition, friability and location. All appropriate records including air monitoring laboratory reports shall be submitted to the Asbestos Program Manager for incorporation into the O&M program within thirty days. Additionally, air samples should be collected within Turner Hall during business hours to determine if asbestos fibers are being released into these areas.

9.0 IMPLEMENTATION

The Asbestos Program Manager becomes directly responsible for the implementation, updating and tracking of the O&M program. The O&M program should be maintained in a centralized location so that any concerned party may examine it and additional required records may be added, amended and included as necessary. The information contained within the O&M program must be easily referenced to effectively address all potential situations associated with the ACBM in the Turner Hall.

All records pertaining to the program must be maintained by Shepherd University. Documents that should be included within the records include, but are not limited to, a copy of the Operations and Maintenance Plan, inspection documentation, procedures relevant to the O&M Plan, cleaning schedules and the location of disposal containers, a copy of an employee handbook (if applicable) and the location map of all asbestos-containing materials.

10.0 LIMITATION

This document has been prepared for use by Shepherd University as a guide in the safe conduct and operating procedures when a potential asbestos exposure is possible. It is based upon existing regulations and generally accepted non-regulatory guidelines. Accordingly, BEC does not accept responsibility for the safety and health of the employees and building occupants of Turner Hall.

Prepared by:

Jonathan B. Anderson
Management Planner
Boggs Environmental Consultants, Inc

ATTACHMENT I FIBER RELEASE EPISODE REPORT

ATTACHMENT II LABORATORY DATA TABLES

ATTACHMENT III EPA CERTIFICATES

Office Fax (304) 292-1095 (304) 292-2320

TURNER HALL

ASBESTOS ABATEMENT WORKPLAN

SHEPHERD UNIVERSITY

Shepherdstown, West Virginia BEC Project # WV10023 June 22, 2010

SUMMARY OF WORK

The asbestos abatement project consists of removing TSI Pipe Fittings associated with Non-Asbestos containing Pipe Insulation in the following areas that are provided hereunder of Turner Hall, Shepherd University, Shepherdstown, West Virginia. The asbestos-containing materials (ACM) abatement work shall be conducted within a regulated work area utilizing "adequately wet" removal methods via containment bag (glovebag).

Turner Hall

Work Area #1- Crawlspace

TSI Pipe Fittings associated with 450 LF of Non-Asbestos containing Pipe Insulation

Work Area #2- Laundry Room/Basement Hallway (Dining Hall Side)/Stairwell Hallway TSI Pipe Fittings associated with 175 LF of Non-Asbestos containing Pipe Insulation

Work Area #3- Basement Hallway (Gardiner Hall Side)/Utility Rooms #1, #2, and #3
TSI Pipe Fittings associated with 300 LF of Non-Asbestos containing Pipe Insulation

Work Area #4- Room #101 – 2 TSI Pipe Fittings

Work Area #5- Room #103 – 2 TSI Pipe Fittings

Work Area #6- Room #119 – 2 TSI Pipe Fittings

Work Area #7- Residents Life Office – 2 TSI Pipe Fittings

Work Area #8- Residents Life Room – 2 TSI Pipe Fittings

GENERAL ASBESTOS ABATEMENT REQUIREMENTS

Containment Bag (Dust Control):

- Friable asbestos-containing pipe fittings are to undergo controlled removal via containment bag (glovebag), the TSI exist in of Turner Hall.
- Removal of asbestos-containing pipe-fittings in Turner Hall and in are to be performed via glovebag containment. Dust control isolation containment will be maintained during the work. Local exhaust and ventilation system shall be sealed and locked out for duration of work. Dropcloths will be used for coverage of all objects within regulated areas.
- Glovebag removal will be performed with no less than two (2) licensed asbestos workers per glove bag.
- > Smoke testing of the glove bags for leak detection.
- > Glove bag removal will be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- Upon completion of glovebag removal operations, each glove bag will be double bagged and sealed with duct tape.
- Preventing dust dispersion is the primary means of controlling the spread of asbestos within the glovebag enclosure.
- ➤ Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- > Bags or containers of waste will be moved to the waste holding area, washed, and wrapped in a bag with the appropriate labels.
- Disposal of regulated, friable ACM and non-friable ACM shall be in accordance with applicable US EPA, DOT, and State of West Virginia asbestos hazard control regulations.
- ➤ Abatement Contractor shall provide documentation for review and approval prior to conducting abatement actions the following:
- > Oversight by competent person, State of West Virginia licensed Asbestos Supervisor.
- Material Safety Data Sheets and Technical Data Sheets for all products, supplies, materials, etc. planned for use during the abatement project.
- Restrictive tape barriers shall be set up immediately upon mobilization to control access to work area. OSHA warning signs will be posted at perimeter of the work area.
- Provision of ground-fault circuit interrupters for electrical equipment to be utilized during the work.
- > Furnish all supplies and equipment necessary to perform the asbestos removal and disposal operation in a manner consistent with this project design and applicable local, state, and federal regulations.
- > Provide and maintain on site exposure assessment documentation (within 12 months) including data relating to prior similar jobs, as applied to the specific variables of the current job.
- > Supplies, Materials, Equipment & Manpower necessary to complete the abatement project in compliance with project completion schedule.

PERSONNEL HYGIENE PROCEDURES

Workers performing abatement operations shall utilize the following minimum personal protective equipment:

- Negative pressure, half-face respirator equipped with HEPA filter cartridges for use during the asbestos abatement is required. Full body disposable suits with boots/hood extensions, hard hats, safety boots, safety eye glasses, gloves
- Abatement workers and all other authorized regulated work area entrants shall utilize the two (2) stage decontamination unit to wet-clean body extremities and all equipment, respirators, etc. prior to change to street clothes at the building where work is being performed.

GENERAL WORK PRACTICES

Workers are to adhere to the following minimum required work practices:

- > Thermal System Insulation removal operations shall be performed under "adequately wet" conditions as defined by the US EPA National Emissions Standards for Hazardous Air Pollutants.
- ➤ Preventing dust dispersion is the primary means of controlling the spread of asbestos within the regulated area. Whenever practical, the point of removal should be isolated, enclosed, covered, or shielded from the workers in the area. Waste asbestos containing materials must be bagged during or immediately after removal; the material must remain saturated until the waste container is sealed.
- > Bags or containers of waste will be moved to the waste holding area, washed, wrapped in a clean second bag marked with appropriate labels and the open end "goose neck" sealed with resilient tape.

CLEANING THE WORK AREA

- Surfaces within the work area should be kept free of visible dust and debris to the extent feasible. Whenever visible dust appears on surfaces, the surfaces must be cleaned by wiping with a wet sponge, brush, or cloth and then vacuumed with a HEPA vacuum.
- All surfaces within the regulated area will be cleaned before it is disassembled and inspected by the owner's representative. An approved encapsulant must be sprayed onto areas after the visible dust has been removed.

AN AIR MONITORING PLAN

Owner's representative shall collect phase contrast microscopy (PCM) at baseline, during active abatement operations, and post abatement activities. BEC shall collect the minimum number of environmental air samples required for non-AHERA (school) asbestos abatement projects in accordance with Table 64-63B of the State of West Virginia asbestos rule. BEC shall collect the following number of air samples for the previously noted contained Work Areas as follows:

Table 64-63B

Work Area Size	Minimum Number of Required Samples	
< 49 sq. ft.	0	
50 - 160 sq. ft.	2	
161 - 2,500 sq. ft.	3	
2,501 - 5,000 sq. ft.	4	
5,001 -10,000 sq. ft	5	
>10,000 sq. ft.	Calculate *	

^{*} Five (5) samples plus one (1) additional sample for each additional 5,000 square feet.

- > Air sampling equipment will be calibrated prior to and at the completion of sample collection.
- Air sampling shall be achieved via the use of high volume air sampling pumps. Air sampling pumps shall be located immediately adjacent to the work area at critical barriers, clean room of the decontamination unit, and interior facility areas remote to the abatement operations. Samples will be collected with a sufficient volume of air drawn through the cassette as prescribed by the appropriate analytical method.
- Abatement Contractor's competent person shall identify 25% of the work force and collect a representative number of OSHA required personal samples from the work force. Sampling shall also be conducted for the determination of exposure during the phases of work activities- pre-cleaning, set up, removal, and post cleaning activities.

PROJECT COMPLETION SCHEDULE

	Begin	Finish
Turner Hall Work Areas	July 12, 2010	August 6, 2010

DISPOSAL

Waste will be transported from the work areas via polyethylene carts to a lined and enclosed vehicle. All waste generated shall be disposed of in accordance with all local, State, and Federal regulations.

APPLICABLE REGULATIONS

Occupational Safety and Health Administration

> 29 CFR 1910 General Industry			
29 CFR 1910 General Industry	1	20 OFD 1010	C 11 1 1
	-	JULER TUTO	Lapheral Industry
		2) (11 1) 10	Ocherai muusu y

> 29 CFR 1910.1001	Asbestos Standard for General Industry
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29 CFR 1910.134 Respiratory Protection

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
 29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags)

> 29 CFR 1926 Construction Industry

➤ 29 CFR 1926.1101 Construction Industry- Asbestos Standard

United States Environmental Protection Agency

➤ 40 CFR Part 261 Hazardous Waste regulations

> 40 CFR Part 61 NESHAP regulations

Department of Transportation

➤ 49 CFR Parts 171-180 Transportation of hazardous materials

State of West Virginia Division of Health

➤ Tile 64, Series 63 Asbestos abatement licensing rule

In addition to any detailed requirements of the Work Plan, the Asbestos Abatement Contractor shall, at their own cost and expense, comply with all laws, ordinances, rules, and regulations of Federal, State, Regional, and Local Authorities regarding work area preparation, removal, handling, and disposal of asbestos containing materials.

This asbestos abatement project design document was prepared by:

BOGGS ENVIRONMENTAL CONSULTANTS, INC.

Richard C. Robinson

Project Manager

WV Asbestos Project Designer

(WV # AD002896-Expires February 28, 2011)

APPENDICES

Appendix A - USEPA\AHERA\WV Asbestos Project Designer

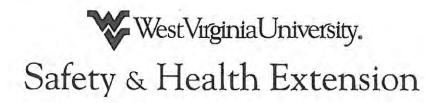
Appendix B - Asbestos Removal Work Area Location

June 22, 2010

Date

APPENDIX A

USEPA AHERA WV ASBESTOS PROJECT DESIGNER



This is to certify that

Richard Robinson

has met the attendance requirements and successfully completed the

Asbestos Project Designer Refresher

As approved by the Environmental Protection Agency 8 Instructional Hours

Mas D Full	February 4th, 2010
Course Director	Examination Date
February 4th, 2010	5-0169
Course Date	Number
Morgantown, WV	February 4 th , 2011
Location	Expiration Date

This course is West Virginia and EPA approved and meets the requirements of 40 CFR Part 763 AHERA for purposes of accreditation required under Toxic Substances Control Act (TSCA) Section 206.

Training provider:
Safety & Health Extension/West Virginia University
P.O. Box 6615, Morgantoum, WV 26506-6615
Phone: 800-626-4748





WEST VIRGINIA

· Asbestos Program

Richard C. Robinson

License # AD002896 Issued: 2/17/2010

Expires:

2/28/2011

IS LICENSED AS AN ASBESTOS PROJECT DESIGNER

Randy C. Curtis Dir., WV RTIA DIV

APPENDIX B

ASBESTOS REMOVAL WORK AREA LOCATION

