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Asbestos Inspection and Sampling Report

1602 Capitol Ave., Cheyenne, WY

Presented To:

Cheyenne Development Partners
390 Hollyberry Lane
Boulder, CO 80305

Performed & Prepared By:

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TABLE OF CONTENTS

PROJECT OVERVIEW

1.0 Introduction

2.0 Scope of Work

3.0 Site Description

4.0 Certifications

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

5.2 Sampling Procedures

5.3 Analytical Procedures

6.0 Homogeneous Areas

6.1 Material Friability

6.2 Material Classifications

6.3 Material Conditions

6.4 Sample Quantities

7.0 Overview of Findings

8.0 Findings & Recommendations

9.0 Asbestos Abatement & Demolition Requirements

10.0 Disclaimer & Limitations

PROJECT OVERVIEW

1.0 Introduction

On September 7, 2016, Andy Dunnell with Banyan Environmental conducted a limited asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within a portion of the basement, 2nd, 3rd, 4th and 5th floors of the business located at 1602 Capitol Ave., Cheyenne, Wyoming.

The purpose of the limited inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by subsequent restoration activities.

2.0 Scope of Work

The scope of the limited inspection and bulk-sampling was limited to specific areas of the residence defined by Dave Hatch. These areas included the basement walls and ceiling, second, third, fourth, and fifth level walls, ceiling, and flooring. The owner, Dave Hatch, requested that samples be conducted to see if asbestos may be in the interior of the building materials for possible small remodeling activities. The limited asbestos inspection did not constitute a full building inspection and does not fulfill the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

This is a five (5) story office/retail building with a full basement with large rooms and bathrooms throughout. The main level is for retail businesses, with the 2nd, 3rd, 4th, and 5th levels for offices.

4.0 Certifications

The limited asbestos inspection and bulk-sampling was conducted by Andy Dunnell with Banyan Environmental is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 16780. Mr. Dunnell is a CDPHE certified Building Inspector; having certification number 15895.

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The limited asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM within the pre-defined areas, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B- Asbestos (Reg. 8).

Banyan Environmental has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Some minor destructive sampling was conducted; however, walls, columns and perimeter pipe chases were not broken into in order to locate and quantify suspect ACM. Banyan is not responsible for repairing the damage from collecting bulk samples. It should be noted that additional ACM might be located in these and other inaccessible areas.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. Banyan recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

Banyan Environmental collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

Asbestos was reported within some of the materials collected. Banyan Environmental collected a total of fifty-three (53) asbestos bulk-samples of thirty (30) homogeneous areas. These areas included a chalk like wall block surfacing texture with wall plaster material in the basement at damaged area, a bumpy surfacing texture found in the basement plaster at damaged area, small women's bathroom and small gentleman's bathroom, a smooth surfacing texture found in the basement middle room, 2nd floor room 212 and 221, 3rd floor hallway and room 311, 4th floor rooms 406, 420, 413 and 416 and the 5th floor NE hallway, men's hall bathroom and room 528, a swirled surfacing texture found in the 3rd floor's room 305, a plaster surfacing texture found in room 221 and 209 on the 2nd floor, sheet vinyl flooring in the 3rd floor room 316 bathroom, a miscellaneous floor mastic in the 5th floor room 507, 4th floor room 408 (black mastic), 3rd floor room 311 (mastic with leveling) and 2nd floor room 213 (black floor mastic), a miscellaneous pipe cellulose insulation in the 4th floor room 407, a miscellaneous pipe insulation in the 4th floor room 422 SW office, a miscellaneous 12x12 white porous ceiling tile with glue dots in the 4th floor room 408 and basement SE room, a miscellaneous joint compound in the 4th floor room 422 SE office, a miscellaneous plaster with yellow mastic in the 3rd floor room 306, a miscellaneous 9x9 brown and green VCT tile in the 2nd floor room 220, a miscellaneous 2x3 ceiling tiles in green in the basement large mechanical room, a miscellaneous ceramic tile with grout in the basement middle bathroom, and a miscellaneous plaster/concrete on the ceiling in the basement elevator.

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

Table 1

HA #	Sample Number	Material Class	Material and Location	Material Condition	Estimated Quantity	Material Friability	Asbestos Content
1	MM-1	MM	Basement elevator ceiling plaster/concrete	D	~144 sqft	Friable	ND
2	SM-1.2	SM	Basement white chalk like wall block at damaged area with plaster wall material	D	~900 sqft	Friable	ND
	SM-1.3		Basement white chalk like wall block at damaged area with plaster wall material	D		Friable	ND
	SM-1.4		Basement white chalk like wall block at damaged area with plaster wall material	D		Friable	ND
3	SM-2.5	SM	Basement plaster wall at damaged area bumpy txt north area	D	~900 sqft	Friable	ND
	SM-2.6		Basement plaster women's small bathroom. Bumpy txt	D		Friable	ND
	SM-2.7		Basement "Gentlemen's" small bathroom plaster wall. Bumpy txt	D		Friable	ND
4	MM-8	MM	Basement northwest room exterior plaster wall material	D	~100 sqft damaged	Friable	ND
5	MM-9	MM	Basement 2x3 ceiling tiles from green colored room by large mechanical room	D	~120 sqft	Friable	ND
6	DW-10	MM	Basement ceiling drywall from southeast large room. No txt	D	~1563 sqft	Friable	ND
7	MM-11	MM	Basement middle room bathroom's ceramic tiles with grout and wall material with vault where stairs are sealed off	D	~800 sqft	Friable	ND
8	MM-12	MM	Basement southeast room ceiling brown glue dots where 12x12 white tiles were	D	~1563 sqft	Friable	ND
9	MM-13	MM	Basement southeast room ceiling 12x12 white thick porous tile	D	~1563 sqft	Friable	ND
10	MM-14	MM	Basement west room exterior plaster at damaged area. No txt	D	~100 sqft	Friable	ND
11	SM-3.15	SM	Basement middle room with vault bathroom plaster at damaged areas. Smooth txt	D	~500 sqft	Friable	ND
	SM-3.16		Basement middle room with vault bathroom plaster at damaged areas. Smooth txt	D		Friable	ND
	SM-3.17		Basement middle room with vault bathroom plaster at damaged areas. Smooth txt	D		Friable	ND

Second Floor							
12	MM-18	MM	Room 220 9x9 brown and green VCT tile	D	~300 sqft	Friable	6% brown tile 5% green tile
13	MM19	MM	Room 213 black floor mastic. Same material in joining rooms	D	~861 sqft	Friable	ND
14	SM-4.20	SM	Room 212 plaster west wall. Smooth txt	D	~900 sqft	Friable	ND
	SM-4.21		Room 212 plaster west wall. Smooth txt	D		Friable	ND
	SM-4.22		Room 212 plaster west wall from small room inside room 212. Smooth txt	D		Friable	ND
	SM-4.26		Room 221 plaster wall by door. Smooth txt	D		Friable	ND
15	SM-5.23	SM	Room 209 plaster north wall at damaged area. Smooth txt	D	~1 sqft damaged	Friable	ND
	SM-5.24		Room 209 plaster north wall at damaged area. Smooth txt	D		Friable	ND
	SM-5.25		Room 209 plaster north wall at damaged area. Smooth txt	D		Friable	ND
Third Floor							
16	MM-27	MM	Room 306 plaster south wall with yellow mastic	D	~264 sqft	Friable	TR resinous material
17	SM-6.28	SM	Hallway plaster east wall. Smooth txt	D	>1000 sqft	Friable	ND
	SM-6.29		Room 311 ceiling plaster. Smooth txt	D		Friable	ND
	SM-6.30		Room 311 office plaster east wall. Smooth txt	D		Friable	ND
	SM-6.31		Room 330 west wall plaster. Smooth txt	D		Friable	ND
	SM-6.32		Room 311 west wall plaster. Smooth txt	D		Friable	ND
18	MM-33	MM	Room 311 floor mastic with leveling compound	D	~455 sqft	Friable	ND
19	MM-34	MM	Room 316-bathroom vinyl flooring	D	~30 sqft	Friable	ND
20	MM-35	MM	Room 315 floor compound with backing	D	~200 sqft	Friable	ND
21	SM-7.36	SM	Room 305 plaster/drywall south wall. Swirled txt	D	~120 sqft	Friable	ND
	SM-7.37		Room 305 plaster/drywall south wall. Swirled txt	D		Friable	ND
	SM-7.38		Room 305 plaster/drywall south wall. Swirled txt	D		Friable	ND
22	MM-39	MM	Room 307 north wall wallpaper with glue	D	~200 sqft	Friable	ND

Fourth Floor							
23	SM-8.40	MM	Room 422 southeast office joint compound	D	~120 sqft	Friable	3% compound 3% joint compound
24	SM-8.41	SM	Room 420 plaster south wall. Smooth txt	D	~900 sqft	Friable	ND
	SM-8.42		Room 406 plaster from behind the door. Smooth txt	D		Friable	ND
	SM-8.44		Room 413 plaster west wall. Smooth txt	D		Friable	ND
	SM-8.45		Room 416 plaster west wall. Smooth txt	D		Friable	ND
25	MM-43	MM	Room 408 12x12 white porous ceiling tile with glue dots	D	75 sqft	Friable	ND
26	MM-46	MM	Room 422 southwest office pipe insulation	D	4 3" pipes	Friable	55% fibrous material
27	MM-47	MM	Room 408 black floor mastic	D	~586 sqft	Friable	ND
28	MM-48	MM	Room 407 pipe cellulose insulation	D	9' high pipe	Friable	ND
Fifth Floor							
29	SM-9.50	SM	Hallway bathroom men's plaster south wall at damaged area. Smooth txt	D	~100 sqft damaged	Friable	ND
	SM-9.51		Room 528 plaster east wall at damaged area. Smooth txt	D		Friable	TR Plaster
	SM-9.52		Northeast hallway plaster east wall at damaged area. Smooth txt	D		Friable	TR Plaster
30	MM-53	MM	Room 507 floor mastic	D	~264 sqft	Friable	ND

HA- Homogenous Area

ND- Non-detect

TR- Trace, <1%

G- Good

D- Damaged

SD- Significantly Damaged

SM- Surfacing Material

MM Miscellaneous Material

TSI- Thermal System Insulation

It is the responsibility of the asbestos abatement company to give a scope of work for all abatement.

8.0 Findings & Recommendations

ACM was identified within the areas of the residence that were within the scope of the limited inspection and bulk-sampling performed on September 7, 2016; therefore, professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. Banyan Environmental assumes no responsibility or liability for error in public information utilized, statements from sources other than Banyan, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. All work must stop and additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary.

Thank you for your business.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke at the end.

State of Colorado Building Inspector Accreditation No: 15895 exp. 10/07/2016