



Certified Asbestos Consultant (CAC) LIC # 05-3811

#### PRE-RENOVATION ASBESTOS-CONTAINING MATERIAL SURVEY

SURVEY REPORT FOR: THETA XI FRANTERNITY 509 1<sup>ST</sup> STREET DAVIS, CA 95616



#### WESTECH ENVIRONMENTAL PROJECT NO. 071816-A002

PREPARED FOR: MR. BOB TESTA BETA EPSILON ASSOCIATION OF THETA XI

> PREPARED BY: ANTHONY BELCHER CAC# 05-3811

WESTECH ENVIRONMENTAL, LLC. 5960 S. LAND PARK DRIVE, #367 SACRAMENTO, CA 95822 PH: 916-392-2006 FX: 916-436-8713 Website: www.1westech.com

Wes- Tech Environmental 5960 South Land Park Dr. #367 Sacramento CA 95822 (916) 392-2006





Certified Asbestos Consultant (CAC) LIC # 05-3811

American Industrial Hygiene Association #160920

#### **ASBESTOS INSPECTION**

I, Anthony Belcher CAC #05-3811 certify that the construction project located at

# 509 1<sup>ST</sup> Street, Davis, CA 95616

has been inspected for asbestos containing material and complies with Title 8 Code of California Regulations, "Asbestos Survey Standards for Buildings to be Renovated or Demolished", as promulgated by California Department of Safety and Health (DOSH) and "Clean Air Act" (NESHAP) and OSHA, "Standards for Construction Workers" and found that;

#### For General Construction:

# \_\_XX\_ 1. The building or area being renovated has been tested by a licensed Certified Asbestos Consultant and no asbestos containing materials regulated by the California State codes or standards were found.

\_\_\_\_\_2. The building or area being renovated or demolished has been tested by a Certified Asbestos Consultant and is found to have asbestos containing material in excess of one/tenth of a percent. If the asbestos containing material is disturbed, it must be removed or encapsulated as required by the above codes and standards, and final clearance levels indicated compliance will be obtained before the area is reoccupied.

\_\_\_\_3. The combined amount of regulated asbestos containing material is less than the 260 linear feet on pipes, 160 square feet on other facility components, or less than 35 cubic yards when removed from the facility components.

4. The area being renovated or demolished is a single-family dwelling or a residential housing unit with four or less units. These units will not be used for commercial or public use.

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Anthony Belcher-Certified Asbestos Consultant #05-3811 Wes-Tech Environmental





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DEPARTMENT OF INDUSTRIAL Division of Occupational Safety and Asbestos Unit 424 Arden Way, Suite 495	RELATIONS Health		
acramento, CA 95825-2417 916) 574-2993 Office (916) 483-0 ttp://www.dir.ca.gov/dirdatabases.h	1572 Fax <u>tml actu@dir.</u>	ca.gov	
505233811C	280	284	
WesTech Environmer	ıtal		September 29, 2015
Anthony D. Belcher	Drive #26	7	
Sacramento	'CA	95822	
Dear Certified Asbest	os Consultar	nt or Technic	cian:
Enclosed is your certi rules printed on the	fication card back of the	To mainta	ain your certification, you must abide by the n card.
Your certification is va must apply for renew [8 CCR 341.15(h)(1)].	ilid for a peri val at least /	od of one y 60 days <u>be</u>	ear. If you wish to renew your certification, you fore the expiration date shown on your card.
Please hold and do no our office until you ap	ot send copie ply for renew	es of your re al of your ce	equired AHERA refresher renewal certificates to ertification.
Certificates must be k period is only for the surveillance technician	ept current i ose who are n.	if you are a not active	ctively working as a CAC or CSST. The grace ly working as an asbestos consultant or site
Please contact our of contact/mailing inform	fice at the ab ation within	ove addres 15 days of ti	s, fax number or email; of any changes in your he change.
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Sificerely, Jeff Ferrell Senior Safety Enginee Attachment: Certificat cc: File	er tion Card d 10/24/2012)		State of California Division of Occupational Safety and Health Certified Asbestos Consultant Anthony D. Belcher Name Certification No. 05 3811 Expires on 11/17/16 This certification No. 05 3811 Expires on 11/17/16

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#### 1. Executive Summary

Wes-Tech Environmental was retained by Bob Testa to perform an Asbestos Hazard Emergency Response Act (AHERA) style asbestos survey of multi-use commercial building to determine the locations of accessible and to the extent feasible, inaccessible friable and non-friable asbestos containing building materials (ACBM).

Friable materials are materials that can be reduced to powder with hand pressure such as fireproofing, sprayed-on acoustic ceilings, ceiling tile, pipe insulation, and other thermal systems insulation. All other materials such as floor tile, adhesives, plaster, stucco, and sheet rock mudding compounds are considered non-friable materials.

Because friable materials are more likely to release asbestos fibers into the air when disturbed than non-friable materials, friable materials are considered a greater health concern.

Wes-Tech Environmental performed an Asbestos Hazard Emergency Response Act (AHERA) style asbestos survey of the, to identify ACBM. This report includes PLM Bulk Sample analyses and identifies the locations of suspect asbestos containing material.

#### DISCLAIMER

This report is prepared for the express use and benefit of **509** 1<sup>st</sup> **Street in Davis, CA 95616**, its agents and employees. The information in this report or portions thereof may be required to be included in notifications to government agencies, employees, contractors or other visitors to the building(s). This report is not intended to be used as a sole specification or work plan for all of the work suggested or recommended in this report.

This report is based upon conditions and practices observed at the property and Information made available to the surveyor. This report does not intend to identify all hazards or unsafe practices, nor to indicate that other hazards or unsafe practices do not exist at the premises.





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#### Purpose:

The purpose of the Pre-Renovation ACM Survey was to identify and quantify the absence or presence of potential ACMs within the subject buildings prior to propose renovation activities. The scope of work for the Pre-Renovation ACM Survey included conducting a visual survey of the subject building and conducting bulk sampling and analysis of material suspected of containing asbestos.

#### Contractors performing work subject to 8 CCR 1529:

- Determine the location and quantity of asbestos-containing material (ACM) and/or presumed ACM (PACM) based on the criteria in 1529(k)(1); {ref. 1529(k)(3)(A)}
- Within 10 days of completing the work, regarding the location and quantity of remaining asbestos, as well as any final monitoring results {ref. 1529(k)(3)(C)}

See 8 CCR 1529 for the exact requirements. There are additional notification duties to the local air quality district or the U.S.EPA.

Should you have any questions regarding this report, please contact me.

Respectfully,



Anthony Belcher IH, CAC Wes-Tech Environmental





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American Industrial Hygiene Association #160920

#### No Asbestos-containing material (ACM) was identified in the sample as follows:

		<b>E</b>		ORATORI	E S	
	2033	HERITAGE PARK DR	, Oklahoma City, O	K 73120   1.80	00.822.1650	
		Polarized Li	ght Microscopy As	sbestos Analysis R	eport	
QuanTEM Lab	No. 266971			Client V	Ves-Tech Environmental	
Account Numbe	r: B591			1	ony Belcher	867
Date Received:	07/21/20	16		S	acramento, CA 95822	
Received By:	Peyton A	wbrey				
Date Analyzed:	07/26/20	16	Proj	ect: N/A		
Analyzed By:	Carter Co	DX.	Project Locati	ion: 509 1st Street, Da	avis, CA 95616	
Methodology:	EPA/600	/R-93/116	Project Num	ber: 071816-A002		
QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
001	1	Layered	White Joint Compound	Asbestos Not Present	NA	CaCO3 Paint
001a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 15	Gypsum
002	2	Layered	White Joint Compound	Asbestos Not Present	NA	CaCO3 Paint
002a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 15	Gypsum
003	3	Layered	White Joint Compound	Asbestos Not Present	NA	CaCO3 Paint
003a		Layered	White Sheetrock	Asbestos Not Present	Cellulose 15	Gypsum
004	4	Layered	White Joint Compound	Asbestos Not Present	NA	CaCO3 Paint





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			LABO	RATOR	IES	
	2033	Polarized Li	, Oklahoma City, OK 3 ght Microscopy Asbe	stos Analysis	800.822.1650 Report	
QuanTEM Lab No Account Number: Date Received:	<ul> <li>266971</li> <li>B591</li> <li>07/21/20</li> </ul>	016		Client	Wes-Tech Environmental Tony Belcher 5960 South Land Park Dr. Sacramento, CA 95822	#367
Analyzed By: Analyzed By: Methodology:	O7/26/20 Carter C EPA/60	Worey 016 Vox 0/R-93/116	Project: Project Location: Project Number:	N/A 509 1st Street, 1 071816-A002	Davis, CA 95616	
QuanTEM Sample ID S	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
004a		Layered	White Sheetrock	Asbestos Not Press	ent Cellulose	15 Gypsum
005	5	Homogeneous	White Joint Compound	Asbestos Not Prese	ent NA	CaCO3 Paint
006	6	Layered	White Joint Compound	Asbestos Not Prese	ent NA	CaCO3 Paint
006a		Layered	White Sheetrock	Asbestos Not Prese	ent Cellulose	15 Gypsum
007	7	Layered	White Joint Compound	Asbestos Not Prese	ent NA	CaCO3 Paint
007a		Layered	White Sheetrock	Asbestos Not Prese	ent Cellulose	15 Gypsum

QuanTEM is a NVLAP accredited PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA/600/M4-82-020 and EPA/600/R-93/116 methods. This report may not be used to claim product endorsement by NVLAP or any agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory.





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	2033	Heritage Park Dr,	OKLAHOMA CITY, OK	73120   1.800.	822.1650	
		Polarized Lig	ht Microscopy Asbe	estos Analysis Repo	ort	
QuanTEM Lab No Account Number:	o. 266971 B591			Client: Wes- Tony 5960	Tech Environmental Belcher South Land Park Dr. #3	367
Date Received:	07/21/20	16		Sacra	mento, CA 95822	
Received By:	Peyton A	wbrey				
Date Analyzed:	07/26/20	16	Project	N/A	<b>0</b> • • • • • • • • • • • • • • • • • • •	
Analyzed By:	Carter C	0X	Project Location	509 1st Street, Davis,	CA 95616	
QuanTEM Sample ID S	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
008	8	Layered	Gray Carpet	Asbestos Not Present	Synthetic 100	
008a		Layered	Yellow Mastic	Asbestos Not Present	NA	Giue CaCO3
009	9	Homogeneous	Yellow Mastic	Asbestos Not Present	NA	Glue CaCO3
010	10	Layered	Gray Carpet	Asbestos Not Present	Synthetic 100	
010a		Layered	Yellow Mastic	Asbestos Not Present	NA	Glue CaCO3
011	11	Homogeneous	Black Tar Paper	Asbestos Not Present	Cellulose 60	Tar
012	12	Layered	Gray Shingle	Asbestos Not Present	Glass Fiber 20	Tar Quartz
012	12	Layered	Gray Shingle	Asbestos Not Present	Glass Fiber 20	Tar Quartz





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	2033	HERITAGE PARK DR,	DKLAHOMA CITY, OK	RATORIE 73120   1.800.	S 8 2 2 . 1 6 5 0	
		Polarized Lig	ht Microscopy Asb	estos Analysis Repo	rt	
QuanTEM Lab No Account Number: Date Received: Received By: Date Analyzed: Analyzed By: Methodology:	o. 266971 B591 07/21/2 Peyton / 07/26/2 Carter C EDA/60	D16 Awbrey D16 Cox	Project Project Location Project Number	Client: Wes- Tony 5960 Sacra : N/A : 509 1st Street, Davis, - 071816 A002	Tech Environmental Belcher South Land Park Dr. #3 mento, CA 95822 CA 95616	67
QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
012a		Layered	Black Tar	Asbestos Not Present	NA	Tar
013	13	Layered	Gray Shingle	Asbestos Not Present	Glass Fiber 20	Tar Quartz
013a		Layered	Black Tar	Asbestos Not Present	NA	Tar
014	14	Homogeneous	Brown Insulation	Asbestos Not Present	Cellulose 100	
015	15	Homogeneous	Brown Insulation	Asbestos Not Present	Cellulose 100	
016	16	Homogeneous	Brown Insulation	Asbestos Not Present	Cellulose 100	

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

QuanTEM is a NVLAP accredited PLM laboratory (Lab Code: 101959-0). This report relates only to the specific items tested. NVLAP accreditation applies only to analysis performed utilizing EPA/600/M4-82-020 and EPA/600/R-93/116 methods. This report may not be used to claim product endorsement by NVLAP or any agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory.





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	2000 11	Polarized Lig	ht Microscopy Asbe	stos Analysis	Report	
QuanTEM Lab N Account Number Date Received: Received By:	io. 266971 : B591 07/21/201 Peyton Aw	6 /brey		Client	Wes-Tech Environmental Tony Belcher 5960 South Land Park Dr. # Sacramento, CA 95822	ŧ367
Date Analyzed: Analyzed By: Methodology:	07/26/201 Carter Cox EPA/600/I	6 : <b>R-93/116</b>	Project: Project Location: Project Number:	N/A 509 1st Street, 071816-A002	Davis, CA 95616	
QuanTEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)	Non Fibrous
	C	arter w. Cox, Analys				
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		arter w. Cox, Analys	·			





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Certified Asbestos Consultant Report Recipient: 5960 South Land Park Drive ? Phone:       (6)         American Industrial Hygiene / Email: Anthonyb@Twe Ship Date:       3         Cettified Asbestos Consultant Report Recipient:       (9)         American Industrial Hygiene / Email: Anthonyb@Twe Ship Date:       (10)         Cettion: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Cettor: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Cettor: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Cettor: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Cettor: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Cettor: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         Constant       Client: Theta XI Frantemity         ECAL INSTRUCTIONS:       Client: Theta XI Frantemity         Location bischolo       SiR         Location bischolo       SiR         Down stairs Station       SiR         Down stairs bathroom       SiR         Upstair mumby room       SiR         Under coom capet & mastic       SiR         Down stairs kitchen room capet & mastic       SiR         Murth roof- roofing & felt       In the state         South roof- roofing & felt       I	(6) 392-2006 ech.com C Sampler: A. BelcherlB. Khanthal Via: Personal Delivery Job No: 071816-A002 Job No: 071816-A002 Same Day Same Day 3 Day Tumaround Vian Same Day CM Final Load Weights
Ship Date:       Certation: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity       Location Discription     S/R     Air       Down stalis porch room closet     S/R     Air     Biotrace       Upstalir kitchen room closet     S/R     Air     Biotrace       Upstalir kitchen room closet     S/R     Air     Biotrace       Upstalir kitchen room carpet & mastic     S/R     Air     Biotrace       Mumby room carpet & mastic     S/R     Air     Biotrace       Outh roof-roofing & feit     Air     Air     Biotrace       Outh roof-roofing & feit     Air     Air     Air	Via: Personal Delivery Job No: 071816-A002 Same Day Same Day CM Final Load Weights X X X X X X X X X X X X X X X X X X X
Cation: 509 1st Street, Davis, CA 95616       Client: Theta XI Frantemity         ECIAL INSTRUCTIONS:	Job No: 071816-A002 Normal Turnaround
Contraction	Normal Turnaround
Location Discription         Start         End         Temp         Air         Biotrace           Basement         S/R         N         N         N         Biotrace           Basement         S/R         N         N         N         Biotrace           Down stairs porch room closet         S/R         N         N         N         N           Upstair kitchen room closet         S/R         N         N         N         N         N           Upstair mumby room         S/R         N         N         N         N         N         N           Upstair mumby room         S/R         N	CM PLM Final Lead Weights
Basement       S/R       N         Down stairs porch room closet       S/R       N         Downstair kitchen room closet       S/R       N         Upstair wurden room closet       S/R       N         Upstair mumby room       S/R       N         Upstair mumby room       S/R       N         Visitional (top)       S/R       N         Outwateris bathroom       S/R       N         Mumby room carpet & mastic       S/R       N         Outwateris kitchen room carpet & mastic       N       N         Outwateris kitchen room carpet & mastic       N       N         South roof- roofing & felt       N       N       N	
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Downstair kitchen room closet         S/R         Image: Constraint of the state	××
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Stairway (top)     S/R     S/R       Downstairs bathroom     S/R     S/R       Mumby room carpet & mastic     S/R     S/R       Downstairs kitchen room carpet & mastic     S/R     S/R       Downstairs kitchen room carpet & mastic     S/R     S/R       Outh roof- roofing & felt     North roof- roofing & felt     S/R	×
Downstairs bathroom     S/R     Image: Comparison of the state of the stat	×
Mumby room carpet & mastic Downstairs kitchen room carpet & mastic . Stairway carpet mastic . North roof- roofing & felt . South roof- roofing & felt	×
Downstairs kitchen room carpet & mastic • Stairway carpet mastic • North roof- roofing & felt • South roof- roofing & felt	×
Stairway carpet mastic     North roof- roofing & felt     South roof- roofing & felt	×
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Revel 7/21/16 810	





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#### **Regulatory Requirements**

The following is a summary of the major asbestos notification and information requirements in 8 CCR 1529, 5203, 341.6-341.14 and the California Health & Safety Code. See the codes for the complete requirements. Note: Employers also have additional informational duties towards their employees under 8 CCR 1529, 1509 or 3203 (the Injury and Illness Prevention Program requirements for construction and general industry), 3204 (Access to Employee Exposure and Medical Records), as well as other Title 8 regulations.

#### Employers performing work subject to 8 CCR 1529:

- If less than 100 sq.ft. of asbestos-containing construction materials and therefore not subject to the asbestos registration rules, file a Report of Use with the Chief of DOSH (Cal/OSHA)
- Determine the location and quantity of asbestos-containing material (ACM) and/or presumed ACM (PACM) based on the criteria in 1529(k)(1); {ref. 1529(k)(3)(A)}
- If at a temporary worksite, notify the nearest Cal/OSHA District Enforcement Office 24 hours prior to work (ref. 1529(r) & 5203)
- Any incident resulting an employee exposure in excess of the PEL and/or excursion limit by reporting in writing to the Chief of DOSH within 15 days. (ref. 1529(r) & 5203)
- Through meetings or other methods, inform employees, building owner and other employers on site, prior to work, about the location and quantity of ACM and/or PACM, the nature of their work, requirements pertaining to regulated areas, as well as the means to prevent asbestos air contamination; and {ref. 1529(d)(1) & (k)(3)
- Post a warning sign outside the regulated area that is understandable to employees working in and contiguous to the area {ref. 1529(e)(2) and (k)(7)}
- As soon as possible, notify affected employees regarding the results of personal air monitoring {ref. 1529(f)(5)}
- Within 10 days of completing the work, regarding the location and quantity of remaining asbestos, as well as any final monitoring results {ref. 1529(k)(3)(C)}

See 8 CCR 1529 for the exact requirements. There are additional notification duties to the local air quality district or the U.S.EPA.

#### Employers performing work subject to 8 CCR Article 2.5 Registration- Asbestos-Related Work:

- Send notices of temporary worksites to the nearest Cal/OSHA District Office 24 hours prior to the start of each job {ref. 341.9}
- Hold a pre-job safety meeting to discuss safety program and safe work practices with employees, their representatives, and the building owner or their representative (for work covered by asbestos registration) {ref. 341.11}
- Post a warning sign readable at 20 feet {ref. 341.10(a); see also 1529(e)(2) and (k)(7) for similar and additional requirements)}
- Before the commencement of the work, provide a copy of the registration to the prime contractor and other employers at the site. Also, post a copy beside the Cal/OSHA poster. {ref. 341.10(b)}
- See 8 CCR, Article 2.5, for the exact requirements.





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#### **Building Owners:**

Prior to beginning work, determine the location and quantity of ACM and/or PACM based on the criteria in 1529(k)(1); {ref. 1529(k)(2)(A)}

Notify in writing or by personal communication the following or their authorized representatives: {ref. 1529(k)(2)(B)

- Prospective employers applying or bidding for work and all other employers with employees who will work in or adjacent to areas with such material
- The building owner's employees working in or adjacent to these areas; and
- Tenants who will occupy areas containing such material
- If they are owners of public and commercial buildings constructed prior to 1979 and know that the building contains asbestos-containing construction materials, provide information to all occupants. For more details view the regulations of the Health & Safety Code, Division 20, Chapter 10.4 Asbestos Notification, 25915-25919.7 at <u>www.leginfo.ca.gov/calaw.html</u> This code is enforced by city or county jurisdictions, not Cal/OSHA.
- If a school district, are required by the U.S. EPA to have a management plan and surveys of where
  asbestos is known or presumed to be present. Contact the U.S. EPA Region 9 Asbestos Regional
  Coordinator for information.

#### All Employers:

- Ascertain on a daily basis, the integrity of enclosures and or the effectiveness of other control
  methods used in regulated areas their employees are working adjacent to. {ref. 1529(d)(4)}
- If they discover their employees are exposed to asbestos they must protect them by, for example, removal from the area or performing an initial exposure assessment. ref. 1529(k)(4)}
- If they discover ACM or PACM they must inform the building owner and other employers of employees working at the work site within 24 hours {ref. 1529(k)(4)}
- In cases when material they reasonably believe to be asbestos has not been rendered harmless, to stop work in affected areas. See section 25914.2(c) of the California Health and Safety Code for the exact requirements.

#### **General Contractors:**

 Ascertain whether the asbestos contractor is in compliance with 8 CCR section <u>1529(d)(5)</u>} and require them to come into compliance when necessary





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#### Appendix A Definitions of Terms and Assessment Criteria

This survey report organizes information on each suspect ACBM identified in tables located in Section 4. This section defines the terms used to describe materials listed in Section 4.

**Material description** contains the description of the suspect homogeneous asbestos containing building material.

Material Serial Number is used to reference the material for re-inspections, etc.

Asbestos type and content describes the type of asbestos and its percentage in the material.

Asbestos Results for positive materials are shown as a percentage. Samples having less than 1% asbestos are reported as containing "Trace" amounts of asbestos and samples with no detected asbestos are reported as "BLD" or below limit of detection.

**Sample number(s)** identifies a particular material sample obtained from a specific sample location. Sample numbers are used primarily for laboratory identification.

Sample Location identifies where the samples of this material were obtained.

**Material Category** categorizes each material as surfacing, TSI or miscellaneous. Surfacing Materials - Asbestos containing materials that are sprayed-on, trowled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

**Thermal Systems Insulation (TSI)** - Asbestos containing materials applied to pipes, fittings, boilers, breaching, tanks, ducts or other interior structural components to prevent heat loss or gain or water condensation.

*Miscellaneous Materials* - Asbestos containing materials applied to or a part of building components that are not classified as surfacing materials or thermal systems insulation.

Quantity & Units reports approximate total quantity per unit of measure for each material.

Building(s) & Floor(s) specifies where a material is located.

Material Location describes where the material is found throughout the building.

**Material Condition** identifies the material as Friable, Non-friable or Jacketed (for thermal systems insulation only) if asbestos is present.

*Friable* - An asbestos containing material that can be crumbled, pulverized or reduced to powder, when dry, by hand pressure, such as spray applied fireproofing on structural steel members, spray applied acoustical ceiling materials or damaged thermal systems insulation. Friable materials are of greatest concern due to their potential fiber release.





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**Non-Friable** - An asbestos containing material where the asbestos is bound tightly in a matrix or sealed by a protective layer. Non-friable materials can become friable by being rendered to a crumbled, pulverized or powdered state, when dry, by crushing, sanding, sawing, shot-blasting, severe weathering or by other mechanically induced means. Common examples of non-friable materials are adhesives, floor tiles, transite and roofing materials.

*Jacketed* - An asbestos containing material applied to thermal systems insulation and "jacketed" with a protective outer layer such as canvas or metal to keep the material in good condition. Undamaged jacketed ACBM is considered non-friable. If the jacketing is damaged, the material is considered friable.

**Damage Category** describes the type of damage, if any, to the material. The following damage categories are used: None, Physical, Air, and Water.

**Material Assessment** identifies the condition of the material in relation to physical and water damage, delamination of the material from its substrate, the extent of the damage and the potential for damage from building conditions, such as, accessibility by building occupants, influence of vibration, etc. The six standard assessment categories ranked by hazard potential, with the first being the lowest hazard are as follow:

- 1) Potential for Damage,
- 2) Potential for Significant Damage,
- 3) Damaged,
- 4) Damaged with Potential for Damage,
- 5) Damaged with Potential for Significant Damage, and
- 6) Significantly Damaged.

Only friable materials are assessed under AHERA regulations. Non-friable materials, unless damaged, are not assessed and can be assumed to be in good condition.

**Damaged** - The damage or deterioration of the material results in inadequate cohesion or adhesion with crumbling, blistering, water stains, marring or otherwise abraded over less than one-tenth (1/10) of the surface if the damage is evenly distributed or one-fourth (1/4) if the damage is localized.

**Significant Damage** - The damage or deterioration of the material results in inadequate adhesion or cohesion and the damage is extensive and severe with one or more of the following characteristics: 1) Crumbling or blistering over at least one-tenth (1/10) of the surface if evenly distributed, one-fourth (1/4) if the damage is localized; 2) Areas of the material hanging from the surface, delaminated, or showing adhesive failure; 3) Water stains, gouges or marred.

**Recommended Response** suggests the appropriate options for controlling or maintaining ACBM in a safe manner. There are four options used:

**Operations & Maintenance (O&M)** - A program designed to "manage" asbestos in-place. As long as asbestos containing materials remain in a building, an O&M program should be instituted to alert maintenance personnel, custodial workers and outside vendors of the existence and location of these materials and to set a policy for the maintenance of these materials. The material is usually only required to be removed if it is significantly damaged, prior to demolition of the building or if it will be disturbed by renovation activities.





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**Repair** - The restoration of damaged or deteriorated asbestos containing building materials to an intact condition. Once the intact condition is established, the material should be included in an O&M program. The material is usually only required to be removed if it is significantly damaged, prior to demolition of the building or if it will be disturbed by renovation activities.

**Abate Due to Condition** - This material is significantly damaged and is unsafe in its current condition. The access to the area should be restricted to personnel equipped with appropriate personal protection. This material should be properly removed by a licensed contractor using workers trained in the safe removal of asbestos.

**Abate Prior to Renovation** - This material should be properly removed prior to planned renovation activities by a licensed contractor using workers trained in the safe removal of asbestos. This recommendation is usually made only on survey reports prepared prior to planned renovation activities.

**Comments & Damage Description** contains any additional information and or specific details of material damage are noted here. **EPA Category** provides the appropriate material category as outlined in the NESHAPS regulation. The four options are friable, Category 1, Category 2, and needs determination.

**Friable** - Materials containing greater than 1% asbestos are always considered Regulated Asbestos Containing Materials (RACM) that require removal prior to building renovation or demolition activities that impact the material.

**Category 1** - Materials that are bituminous non-friable and contain more than 1% asbestos that become RACM and require removal only when will be subject to grinding, cutting, sanding or abrading.

**Category 2** - Materials that are non-friable and contain more than 1% asbestos that will have a high probability of being crumbled, pulverized or reduced to a powder by the demolition or renovation activity. These materials usually become RACM and will require removal.

**Needs Determination** - Materials that the individual designing the abatement and demolition project needs to inspect and evaluate to determine the potential for the material to become RACM and/or evaluate the asbestos content for the composite and individual layers of the material. For sheet rock with mudding compounds only, the EPA allows using the composite sample result. If the composite result by Point Counting the sample is below 1% asbestos, the material is not RACM.





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#### Appendix B Bulk Sampling Protocol and Analytical Methods

Bulk samples of suspect asbestos containing building materials were obtained using standard industrial hygiene techniques including wetting friable materials to minimize fiber release. When necessary, our personnel wore half-face air purifying respirators equipped with high efficiency particulate (HEPA) filters while obtaining samples.

Our sampling strategy for suspect friable surfacing materials was based on the guidelines outlined in the EPA publication "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials," the procedures outlined in 40 CFR 763, Subpart E (AHERA

For each homogeneous material identified by visual inspection as suspect material, random samples are obtained. A bulk sample is randomly selected from each homogeneous material for first-round testing. If the sample is positive, the remaining samples are not analyzed; if the sample is negative, the other samples are submitted for study. Every sample must be reported negative if the material is to be considered non-asbestos containing.

The bulk samples were delivered to an independent laboratory that participates in the bulk sample proficiency analysis program conducted by the United States Environmental Protection Agency and is accredited by the National Voluntary Laboratory Program (NVLAP). The samples were analyzed using Polarized Light Microscopy (PLM) with dispersion staining to estimate the percent of asbestos composition by volume. Samples with no observable asbestiform minerals are designated as Non-Detect (ND). Samples in which asbestiform minerals are observed, but exist in concentrations of less than one percent (<1%), are designated as present in Trace (TR) amounts; all other samples are designated as asbestos containing with the appropriate percent of asbestos noted.