Pre-Demolition Asbestos /
Hazardous Materials Survey Report

of

Taco Bell #341481
18550 E. Warren Avenue,
Detroit, Michigan 48236

Prepared for

Taco Bell Corporation
1 Glen Bell Way, MD #534
Irvine, California 92618

5/19/2021

PSI Project No. 01661472-1

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1 EXECUTIVE SUMMARY

Professional Service Industries, Inc. (PSI), an Intertek company, was retained by the Taco Bell Corporation to conduct a pre-demolition survey for asbestos-containing materials (ACM) and regulated or hazardous materials (HAZMATs) inventory within and on the existing building structure located at 18550 E. Warren Avenue, Detroit, Michigan 48236 (subject building/property).

The subject building is approximately **6,800** square feet (SF) in size and consists of a 2-story structure that was constructed in **1966**. The subject building was unoccupied during the assessment.

The purpose of the assessment was to provide information regarding the presence, condition, and estimated quantity of accessible ACMs and HAZMATs located on the subject property at the time of the survey. This survey was conducted in preparation for the upcoming demolition.

The assessment was conducted on **5/6/2021**. A total of **147** samples/layers were collected from **33** suspect asbestos-containing homogeneous materials identified during the assessment. The samples were analyzed by polarized light microscopy (PLM). A material is considered by the U.S. Environmental Protection Agency (EPA), the U.S. Occupational Safety and Health Administration (OSHA) and the State of Michigan to be ACM if PLM results detect greater than one percent (>1%) asbestos.

Three ACMs (>1% asbestos) were identified through laboratory analysis during this investigation.

Material Number & Sample Number	Material Description	Adhesive	Material Location	Estimated Quantity
11-031,032,033	Rope Gaskets (White)	None	All Radiator Units	80 LF
12-034,035,036	12"x12" Floor Tile w/Adhesive (White)	Positive	Vault, Storage Rooms, and Stairwell	1,250 SF
27-083,084,085	Transite Panel (Gray)	None	2nd Floor Mechanical Room	5,250 SF

In addition, the following materials were not sampled and are assumed to be ACM:

Material Description	Material Location	Estimated Quantity
Bank Vault and Door Insulation	1st Floor	250 SF

Seven suspected HAZMAT categories were identified through visual observation during this investigation:

Inspection Item	Constituent of Concern	Size/Quantity	Notes/Location:
Fire Extinguishers / Compressed Gas Cylinder	CFC / HCFC	4	Mechanical Areas
Light Ballasts	PCB	81	1st and 2nd Floor
Roof Vents	Lead	6	Roof
Security Systems	Mercury	1	1st and 2nd Floor
Smoke Detectors	Mercury/ Radioactive	8	1st and 2nd Floor
Thermostats	Mercury	4	1st and 2nd Floor
Fluorescent Light Bulbs	Mercury	324	1st and 2nd Floor

Additional Issue Identified by Inspector:

- **None**

Inaccessible Areas / Areas Not Included:

- **None**

Any areas that were noted as being inaccessible during this assessment or any concealed areas, such as behind walls, where suspect ACMs are discovered, will require a survey for ACM.

This summary does not contain all the information presented in the full report. The report should be read in its entirety to obtain a more complete understanding of the information provided and to aid in any decisions made or actions taken based on this information.

2 GENERAL BUILDING AND SURVEY INFORMATION

2.1 BUILDING INFORMATION

Subject Property:	**18550 E. Warren Avenue, Detroit, Michigan 48236**
Construction Date:	**1966**
Number of Floors:	**2**
Square Footage	**Approximately 6,800 Square Feet**
Construction Type:	**Block and Mortar**
Building Occupant(s)	**None**

2.2 INSPECTION INFORMATION

PSI Inspector(s): **Adam Smak**

Signature:

State of Michigan Inspector No. A45615

Date(s) of Inspection: **5/6/2021**

Report Reviewed By: **Matthew Sherrard**

Signature:

3 FINDINGS

3.1 ASBESTOS RESULTS

A total of **147** samples/layers were collected from **33** suspect homogenous materials during the limited asbestos survey. In addition, several suspect homogeneous materials were observed during the limited asbestos survey but were not sampled and are assumed to be ACM until sampling and laboratory analysis can be conducted.

The "Report of Bulk Sample Analysis for Asbestos," the "Asbestos Bulk Sample Log," Photographs, and OSHA Abatement Procedures are included in the Appendices. Table 1 attached to this report lists the suspect ACMs observed throughout the building that were sampled, along with the results of the inspection and laboratory analysis.

Table 1 provides descriptions of the materials, their general locations, condition, and friability, EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) category, OSHA abatement classification and estimated quantity.

3.1.1 INACCESSIBLE AREAS / AREAS NOT INCLUDED

The following areas were inaccessible and/or not included in the scope of the survey.

- **None**

Any areas that were noted as being inaccessible during this assessment or any concealed areas, such as behind walls, where suspect ACMs are discovered, will require a survey for ACM.

3.1.2 NON-SUSPECT MATERIALS

The following materials were observed but are considered 'non-suspect' ACM due to their composition (fiberglass, rubber, etc.) and were not sampled.

- Metal, plastic, and glass building components
- Rubber/foam pipe insulation
- Fiberglass roll/bat insulation
- Ceramic bathroom fixtures (sink, toilet, tub, etc.)

3.2 HAZMAT INSPECTION RESULTS

Seven suspected HAZMAT categories were observed on the subject property as outlined in Table 2. Table 2 lists the component, container, or equipment that is suspected of containing hazardous or regulated substances, the suspected constituent of concern, and the approximate quantity. The items listed in the hazardous materials table can become hazardous during demolition.

The scope of work for this project did not include testing for lead-based paint. Based on the age of the subject structure it is presumed that lead based paints are most likely present in the structure. Although current regulations do not require removal of lead-based paint prior to demolition, PSI recommends testing for airborne lead during demolition activities to ensure that worker exposure does not exceed permissible exposure limits. In addition, PSI recommends avoiding activities that may increase worker exposure to potential airborne lead. Activities that can increase worker exposure include torch cutting, sanding, grinding, cutting, or abrading lead-based painted materials.

4 CONCLUSIONS & RECOMMENDATIONS

4.1 CONCLUSIONS

Three ACMs were identified on the subject property.

Assumed ACMs were identified on the subject property.

Seven suspected HAZMAT categories were identified on the subject property.

Additional Issue Identified by Inspector:

- **None**

Inaccessible Areas / Areas Not Included:

- **None**

Any areas that were noted as being inaccessible during this assessment or any concealed areas, such as behind walls, where suspect ACMs are discovered, will require a survey for ACM.

4.2 RECOMMENDATIONS

ACM

Regulated ACM (RACM) and Category II Non-Friable ACM must be properly removed by a licensed asbestos abatement contractor prior to demolition that would disturb the material. Federal, State and Local regulations and guidelines should be strictly adhered to when removing the ACM.

Category I Non-Friable ACM may often be left in place during demolition if not made friable by cutting, grinding, or sanding. If left in place, these materials cannot be recycled or used as clean fill.

PSI has provided the regulatory abatement methods as defined by OSHA in Appendix E for each class of work applied to the materials noted in this report. These procedures can be performed by the demolition contractor if they are licensed to perform abatement in Michigan.

HAZMATs

PSI recommends disposing the hazardous materials identified on the site in accordance with applicable regulations. Any unknown containers present on the site need to be verified through testing followed by proper disposal in accordance with applicable regulations.

TABLES AND FIGURES

TABLE 1 – SUSPECT ACMS – SAMPLED

Site:18550 E. Warren Avenue, Detroit, Michigan 48236 **Survey Date:5/6/2021**

Material Number & Sample Number	Material Description [1]	Material Location [2]	F/NF [3]	Cond. [4]	% Asbestos & Type [5]	EPA NESHAP Category [6,7]	Osha Class Designation [8]	Estimated Quantity
01-001,002,003	Stucco (Portland Cement Plaster) (Gray)	Exterior Walls	NF	G	NAD	NA	NA	6,500 SF
02-004,005,006	Door Frame Sealant (Black)	Exterior Doors	NF	G	NAD	NA	NA	125 LF
03-007,008,009	Wall Caulk (Beige)	Exterior Walls	NF	G	NAD	NA	NA	1,450 LF
04-010,011,012	12"x 12" Ceramic Tile System (Beige)	Front Entryway, Lobby, and Rear Entryway	NF	G	NAD	NA	NA	800 SF
05-013,014,015	Cove Base w/Adhesive (Gray)	1st Floor	NF	G	NAD	NA	NA	1,250 LF
06-016,017,018	Patter Wallpaper w/Adhesive (Gray)	1st Floor	F	G	NAD	NA	NA	8,650 SF
07-019,020,021	Carpet Adhesive (Yellow)	1st Floor	NF	G	NAD	NA	NA	2,250 SF
08-022,023,024	2'x2' Acoustic Ceiling Tile (White)	1st Floor	F	G	NAD	NA	NA	3,200 SF
09-025,026,027	Insulation (Yellow)	Interior Walls and Above Drop Ceiling	F	G	NAD	NA	NA	7,250 SF
10-028,029,030	Gypsum Wallboard System (Wallboard, Joint Tape, and Joint Compound) (White)	1st Floor	F	G	NAD	NA	NA	12,500 SF
11-031,032,033	**Rope Gaskets (White)**	**All Radiator Units**	**F**	**G**	**75%Ch**	**RACM**	**Class I**	**80 LF**
12-034,035,036	**12"x12" Floor Tile (White) w/Adhesive (Black)**	**Vault, Storage Rooms, and Stairwell**	**NF**	**G**	**10%Ch 3%Ch**	**Cat II NF**	**Class II**	**1,250 SF**
13-037,038,039	2"x2" Ceramic Tile System (Beige)	1st Floor Restrooms	NF	G	NAD	NA	NA	875 SF
14-040,041,042	Pipe Insulation (Yellow)	Mechanical Areas	F	G	NAD	NA	NA	3,750 LF
15-043,044,045	Pipe Joint Insulation (Gray)	Mechanical Areas	F	G	NAD	NA	NA	175 Joints

1 Homogeneous materials/systems may contain an indefinite/indistinguishable number of layers that may not be visually identified by the inspector at the time of the survey. Bulk sample analysis (Appendix B) will report all possible layers that may be contained within the homogeneous materials/system. Therefore, laboratory results may differ from the chain of custody (Appendix C) description.

2 **EA** = Exterior Area = Generally relating to sides of the principal structure on the site.
FS = Functional Space = A room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling, and the floor or roof deck above) designated by a person accredited to prepare management plans, design asbestos abatement projects, or conduct asbestos response actions.

3 **F** = Friable; **NF** = Non-friable

4 **Cond.** = Condition of Materials; Either Good (G), Damaged (D) or Significantly Damaged (SD)

5 **NAD** = No Asbestos Detected, **Ch** = Chrysotile, **Am** = Amosite, **Tr** = Tremolite, **Cr** = Crocidolite **PT** = Point Count Analysis

6 **NESHAP** Category - Regulated ACM (RACM), **Cat I NF**=Category I Non-Friable ACM, **Cat II NF**= Category II Non-Friable ACM

7 **NA** = Not Applicable

8 **OSHA/EPA Class Definitions:**

Class I Asbestos work means activities involving the removal of TSI and surfacing ACM and PACM.

Class II Asbestos work means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III Asbestos work means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.

Class IV Asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

TABLE 1 – SUSPECT ACMS – SAMPLED

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Material Number & Sample Number	Material Description [1]	Material Location [2]	F/NF [3]	Cond. [4]	% Asbestos & Type [5]	EPA NESHAP Category [6,7]	Osha Class Designation [8]	Estimated Quantity
16-046,047,048	Masonry Block (CMU) (Gray)	Exterior Walls	NF	G	NAD	NA	NA	12,500 SF
17-049,050,051	Concrete Floor (Gray)	1st and 2nd Floor	NF	G	NAD	NA	NA	6,500 SF
18-052,053,054	Stair Tread Mastic (Yellow)	Stairwell	NF	G	NAD	NA	NA	350 SF
19-055,056,057,058,059,060,061	Hard Plaster Walls (Gray)	1st and 2nd Floor	F	G	NAD	NA	NA	7,850 SF
20-062,063,064	Carpet Adhesive (Brown)	2nd Floor	NF	G	NAD	NA	NA	2,800 SF
21-065,066,067-	Cove Base w/Adhesive (Brown)	2nd Floor	NF	G	NAD	NA	NA	1,525 LF
22-068,069,070	2'x2' Pinhole Ceiling Tile (White)	2nd Floor	F	G	NAD	NA	NA	2,800 SF
23-071,072,073	Fire Stop Caulking (Red)	Mechanical Areas	NF	G	NAD	NA	NA	1,250 LF
24-074,075,076	HVAC Insulation (Yellow)	Mechanical Areas and Above Drop Ceilings	F	G	NAD	NA	NA	5,400 SF
25-077,078,079	1"x1" Ceramic Tile System (Yellow)	2nd Floor Women's Room	NF	G	NAD	NA	NA	375 SF
26-080,081,082	1"x1" Ceramic Tile System (Blue)	2nd Floor Men's Room	NF	G	NAD	NA	NA	375 SF
27-083,084,085	**Transite Panel (Gray)**	**2nd Floor Mechanical Room**	**NF**	**G**	**20%Ch**	**Cat II NF**	**Class II**	**5,250 SF**
28-086,087,088	Insulation (Yellow Orange)	Roof	F	G	NAD	NA	NA	3,500 SF
29-089,090,091	Roof Felt (Black)	Roof	F	G	NAD	NA	NA	4,200 SF
30-092,093,094	Roofing Flashing/Penetration Tar (Black)	Roof	NF	G	NAD	NA	NA	650 LF

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Class III Asbestos work means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.

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TABLE 1 – SUSPECT ACMS –SAMPLED

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31-095,096097	Built-Up Roofing (Black)	Roof	NF	G	NAD	NA	NA	4,200 SF
32-098,099,100	Sealant (Beige)	Roof	NF	D	NAD	NA	NA	750 LF
33-101,102,103	Masonry Brick (Beige)	Roof	NF	SD	NAD	NA	NA	350 SF

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TABLE 1 – ASSUMED ACMS – NOT SAMPLED

Site:18550 E. Warren Avenue, Detroit, Michigan 48236 **Survey Date:5/6/2021**

Material Description[1]	Material Location[2]	Cond.[3]	% Asbestos & Type	Estimated Quantity
Bank Vault and Door Insulation	**1st Floor**	**SD**	**Assumed**	**250 SF**

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3 **Cond.** = Condition of Materials; Either Good (G), Damaged (D) or Significantly Damaged (SD)

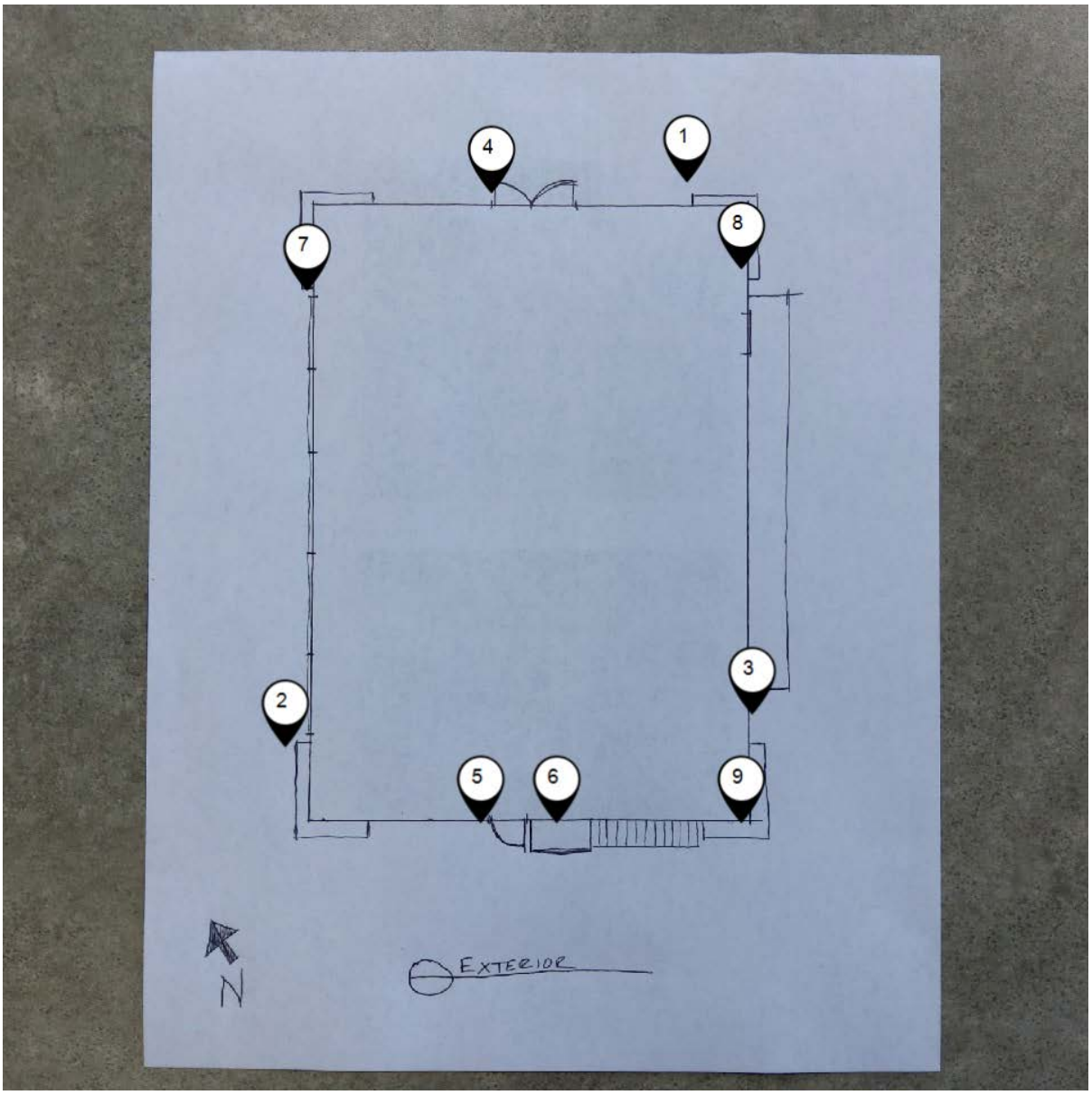
Table 2: Suspected HAZMATS Inventory Checklist

Address: 18550 E. Warren Avenue, Detroit, Michigan 48236

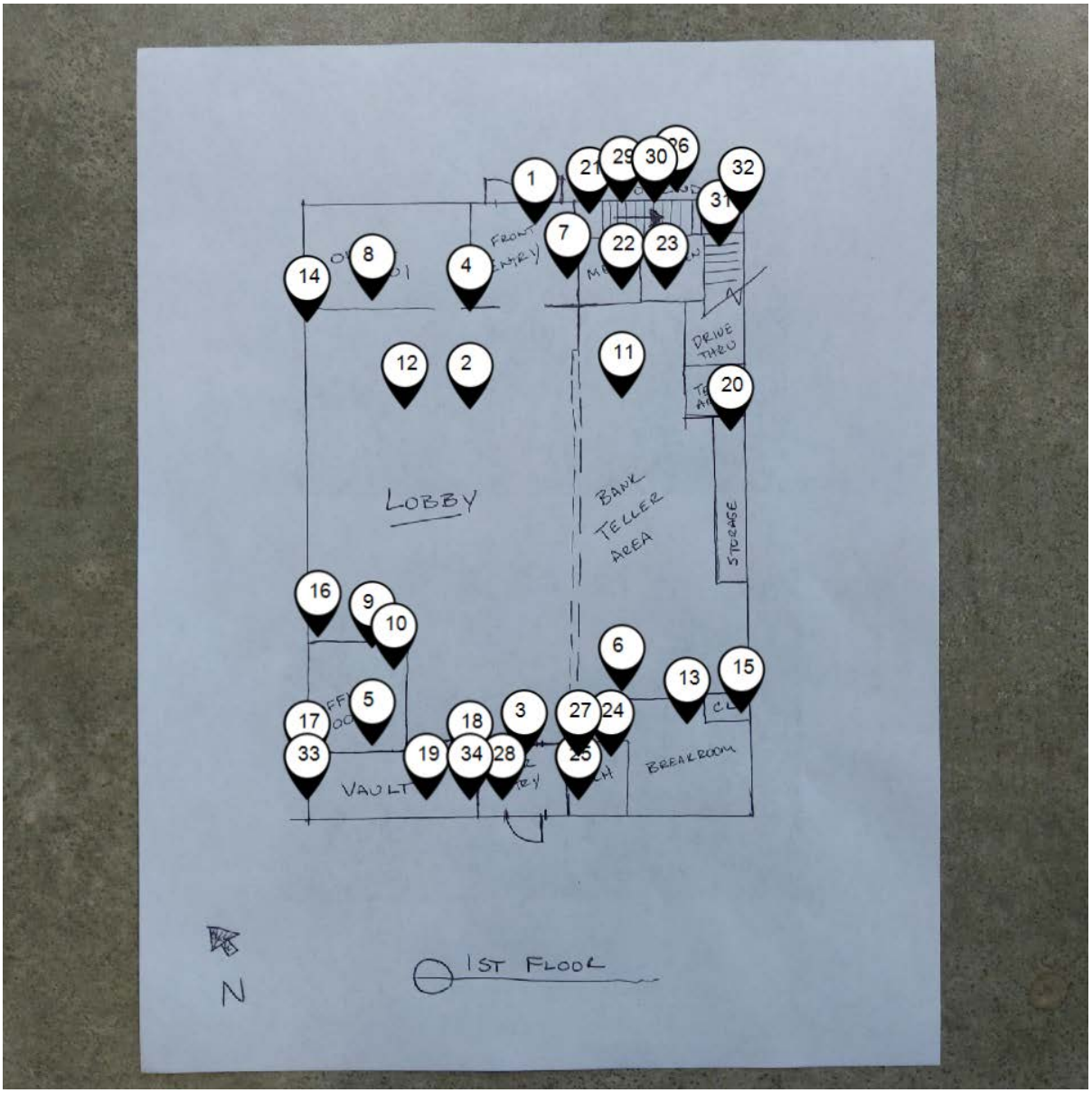
Inspection Item	Constituent of Concern	Size/Quantity	Notes/Location:
Above Ground Storage Tanks	Fuels / Chemicals	NA	NA
Air Conditioners	CFC / HCFC	NA	NA
Batteries	Lead	NA	NA
CRTs / TV Screens / Monitors	Lead/Mercury	NA	NA
Dehumidifiers/ Major Appliances	CFC / HCFC	NA	NA
Drums	Varied	NA	NA
Exit Signs	Mercury / H-3	NA	NA
Fire Extinguishers / Compressed Gas Cylinder	**CFC / HCFC**	**4**	**Mechanical Areas**
Flashing Molds	Lead	NA	NA
Leaded Glass	Lead	NA	NA
Light Ballasts	**PCB**	**81**	**1st and 2nd Floor**
Miscellaneous Items (Glue, Solvents, Cleaners, etc.)	Varied	NA	NA
Paint Cans	Lead	NA	NA
Refrigerators	CFC / HCFC	NA	NA
Roof Vents	**Lead**	**6**	**Roof**
Security Systems	**Mercury**	**1**	**1st and 2nd Floor**
Smoke Detectors	**Mercury/ Radioactive**	**8**	**1st and 2nd Floor**
Thermostats	**Mercury**	**4**	**1st and 2nd Floor**
Tires	Varied	NA	NA
Underground Storage Tanks	Fuels / Chemicals	NA	NA
Unlabeled Containers	Any	NA	NA
Fluorescent Light Bulbs	**Mercury**	**324**	**1st and 2nd Floor**

SAMPLE LOCATION MAPS

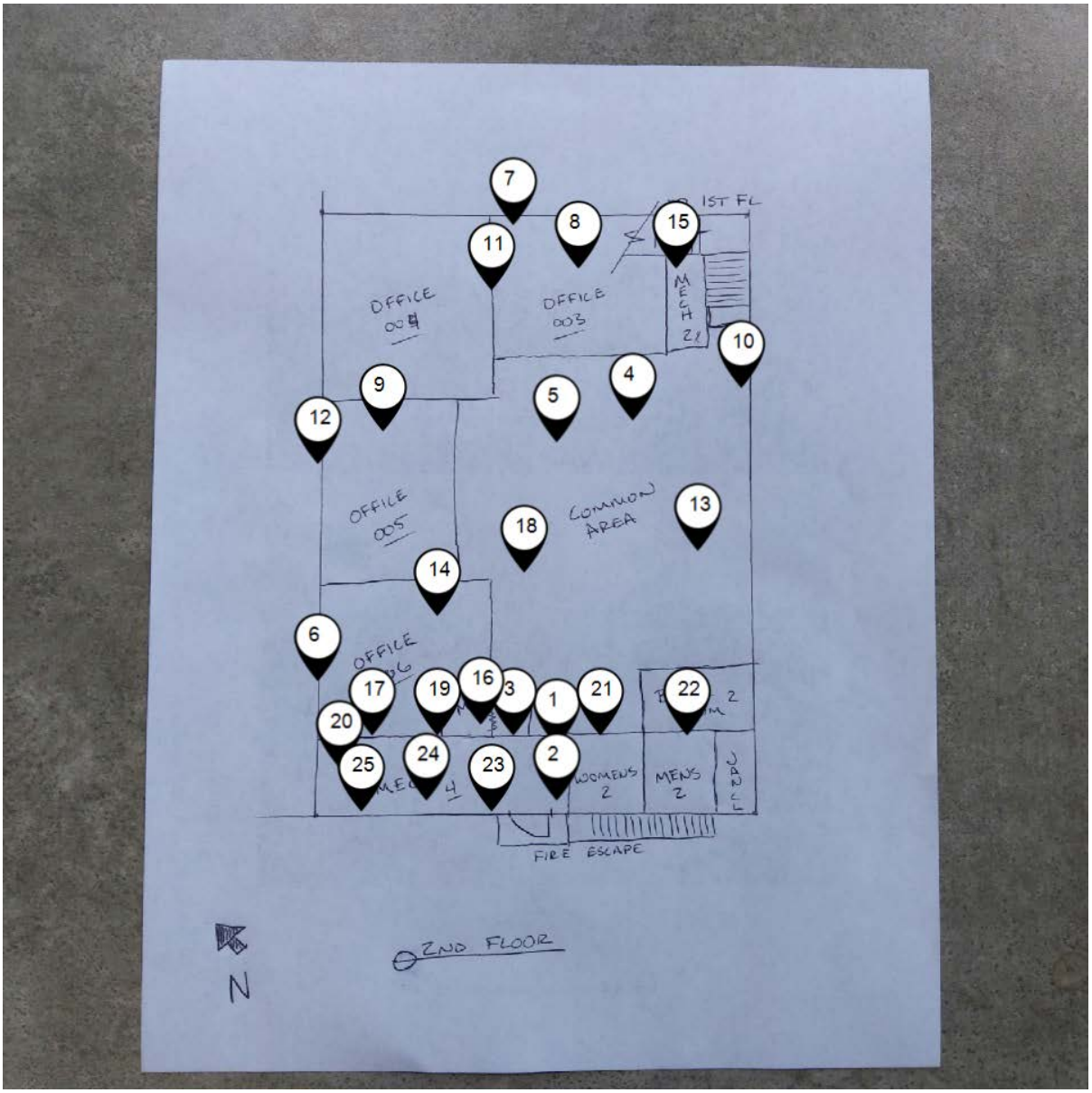
All Sample Locations for Exterior



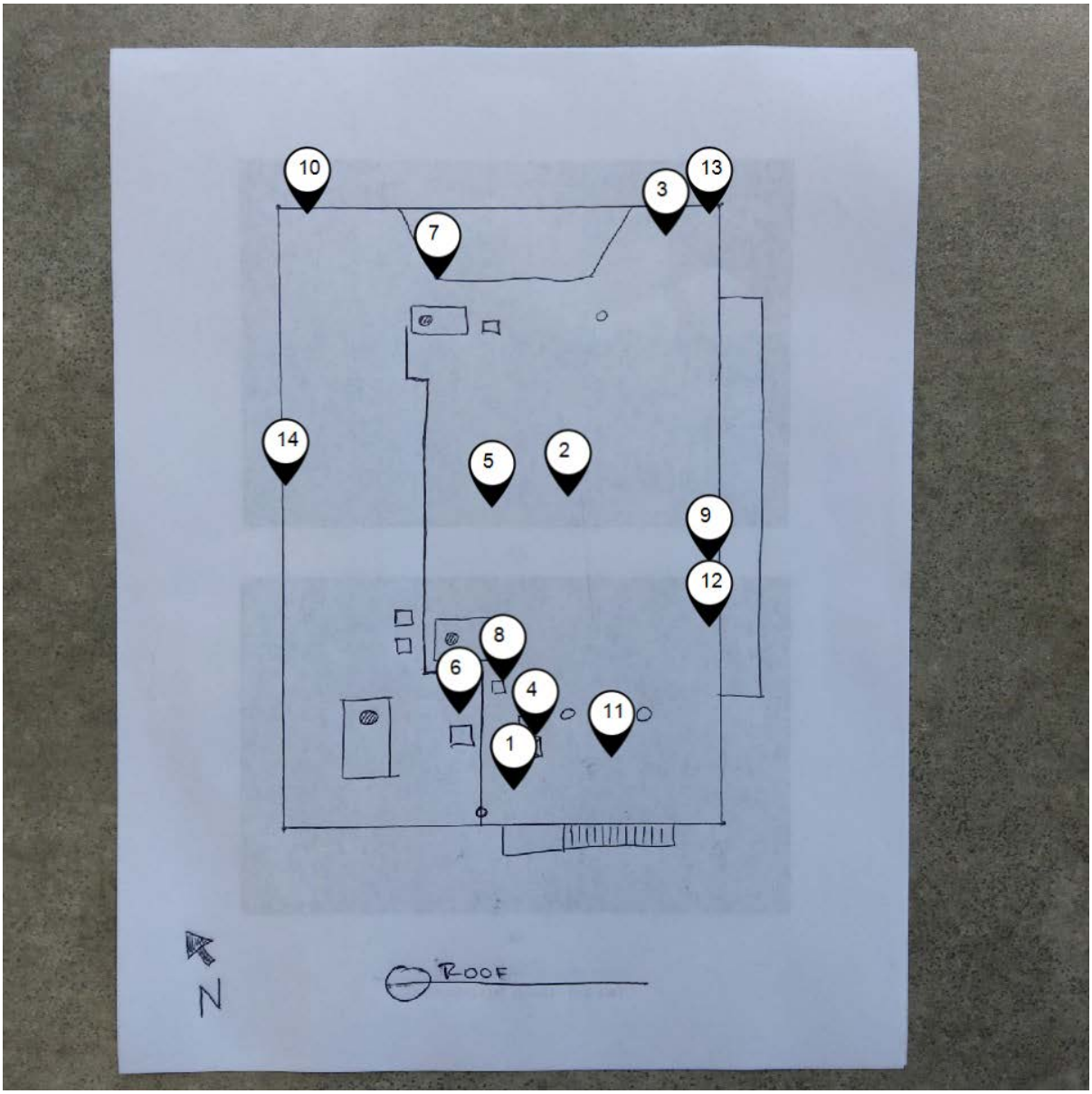
All Sample Locations for 1st floor



All Sample Locations for 2nd Floor



All Sample Locations for Roof



APPENDIX A – SCOPE, METHODS, AND REGULATORY GUIDELINES

A1 INTRODUCTION

A1.1 SCOPE OF SERVICES

The scope of services for this project consisted of conducting a pre-demolition ACM and hazardous material assessment, sampling, and analysis of accessible and exposed areas on the subject property.

The assessment included areas within the structure where building materials could potentially be impacted during scheduled demolition. The scope included a visual inspection of the subject area(s), sample collection, PLM sample analysis, quantification of ACMs, suspected hazardous materials, and report preparation and review.

A1.2 PURPOSE

The purpose of this survey was to provide general information for the subject property regarding the presence, condition, and quantity of accessible and/or exposed friable and non-friable building materials that contain asbestos, as well as substances that would require special handling and disposal prior to demolition.

A1.3 AUTHORIZATION

Authorization to perform this work was given by the Taco Bell Corporation as project administrator through the issuance of a Notice to Proceed.

A1.4 LIMITATIONS

The asbestos survey was intended to meet the requirements of the EPA NESHAP regulation for demolition or renovation. The survey included a thorough inspection of all areas on the subject property.

Vermiculite Insulation was assumed to be asbestos containing for the purposes of this study. These materials can be treated as non-regulated demolition debris provided; they are not rendered friable during the demolition process.

Destructive sampling, such as behind finished surfaces (plaster/drywall walls, above hard ceilings, etc.); inside mechanical chases, behind mirrored walls, under carpet or tiled floors, etc., was generally conducted to try to assess inaccessible or concealed materials. The inspection team selected representative areas to perform an intrusive evaluation of void spaces within the building or structure. Such inspections were made by creating an opening of sufficient size to determine the presence, condition, and quantity of suspect ACM within. Void spaces which were evaluated included locations of suspected pipe or HVAC chases, wall cavities where fireproofing or other ACM was suspected, above finished ceiling systems where ACM was likely to exist, within pipe trenches or within concealed locations. Although PSI made an attempt to identify all areas of ACM, an exhaustive investigation of void spaces was not included in the scope of services for

this project. Inaccessible is defined as areas of the building that were locked, or where admittance was not possible. It also includes areas/materials that could not be tested (sampled) without destruction of the structure or a portion of the structure, and areas/materials that could not be safely reached by the inspector or inspection team. If access to a portion of the building was not obtained (which otherwise would have been tested), such limitations specifically are identified in the Findings Section of this report.

PSI did not sample any system which presented a hazard to the inspection team such as energized electrical systems, confined spaces, or structurally unsafe areas.

The HAZMATs survey was visual only and did not include sampling of identified materials.

A1.5 WARRANTY

The field and laboratory results reported herein are considered sufficient in detail and scope to determine the presence of accessible and/or exposed suspect ACM/HAZMATs for the subject property. PSI warrants that the findings contained herein have been prepared in general accordance with accepted professional practices at the time of its preparation as applied by professionals in the community. Changes in the state of the art or in applicable regulations cannot be anticipated and have not been addressed in this report.

The survey and analytical methods have been used to provide the client with information regarding the presence of accessible and/or exposed suspect ACM/HAZMATs existing at the time of the inspection. Test results are valid only for the material(s) tested. There is a distinct possibility that conditions may exist which could not be identified within the scope of the study or which were not apparent during the site visit. This inspection covered only those areas that were exposed and/or physically accessible to the Inspector. The study is also limited to the information available from the client at the time it was conducted.

As directed by the client, PSI did not provide any service to investigate or detect the presence of moisture, mold, or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence of the amplification of the same. Client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Client further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, PSI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification. No other warrantees are implied or expressed.

A2 METHODOLOGY

Inspection and sampling procedures were performed in general accordance with the guidelines published by the EPA. The inspection and survey described below was performed by an EPA and Michigan accredited inspector.

A2.1 RECORD DOCUMENT REVIEW

Prior to conducting the visual inspection, PSI typically reviews documents provided by the client, including drawings, floor plans, historical data, maintenance records, previous survey reports, laboratory reports, etc. for information regarding construction history and building materials.

No documents were provided by the client for review as a part of this Asbestos and HAZMAT Survey.

A2.2 VISUAL INSPECTION PROCEDURES

A2.2.1 Asbestos

An initial property walkthrough was conducted to determine the presence of suspect asbestos-containing materials that were accessible and/or exposed within all areas scheduled for upcoming demolition activities.

Materials which were similar in color, texture, general appearance and which appear to have been installed at the same time were grouped in Homogeneous Sampling Areas. Such materials are termed "homogeneous materials" by the EPA. During this walkthrough, the approximate locations of these homogeneous materials were also noted.

The inspector evaluated the overall condition of the material and determined whether the materials were friable or non-friable by touching the material, where practical. A friable material is defined as any material able to be crushed, crumbled, pulverized, or reduced to a powder by hand pressure when dry.

Each material was further assessed for overall condition. Conditions were rated as good, damaged, or significantly damaged. PSI's inspector also identified the EPA NESHAP classification of the material based on the materials current condition. PSI's inspector provided estimated quantities of the materials identified as ACM, based only on materials that were accessible and exposed.

Homogeneous materials/systems may contain an indefinite/indistinguishable number of layers that may not be visually identified by the inspector at the time of the survey. Bulk sample analysis (Appendix B) will report all possible layers that may be contained within the homogeneous materials/system. Therefore, laboratory results may differ from the chain of custody (Appendix C) description.

A2.2.2 HAZMAT Inventory

Materials or equipment that have been traditionally known to contain hazardous or regulated materials such as lead, PCBs, mercury, and CFCs are identified and quantified during the HAZMAT Inventory. These are materials that should be removed, reclaimed, and/or properly disposed of prior to demolition. In addition, inspectors noted containers observed with chemicals subject to disposal regulations or that would pose demolition worker exposure potential, such as cleaners, varnishes, glues, etc.

A2.3 ASBESTOS SAMPLING PROCEDURES

Following the walkthrough, the Inspector collected samples of suspect materials.

Exterior Area (EA) and Functional Space (FS) sampling locations were chosen to be representative of the homogeneous sampling area. While an effort was made to collect samples randomly, samples were taken preferentially from areas already damaged or areas which were the least visible to minimize disturbance of the material.

Each sample location was sprayed with amended water and was kept wet during the entire sampling process. Samples were collected by coring through the material from the surface down to the base substrate. All layers of the material were extracted and placed into a sample container for transport to the laboratory. Sample containers were sealed and labeled with a unique sample identification number. Where appropriate, sampled materials were sealed with an encapsulant or covered with tape after sampling. PSI is not responsible for restoring the sampled areas to their pre-sampled condition.

In accordance with the agreement between PSI and the client, vermiculite insulation was assumed to be an asbestos containing material as part of this survey.

A2.4 ASBESTOS ANALYSIS PROCEDURES

All samples were analyzed by one of the following four pre-approved laboratories:

- Professional Service Industries, Inc.
  850 Poplar Street,
  Pittsburgh, PA 15220
- Environmental Testing Laboratories, Inc.
  38900 Huron River Drive, Suite 200
  Romulus, MI 48174
- Eurofins-CEI Labs, Inc.
  730 Southeast Maynard Road,
  Cary, NC 27511
- Scientific Analytical Institute Inc.
  4604 Dundas Drive,
  Greensboro, NC 27407

These Laboratories are all National Voluntary Laboratory Accreditation Program (NVLAP) Accredited.

The samples were analyzed for asbestos on a "positive-stop" basis by PLM and in accordance with the "EPA Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116 July 1993). Analysis was performed by observing the bulk samples and slide preparation(s) for microscopic examination and identification. The samples were mounted on slides and then analyzed for asbestos (chrysotile, amosite, crocidolite, anthophyllite, actinolite/tremolite), and fibrous non-asbestos constituents (mineral wool, fiberglass, cellulose, etc.). Asbestos was identified by refractive indices, morphology, color, pleochroism, birefringence, extinction characteristics, and signs of elongation. The same characteristics were used to identify the non-asbestos constituents.

Using a stereoscope, the microscopist visually estimated relative amounts of each constituent by determining the volume of each constituent in proportion to the total volume of the sample.

The EPA method allows samples which are visually determined to have less than 1% asbestos to be quantified using a Point Count procedure. An ocular reticule (cross hair or point array) is used to visually superimpose a point or points on the microscope field of view. A total of 400 points superimposed on either asbestos fibers or non-asbestos matrix material must be counted over at least eight different preparations of representative subsamples. If an asbestos fiber and matrix particle overlap so that a point is superimposed on their visual intersection, a point is scored for both categories. Point counting provides a quantification of the area percent asbestos. Point counted results supersede the results of the visual estimation.

It should be noted that some ACM might not be accurately identified or quantified by PLM. As an example, the original fabrication of vinyl floor tiles routinely involved milling of asbestos fibers to extremely small sizes. As a result, these fibers may go undetected under the standard PLM method. Transmission Electron Microscopy (TEM) is recommended for a more definitive analysis of these materials.

A2.4.1 Laboratory Quality Control Program

Each laboratory maintains an in-house quality control program. This program involves blind reanalysis of ten (10) percent of all samples, precision, and accuracy controls, and use of standard bulk reference materials. In addition, the Laboratories are accredited by NVLAP, which also has quality control procedures inherent in its program.

A2.5 REGULATORY GUIDELINES:

ACM Definition –

The EPA and OSHA consider a material to be ACM if at least one sample from the homogeneous area shows asbestos in an amount greater than 1%.

Point Count Quantification –

If a material is found to contain less than 1% asbestos via PLM visual estimation, it can be treated as non-ACM per EPA Regulations, if verified to contain 1% or less asbestos by the Point Count Quantification Procedure. Please refer to the laboratory analyses for a more detailed description of the microscopic analysis of individual samples.

EPA NESHAP Category –

EPA classifies ACM into the following categories:

- ***RACM*** as defined by the Asbestos NESHAP is any (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.
- ***Category I Non-friable ACM*** includes packings, gaskets, resilient floor covering, and asphalt roofing products which contain more than one percent asbestos.
- ***Category II Non-friable ACM*** includes any material, except for a Category I non-friable ACM, which contains more than one-percent asbestos and cannot be reduced to a powder by hand pressure when dry.

OSHA –

OSHA requires all suspect materials to be analyzed by layer, even materials such as drywall/joint compound, which may sometimes be composited per the EPA. If any layer contains asbestos in a concentration >1%, the material is considered an ACM.

OSHA has a classification system (I thru IV) for ACM depending on the type of material and the disturbance as follows:

- ***Class I*** work is defined as activities involving the removal of ACM or presumed ACM (PACM) that is thermal system insulation (TSI) and surfacing materials.
- ***Class II*** activities involve removal of ACM/PACM other than TSI or surfacing material.
- ***Class III*** work includes repair and maintenance operations which are likely to disturb ACM/PACM.
- ***Class IV*** work includes maintenance and custodial activities during which employees contact but do not disturb ACM/PACM.

Materials where asbestos is detected, but where point counting is conducted and determined that the concentration is ≤1% asbestos, are not considered to be ACM by OSHA. However, these materials are considered unclassified asbestos work per OSHA. Some OSHA work control practices and prohibitions will still apply, with the extent depending on whether the worker's exposure to airborne asbestos exceeds the OSHA permissible exposure limit (PEL).

Additional details of the OSHA asbestos regulations related to the construction industry can be found in 29 CFR Part 1926.1101.

A2.6 QUANTIFICATION

Quantification of suspect ACMs and HAZMATs were conducted using visual estimation by an accredited asbestos inspector. This visual estimation was performed in accordance with generally accepted practices in the asbestos industry based on materials that were accessible and exposed. These values are sufficiently accurate for the purpose of documenting the presence of asbestos within its space for the purpose of identifying abatement control conditions or for general policy considerations. Actual quantities may differ between visually estimated values and physical measurements. If a licensed asbestos abatement contractor is engaged to remove the identified ACM, they should be made responsible for verifying reported quantities of ACM.

A2.7 HAZMAT CLASSIFICATION

The EPA has determined that some specific wastes are hazardous. These wastes are incorporated into lists published by the EPA. These lists are organized into three categories:

1. The F-list (non-specific source wastes). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources. Wastes included on the F-list can be found in the regulations at 40 CFR §261.31.

2. The K-list (source-specific wastes). This list includes certain wastes from specific industries, such as petroleum refining or pesticide manufacturing. Certain sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes. Wastes included on the K-list can be found in the regulations at 40 CFR §261.32.

3. The P-list and the U-list (discarded commercial chemical products). These lists include specific commercial chemical products in an unused form. Some pesticides and some pharmaceutical products become hazardous waste when discarded. Wastes included on the P- and U- lists can be found in the regulations at 40 CFR §261.33.

Waste that has not been specifically listed may still be considered a hazardous waste if exhibits one of the four characteristics defined in 40 CFR Part 261 Subpart C - ignitability (D001), corrosivity (D002), reactivity (D003), and toxicity (D004 - D043).

1. Ignitability - Ignitable wastes can create fires under certain conditions, are spontaneously combustible, or have a flash point less than 60 °C (140 °F). Examples include waste oils and solvents.

2. Corrosivity - Corrosive wastes are acids or bases (pH less than or equal to 2, or greater than or equal to 12.5) that are capable of corroding metal containers, such as storage tanks, drums, and barrels.

3. Reactivity - Reactive wastes are unstable under "normal" conditions. They can cause explosions, toxic fumes, gases, or vapors when heated, compressed, or mixed with water.

4. Toxicity - Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead, etc.). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP) (Method 1311). The TCLP helps identify wastes likely to leach concentrations of contaminants that may be harmful to human health or the environment.

Mercury-containing equipment, mercury containing lamps, batteries and pesticides that are classified as hazardous waste can be collected under the streamlined collection standards for Universal Waste as defined by the EPA in 40 CFR §273. Universal Waste identified as part of this investigation should be removed and either disposed of or recycled in accordance with the EPA.

Light fixture ballasts manufactured through 1979 and those without a "No PCBs" label should be assumed to contain polychlorinated biphenyls (PCBs). The capacitor in the ballast may contain two to three ounces of PCBs. Potting compound (used to dissipate heat from electrical components in the ballast) may be made of waste oil contaminated by PCBs. The Toxic Substances Control Act of 1976 (TSCA) regulates disposal and storage of PCB. Ballasts containing or suspected of containing PCBs should be disposed of at hazardous waste incinerators or chemical waste landfills.

APPENDIX B – REPORT OF BULK SAMPLE ANALYSIS FOR ASBESTOS AND NVLAP CERTIFICATION

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May 18, 2021

PSI Engineering, Consulting, Testing
37483 Interchange Dr.
Farmington Hills, MI 48335

CLIENT PROJECT: 01661472-1, 0166-336122
CEI LAB CODE: B214344

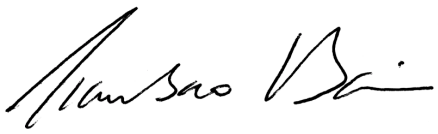
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on May 13, 2021. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP® TESTING
NVLAP LAB CODE 101768-0

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
01-001	Layer 1	B70379	Gray	Stucco	None Detected
	Layer 2	B70379	White	Foam	None Detected
01-002	Layer 1	B70380	Gray	Stucco	None Detected
	Layer 2	B70380	White	Foam	None Detected
01-003	Layer 1	B70381	Gray	Stucco	None Detected
	Layer 2	B70381	White	Foam	None Detected
02-004		B70382	Black	Sealant	None Detected
02-005		B70383	Black	Sealant	None Detected
02-006		B70384	Black	Sealant	None Detected
03-007		B70385	Beige	Caulking	None Detected
03-008		B70386	Beige	Caulking	None Detected
03-009		B70387	Beige	Caulking	None Detected
04-010	Layer 1	B70388A	Beige	Ceramic Tile	None Detected
	Layer 2	B70388A	Gray	Mortar	None Detected
		B70388B	Tan	Adhesive	None Detected
04-011	Layer 1	B70389A	Beige	Ceramic Tile	None Detected
	Layer 2	B70389A	Gray	Mortar	None Detected
		B70389B	Tan	Adhesive	None Detected
04-012	Layer 1	B70390A	Beige	Ceramic Tile	None Detected
	Layer 2	B70390A	Gray	Mortar	None Detected
		B70390B	Tan	Adhesive	None Detected
05-013		B70391A	Gray	Covebase	None Detected
		B70391B	Off-white	Adhesive	None Detected
05-014		B70392A	Gray	Covebase	None Detected
		B70392B	Off-white	Adhesive	None Detected
05-015		B70393A	Gray	Covebase	None Detected
		B70393B	Off-white	Adhesive	None Detected
06-016		B70394A	Gray	Wallpaper	None Detected
		B70394B	Yellow	Adhesive	None Detected
06-017		B70395A	Gray	Wallpaper	None Detected
		B70395B	Yellow	Adhesive	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
06-018		B70396A	Gray	Wallpaper	None Detected
		B70396B	Yellow	Adhesive	None Detected
07-019		B70397	Yellow	Carpet Adhesive	None Detected
07-020		B70398	Yellow	Carpet Adhesive	None Detected
07-021		B70399	Yellow	Carpet Adhesive	None Detected
08-022		B70400	White,Gray	Ceiling Tile	None Detected
08-023		B70401	White,Gray	Ceiling Tile	None Detected
08-024		B70402	White,Gray	Ceiling Tile	None Detected
09-025		B70403	Yellow	Insulation	None Detected
09-026		B70404	Yellow	Insulation	None Detected
09-027		B70405	Yellow	Insulation	None Detected
10-028		B70406	White,Brown	Wallboard/ Joint Compound & Tape	None Detected
10-029		B70407	White,Brown	Wallboard/ Joint Compound & Tape	None Detected
10-030		B70408	White,Brown	Wallboard/ Joint Compound & Tape	None Detected
11-031		B70409	White	Gasket	Chrysotile 75%
11-032		B70410		Sample Not Analyzed per COC	
11-033		B70411		Sample Not Analyzed per COC	
12-034		B70412A	White,Off-white	Floor Tile	Chrysotile 10%
		B70412B	Black	Mastic	Chrysotile 3%
12-035		B70413		Sample Not Analyzed per COC	
12-036		B70414		Sample Not Analyzed per COC	
13-037	Layer 1	B70415A	Beige	Ceramic Tile	None Detected
	Layer 2	B70415A	Gray	Mortar	None Detected
	Layer 1	B70415B	Yellow	Adhesive	None Detected
	Layer 2	B70415B	White	Grout	None Detected
13-038	Layer 1	B70416A	Beige	Ceramic Tile	None Detected
	Layer 2	B70416A	Gray	Mortar	None Detected
	Layer 1	B70416B	Yellow	Adhesive	None Detected
	Layer 2	B70416B	White	Grout	None Detected

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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
13-039	Layer 1	B70417A	Beige	Ceramic Tile	None Detected
	Layer 2	B70417A	Gray	Mortar	None Detected
	Layer 1	B70417B	Yellow	Adhesive	None Detected
	Layer 2	B70417B	White	Grout	None Detected
14-040		B70418	Yellow,Green	Pipe Insulation	None Detected
14-041		B70419	Yellow,Green	Pipe Insulation	None Detected
14-042		B70420	Yellow,Green	Pipe Insulation	None Detected
15-043		B70421	Gray	Pipe Insulation	None Detected
15-044		B70422	Gray	Pipe Insulation	None Detected
15-045		B70423	Gray	Pipe Insulation	None Detected
16-046	Layer 1	B70424	Gray	CMU	None Detected
	Layer 2	B70424	Gray	Mortar	None Detected
16-047	Layer 1	B70425	Gray	CMU	None Detected
	Layer 2	B70425	Gray	Mortar	None Detected
16-048	Layer 1	B70426	Gray	CMU	None Detected
	Layer 2	B70426	Gray	Mortar	None Detected
17-049		B70427	Gray	Concrete	None Detected
17-050		B70428	Gray	Concrete	None Detected
17-051		B70429	Gray	Concrete	None Detected
18-052		B70430	Yellow	Mastic	None Detected
18-053		B70431	Yellow	Mastic	None Detected
18-054		B70432	Yellow	Mastic	None Detected
19-055	Layer 1	B70433	White	Plaster Skim Coat	None Detected
	Layer 2	B70433	Gray	Plaster Base Coat	None Detected
19-056	Layer 1	B70434	White	Plaster Skim Coat	None Detected
	Layer 2	B70434	Gray	Plaster Base Coat	None Detected
19-057	Layer 1	B70435	White	Plaster Skim Coat	None Detected
	Layer 2	B70435	Gray	Plaster Base Coat	None Detected
19-058	Layer 1	B70436	White	Plaster Skim Coat	None Detected
	Layer 2	B70436	Gray	Plaster Base Coat	None Detected
19-059	Layer 1	B70437	White	Plaster Skim Coat	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B70437	Gray	Plaster Base Coat	None Detected
19-060	Layer 1	B70438	White	Plaster Skim Coat	None Detected
	Layer 2	B70438	Gray	Plaster Base Coat	None Detected
19-061	Layer 1	B70439	White	Plaster Skim Coat	None Detected
	Layer 2	B70439	Gray	Plaster Base Coat	None Detected
20-062		B70440	Brown,Tan	Carpet Adhesive	None Detected
20-063		B70441	Brown,Tan	Carpet Adhesive	None Detected
20-064		B70442	Brown,Tan	Carpet Adhesive	None Detected
21-065		B70443A	Brown	Covebase	None Detected
		B70443B	Tan	Adhesive	None Detected
21-066		B70444A	Brown	Covebase	None Detected
		B70444B	Tan	Adhesive	None Detected
21-067		B70445A	Brown	Covebase	None Detected
		B70445B	Tan	Adhesive	None Detected
22-068		B70446	White,Brown	Ceiling Tile	None Detected
22-069		B70447	White,Brown	Ceiling Tile	None Detected
22-070		B70448	White,Brown	Ceiling Tile	None Detected
23-071		B70449	Red	Caulking	None Detected
23-072		B70450	Red	Caulking	None Detected
23-073		B70451	Red	Caulking	None Detected
24-074		B70452	Yellow,Gray	HVAC Insulation	None Detected
24-075		B70453	Yellow,Gray	HVAC Insulation	None Detected
24-076		B70454	Yellow,Gray	HVAC Insulation	None Detected
22-077	Layer 1	B70455	Yellow,White	Ceramic Tile	None Detected
	Layer 2	B70455	Gray	Mortar	None Detected
22-078	Layer 1	B70456	Yellow,White	Ceramic Tile	None Detected
	Layer 2	B70456	Gray	Mortar	None Detected
22-079	Layer 1	B70457	Yellow,White	Ceramic Tile	None Detected
	Layer 2	B70457	Gray	Mortar	None Detected
23-080	Layer 1	B70458	Blue,White	Ceramic Tile	None Detected
	Layer 2	B70458	Gray	Mortar	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
23-081	Layer 1	B70459	Blue,White	Ceramic Tile	None Detected
	Layer 2	B70459	Gray	Mortar	None Detected
23-082	Layer 1	B70460	Blue,White	Ceramic Tile	None Detected
	Layer 2	B70460	Gray	Mortar	None Detected
27-083		B70461A	Gray,Yellow	Transite	Chrysotile 20%
		B70461B	Brown	Adhesive	None Detected
27-084		B70462A		Sample Not Analyzed per COC	
		B70462B	Brown	Adhesive	None Detected
27-085		B70463A		Sample Not Analyzed per COC	
		B70463B	Brown	Adhesive	None Detected
28-086		B70464	Yellow,Orange	Insulation	None Detected
28-087		B70465	Yellow,Orange	Insulation	None Detected
28-088		B70466	Yellow,Orange	Insulation	None Detected
29-089		B70467	Black	Felt Paper	None Detected
29-090		B70468	Black	Felt Paper	None Detected
29-091		B70469	Black	Felt Paper	None Detected
30-092		B70470	Black,Gray	Roof Flashing	None Detected
30-093		B70471	Black,Gray	Roof Flashing	None Detected
30-094		B70472	Black,Gray	Roof Flashing	None Detected
31-095		B70473	Black	Built-Up Roofing	None Detected
31-096		B70474	Black	Built-Up Roofing	None Detected
31-097		B70475	Black	Built-Up Roofing	None Detected
32-098		B70476	Beige	Sealant	None Detected
32-099		B70477	Beige	Sealant	None Detected
32-100		B70478	Beige	Sealant	None Detected
33-101	Layer 1	B70479	White Black, Yellow	Brick	None Detected
	Layer 2	B70479	Gray	Mortar	None Detected
33-102	Layer 1	B70480	White Black, Yellow	Brick	None Detected
	Layer 2	B70480	Gray	Mortar	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 01661472-1, 0166-336122 **LAB CODE: B214344**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
33-103	Layer 1	B70481	White Black, Yellow	Brick	None Detected
	Layer 2	B70481	Gray	Mortar	None Detected

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ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: **PSI Engineering, Consulting, Testing**
37483 Interchange Dr.
Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
01-001	Stucco	Heterogeneous	10%	Fiberglass	50%	Silicates	None Detected
Layer 1		Gray	<1%	Cellulose	40%	Binder	
B70379		Fibrous					
		Bound					
Layer 2	Foam	Homogeneous			100%	Foam	None Detected
B70379		White					
		Non-fibrous					
		Loosely Bound					
01-002	Stucco	Heterogeneous	10%	Fiberglass	50%	Silicates	None Detected
Layer 1		Gray	<1%	Cellulose	40%	Binder	
B70380		Fibrous					
		Bound					
Layer 2	Foam	Homogeneous			100%	Foam	None Detected
B70380		White					
		Non-fibrous					
		Loosely Bound					
01-003	Stucco	Heterogeneous	10%	Fiberglass	50%	Silicates	None Detected
Layer 1		Gray	<1%	Cellulose	40%	Binder	
B70381		Fibrous					
		Bound					
Layer 2	Foam	Homogeneous			100%	Foam	None Detected
B70381		White					
		Non-fibrous					
		Loosely Bound					
02-004	Sealant	Homogeneous			100%	Caulk	None Detected
B70382		Black					
		Non-fibrous					
		Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: **PSI Engineering, Consulting, Testing**
37483 Interchange Dr.
Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
02-005 B70383	Sealant	Homogeneous Black Non-fibrous Bound			100%	Caulk	None Detected
02-006 B70384	Sealant	Homogeneous Black Non-fibrous Bound			100%	Caulk	None Detected
03-007 B70385	Caulking	Heterogeneous Beige Non-fibrous Bound			100% <1%	Caulk Paint	None Detected
03-008 B70386	Caulking	Heterogeneous Beige Non-fibrous Bound			100% <1%	Caulk Paint	None Detected
03-009 B70387	Caulking	Heterogeneous Beige Non-fibrous Bound			100% <1%	Caulk Paint	None Detected
04-010 Layer 1 B70388A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70388A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: **PSI Engineering, Consulting, Testing**
37483 Interchange Dr.
Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
B70388B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected
04-011 Layer 1 B70389A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70389A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
B70389B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected
04-012 Layer 1 B70390A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70390A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
B70390B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected

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Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		NON-ASBESTOS COMPONENTS Non-Fibrous		ASBESTOS %
05-013 B70391A	Covebase	Homogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B70391B	Adhesive	Homogeneous Off-white Non-fibrous Bound			100%	Mastic	None Detected
05-014 B70392A	Covebase	Homogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B70392B	Adhesive	Homogeneous Off-white Non-fibrous Bound			100%	Mastic	None Detected
05-015 B70393A	Covebase	Homogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B70393B	Adhesive	Homogeneous Off-white Non-fibrous Bound			100%	Mastic	None Detected
06-016 B70394A	Wallpaper	Heterogeneous Gray Fibrous Loosely Bound	75%	Cellulose	25%	Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
B70394B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
06-017 B70395A	Wallpaper	Heterogeneous Gray Fibrous Loosely Bound	75%	Cellulose	25%	Binder	None Detected
B70395B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
06-018 B70396A	Wallpaper	Heterogeneous Gray Fibrous Loosely Bound	75%	Cellulose	25%	Binder	None Detected
B70396B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
07-019 B70397	Carpet Adhesive	Heterogeneous Yellow Non-fibrous Bound	<1%	Synthetic Fiber	100% <1%	Mastic Binder	None Detected
07-020 B70398	Carpet Adhesive	Heterogeneous Yellow Non-fibrous Bound	<1%	Synthetic Fiber	100% <1%	Mastic Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
07-021 B70399	Carpet Adhesive	Heterogeneous Yellow Non-fibrous Bound	<1%	Synthetic Fiber	100% <1%	Mastic Binder	None Detected
08-022 B70400	Ceiling Tile	Heterogeneous White,Gray Fibrous Loosely Bound	60% 20%	Fiberglass Mineral Wool	10% 5% 5%	Binder Metal Foil Paint	None Detected
08-023 B70401	Ceiling Tile	Heterogeneous White,Gray Fibrous Loosely Bound	60% 20%	Fiberglass Mineral Wool	10% 5% 5%	Binder Metal Foil Paint	None Detected
08-024 B70402	Ceiling Tile	Heterogeneous White,Gray Fibrous Loosely Bound	60% 20%	Fiberglass Mineral Wool	15% 5%	Binder Paint	None Detected
09-025 B70403	Insulation	Homogeneous Yellow Fibrous Loose	100%	Fiberglass			None Detected
09-026 B70404	Insulation	Homogeneous Yellow Fibrous Loose	100%	Fiberglass			None Detected
09-027 B70405	Insulation	Homogeneous Yellow Fibrous Loose	100%	Fiberglass			None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
10-028 B70406	Wallboard/ Joint Compound & Tape	Heterogeneous White,Brown Fibrous Bound	20%	Cellulose	75% 5% <1%	Gypsum Calc Carb Paint	None Detected
10-029 B70407	Wallboard/ Joint Compound & Tape	Heterogeneous White,Brown Fibrous Bound	20%	Cellulose	75% 5% <1%	Gypsum Calc Carb Paint	None Detected
10-030 B70408	Wallboard/ Joint Compound & Tape	Heterogeneous White,Brown Fibrous Bound	20%	Cellulose	75% 5% <1%	Gypsum Calc Carb Paint	None Detected
11-031 B70409	Gasket	Homogeneous White Fibrous Loosely Bound	15%	Cellulose	10%	Binder	**75% Chrysotile**
11-032 B70410	Sample Not Analyzed per COC						
11-033 B70411	Sample Not Analyzed per COC						
12-034 B70412A	Floor Tile	Homogeneous White,Off-white Non-fibrous Tightly Bound			90%	Vinyl	**10% Chrysotile**
B70412B	Mastic	Homogeneous Black Non-fibrous Bound			97%	Tar	**3% Chrysotile**
12-035 B70413	Sample Not Analyzed per COC						

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
12-036 B70414	Sample Not Analyzed per COC						
13-037 Layer 1 B70415A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70415A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
Layer 1 B70415B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B70415B	Grout	Homogeneous White Non-fibrous Bound	<1%	Cellulose	75% 25%	Binder Silicates	None Detected
13-038 Layer 1 B70416A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70416A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
Layer 1 B70416B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 B70416B	Grout	Homogeneous White Non-fibrous Bound	<1%	Cellulose	75% 25%	Binder Silicates	None Detected
13-039 Layer 1 B70417A	Ceramic Tile	Homogeneous Beige Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70417A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
Layer 1 B70417B	Adhesive	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B70417B	Grout	Homogeneous White Non-fibrous Bound	<1%	Cellulose	75% 25%	Binder Silicates	None Detected
14-040 B70418	Pipe Insulation	Heterogeneous Yellow,Green Fibrous Loosely Bound	75% 10%	Fiberglass Cellulose	10% 5%	Binder Paint	None Detected
14-041 B70419	Pipe Insulation	Heterogeneous Yellow,Green Fibrous Loosely Bound	65% 10%	Fiberglass Cellulose	10% 10% 5%	Binder Metal Foil Paint	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

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14-042 B70420	Pipe Insulation	Heterogeneous Yellow,Green Fibrous Loosely Bound	65% 10%	Fiberglass Cellulose	10% 10% 5%	Binder Metal Foil Paint	None Detected
15-043 B70421	Pipe Insulation	Heterogeneous Gray Fibrous Loosely Bound	35% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 5%	Binder Paint	None Detected
15-044 B70422	Pipe Insulation	Heterogeneous Gray Fibrous Loosely Bound	35% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 5%	Binder Paint	None Detected
15-045 B70423	Pipe Insulation	Heterogeneous Gray Fibrous Loosely Bound	35% 20% 15%	Fiberglass Cellulose Mineral Wool	25% 5%	Binder Paint	None Detected
16-046 Layer 1 B70424	CMU	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected
Layer 2 B70424	Mortar	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected
16-047 Layer 1 B70425	CMU	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected

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Layer 2 B70425	Mortar	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected
16-048 Layer 1 B70426	CMU	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected
Layer 2 B70426	Mortar	Heterogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40% <1%	Silicates Binder Paint	None Detected
17-049 B70427	Concrete	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
17-050 B70428	Concrete	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
17-051 B70429	Concrete	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
18-052 B70430	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
18-053 B70431	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
18-054 B70432	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
19-055 Layer 1 B70433	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70433	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
19-056 Layer 1 B70434	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70434	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
19-057 Layer 1 B70435	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

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Layer 2 B70435	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
19-058 Layer 1 B70436	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70436	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
19-059 Layer 1 B70437	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70437	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
19-060 Layer 1 B70438	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70438	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected

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19-061 Layer 1 B70439	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			85% 10% 5%	Binder Silicates Paint	None Detected
Layer 2 B70439	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
20-062 B70440	Carpet Adhesive	Homogeneous Brown,Tan Non-fibrous Bound			100%	Mastic	None Detected
20-063 B70441	Carpet Adhesive	Homogeneous Brown,Tan Non-fibrous Bound			100%	Mastic	None Detected
20-064 B70442	Carpet Adhesive	Homogeneous Brown,Tan Non-fibrous Bound			100%	Mastic	None Detected
21-065 B70443A	Covebase	Homogeneous Brown Non-fibrous Bound			100%	Vinyl	None Detected
B70443B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected

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21-066 B70444A	Covebase	Homogeneous Brown Non-fibrous Bound			100%	Vinyl	None Detected
B70444B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected
21-067 B70445A	Covebase	Homogeneous Brown Non-fibrous Bound			100%	Vinyl	None Detected
B70445B	Adhesive	Homogeneous Tan Non-fibrous Bound			100%	Mastic	None Detected
22-068 B70446	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	60% 20%	Cellulose Fiberglass	15% 5%	Perlite Paint	None Detected
22-069 B70447	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	60% 20%	Cellulose Fiberglass	15% 5%	Perlite Paint	None Detected
22-070 B70448	Ceiling Tile	Heterogeneous White,Brown Fibrous Loosely Bound	60% 20%	Cellulose Fiberglass	15% 5%	Perlite Paint	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

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23-071 B70449	Caulking	Homogeneous Red Non-fibrous Bound			100%	Caulk	None Detected
23-072 B70450	Caulking	Homogeneous Red Non-fibrous Bound			100%	Caulk	None Detected
23-073 B70451	Caulking	Homogeneous Red Non-fibrous Bound			100%	Caulk	None Detected
24-074 B70452	HVAC Insulation	Heterogeneous Yellow,Gray Fibrous Loose	95%	Fiberglass	5%	Vinyl	None Detected
24-075 B70453	HVAC Insulation	Heterogeneous Yellow,Gray Fibrous Loose	95%	Fiberglass	5%	Vinyl	None Detected
24-076 B70454	HVAC Insulation	Heterogeneous Yellow,Gray Fibrous Loose	95%	Fiberglass	5%	Vinyl	None Detected
22-077 Layer 1 B70455	Ceramic Tile	Heterogeneous Yellow,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected

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Layer 2 B70455	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
22-078 Layer 1 B70456	Ceramic Tile	Heterogeneous Yellow,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70456	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
22-079 Layer 1 B70457	Ceramic Tile	Heterogeneous Yellow,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70457	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
23-080 Layer 1 B70458	Ceramic Tile	Heterogeneous Blue,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70458	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected

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23-081 Layer 1 B70459	Ceramic Tile	Heterogeneous Blue,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70459	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
23-082 Layer 1 B70460	Ceramic Tile	Heterogeneous Blue,White Non-fibrous Tightly Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70460	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
27-083 B70461A	Transite	Heterogeneous Gray,Yellow Fibrous Bound			80% <1%	Binder Paint	**20% Chrysotile**
B70461B	Adhesive	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected
27-084 B70462A	Sample Not Analyzed per COC						
B70462B	Adhesive	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected

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27-085 B70463A	Sample Not Analyzed per COC						
B70463B	Adhesive	Homogeneous Brown Non-fibrous Bound			100%	Mastic	None Detected
28-086 B70464	Insulation	Homogeneous Yellow,Orange Fibrous Loose	100%	Fiberglass			None Detected
28-087 B70465	Insulation	Homogeneous Yellow,Orange Fibrous Loose	100%	Fiberglass			None Detected
28-088 B70466	Insulation	Homogeneous Yellow,Orange Fibrous Loose	100%	Fiberglass			None Detected
29-089 B70467	Felt Paper	Heterogeneous Black Fibrous Bound	55%	Cellulose	40% 5%	Tar Silicates	None Detected
29-090 B70468	Felt Paper	Heterogeneous Black Fibrous Bound	55%	Cellulose	40% 5%	Tar Silicates	None Detected
29-091 B70469	Felt Paper	Heterogeneous Black Fibrous Bound	55%	Cellulose	40% 5%	Tar Silicates	None Detected

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Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
30-092 B70470	Roof Flashing	Heterogeneous Black,Gray Fibrous Bound	5% 5%	Cellulose Fiberglass	50% 35% 5%	Tar Binder Silicates	None Detected
30-093 B70471	Roof Flashing	Heterogeneous Black,Gray Fibrous Bound	5% 5%	Cellulose Fiberglass	50% 35% 5%	Tar Binder Silicates	None Detected
30-094 B70472	Roof Flashing	Heterogeneous Black,Gray Fibrous Bound	5% 5%	Cellulose Fiberglass	50% 35% 5%	Tar Binder Silicates	None Detected
31-095 B70473	Built-Up Roofing	Heterogeneous Black Fibrous Bound	5% 5% 5%	Cellulose Fiberglass Synthetic Fiber	50% 35%	Tar Binder	None Detected
31-096 B70474	Built-Up Roofing	Heterogeneous Black Fibrous Bound	5% 5% 5%	Cellulose Fiberglass Synthetic Fiber	50% 35%	Tar Binder	None Detected
31-097 B70475	Built-Up Roofing	Heterogeneous Black Fibrous Bound	5% 5% 5%	Cellulose Fiberglass Synthetic Fiber	50% 35%	Tar Binder	None Detected
32-098 B70476	Sealant	Homogeneous Beige Non-fibrous Bound			95% 5%	Caulk Silicates	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: **PSI Engineering, Consulting, Testing**
37483 Interchange Dr.
Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
32-099 B70477	Sealant	Homogeneous Beige Non-fibrous Bound			95% 5%	Caulk Silicates	None Detected
32-100 B70478	Sealant	Homogeneous Beige Non-fibrous Bound			95% 5%	Caulk Silicates	None Detected
33-101 Layer 1 B70479	Brick	Heterogeneous White Black, Yellow Non-fibrous Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70479	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
33-102 Layer 1 B70480	Brick	Heterogeneous White Black, Yellow Non-fibrous Bound			70% 30%	Silicates Binder	None Detected
Layer 2 B70480	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	60% 40%	Silicates Binder	None Detected
33-103 Layer 1 B70481	Brick	Heterogeneous White Black, Yellow Non-fibrous Bound			70% 30%	Silicates Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: **PSI Engineering, Consulting, Testing**
37483 Interchange Dr.
Farmington Hills, MI 48335

Lab Code: B214344
Date Received: 05-13-21
Date Analyzed: 05-18-21
Date Reported: 05-18-21

Project: 01661472-1, 0166-336122

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2	Mortar	Homogeneous	<1%	Cellulose	60%	Silicates	None Detected
B70481		Gray			40%	Binder	
		Non-fibrous					
		Bound					

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LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID and sample description.

ANALYST: Kathryn Wescott
Kathryn Wescott

APPROVED BY:
Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP® TESTING
NVLAP LAB CODE 101768-0

APPENDIX C – ASBESTOS BULK SAMPLE LOG/CHAIN OF CUSTODY

intertek
psi

Intertek-PSI
37483 Interchange Drive
Farmington Hills, Michigan 48335

B214343
B70379-370481 (103)
ASXVP7

Chain of Custody

Project: 01661472-1
Additional Project Number: 0166-336122
Site Location: Taco Bell #341481
18550 E. Warren Avenue
Detroit, Michigan 48236
Sampled By: Adam Smak (adam.smak@intertek.com)
Reporting By: Adam Smak (adam.smak@intertek.com)
Purpose: NESHAP Compliance (Pre-Renovation/Pre-Demolition)

Laboratory Notes

Stop after first positive for each HM

Turn-Around Time Request

Standard
3 day JB

Samples

Sample ID	Material	Floor / Section	Space	Analysis
01-001	001 - Gray Stucco (Portland Cement Plaster)	Exterior	Walls	
01-002	001 - Gray Stucco (Portland Cement Plaster)	Exterior	Walls	
01-003	001 - Gray Stucco (Portland Cement Plaster)	Exterior	Walls	
02-004	002 - Black Door Frame Sealant	Exterior	Walls	
02-005	002 - Black Door Frame Sealant	Exterior	Walls	
02-006	002 - Black Door Frame Sealant	Exterior	Walls	
03-007	003 - Beige Caulk, Wall	Exterior	Walls	
03-008	003 - Beige Caulk, Wall	Exterior	Walls	
03-009	003 - Beige Caulk, Wall	Exterior	Walls	
04-010	004 - 12"x12" Beige Ceramic Tile System	1st floor	Front Entryway	
04-011	004 - 12"x12" Beige Ceramic Tile System	1st floor	Lobby	
04-012	004 - 12"x12" Beige Ceramic Tile System	1st floor	Rear Entryway	

05-013	005 - Gray Cove Base With Adhesive	1st floor	Lobby	
05-014	005 - Gray Cove Base With Adhesive	1st floor	Office 002	
05-015	005 - Gray Cove Base With Adhesive	1st floor	Bank Teller Area	
06-016	006 - Gray Pattern Wallpaper With Adhesive	1st floor	Lobby	
06-017	006 - Gray Pattern Wallpaper With Adhesive	1st floor	Office 001	
06-018	006 - Gray Pattern Wallpaper With Adhesive	1st floor	Office 002	
07-019	007 - Yellow Carpet Adhesive	1st floor	Lobby	
07-020	007 - Yellow Carpet Adhesive	1st floor	Office 002	
07-021	007 - Yellow Carpet Adhesive	1st floor	Bank Teller Area	
08-022	008 - 2'x2' White Acoustic Ceiling Tile, Lay In	1st floor	Lobby	
08-023	008 - 2'x2' White Acoustic Ceiling Tile, Lay In	1st floor	Bank Teller Area	
08-024	008 - 2'x2' White Acoustic Ceiling Tile, Lay In	1st floor	Breakroom	
09-025	009 - Yellow Insulation, Batting	1st floor	Lobby	
09-026	009 - Yellow Insulation, Batting	1st floor	Bank Teller Area	
09-027	009 - Yellow Insulation, Batting	1st floor	Breakroom	
10-028	010 - White Gypsum Wallboard System (Wallboard, Joint Tape, and Joint Compound)	1st floor	Lobby	
10-029	010 - White Gypsum Wallboard System (Wallboard, Joint Tape, and Joint Compound)	1st floor	Closet	
10-030	010 - White Gypsum Wallboard System (Wallboard, Joint Tape, and Joint Compound)	1st floor	Office 002	
11-031	011 - White Gaskets, Rope	1st floor	Vault	
11-032	011 - White Gaskets, Rope	1st floor	Vault	
11-033	011 - White Gaskets, Rope	1st floor	Vault	
12-034	012 - 12"x12" White Floor Tile With Mastic	1st floor	Vault	
12-035	012 - 12"x12" White Floor Tile With Mastic	1st floor	Storage Room	
12-036	012 - 12"x12" White Floor Tile With Mastic	1st floor	Stairwell	
13-037	013 - 2"x2" Beige Ceramic Tile System	1st floor	Men's Room	
13-038	013 - 2"x2" Beige Ceramic Tile System	1st floor	Men's Room	
13-039	013 - 2"x2" Beige Ceramic Tile System	1st floor	Women's Room	

14-040	014 - Yellow Pipe Insulation	1st floor	Mechanical Room 1	
14-041	014 - Yellow Pipe Insulation	2nd Floor	Mechanical Room 4	
14-042	014 - Yellow Pipe Insulation	2nd Floor	Mechanical Room 4	
15-043	015 - Gray Pipe Joint Insulation	1st floor	Mechanical Room 1	
15-044	015 - Gray Pipe Joint Insulation	2nd Floor	Mechanical Room 4	
15-045	015 - Gray Pipe Joint Insulation	2nd Floor	Mechanical Room 4	
16-046	016 - Gray Masonry Block (CMU)	1st floor	Mechanical Room 1	
16-047	016 - Gray Masonry Block (CMU)	1st floor	Stairwell	
16-048	016 - Gray Masonry Block (CMU)	2nd Floor	Mechanical Room 4	
17-049	017 - Gray Concrete Floor	1st floor	Mechanical Room 1	
17-050	017 - Gray Concrete Floor	1st floor	Rear Entryway	
17-051	017 - Gray Concrete Floor	2nd Floor	Common Area	
18-052	018 - Yellow Mastic, Stair Tread	1st floor	Stairwell	
18-053	018 - Yellow Mastic, Stair Tread	1st floor	Stairwell	
18-054	018 - Yellow Mastic, Stair Tread	1st floor	Stairwell	
19-055	019 - Gray Hard Plaster, Walls	1st floor	Stairwell	
19-056	019 - Gray Hard Plaster, Walls	1st floor	Stairwell	
19-057	019 - Gray Hard Plaster, Walls	1st floor	Vault	
19-058	019 - Gray Hard Plaster, Walls	1st floor	Vault	
19-059	019 - Gray Hard Plaster, Walls	2nd Floor	Common Area	
19-060	019 - Gray Hard Plaster, Walls	2nd Floor	Office 003	
19-061	019 - Gray Hard Plaster, Walls	2nd Floor	Office 006	
20-062	020 - Brown Carpet Adhesive	2nd Floor	Common Area	
20-063	020 - Brown Carpet Adhesive	2nd Floor	Office 003	
20-064	020 - Brown Carpet Adhesive	2nd Floor	Office 005	
21-065	021 - Brown Cove Base With Adhesive	2nd Floor	Common Area	
21-066	021 - Brown Cove Base With Adhesive	2nd Floor	Office 003	
21-067	021 - Brown Cove Base With Adhesive	2nd Floor	Office 005	
22-068	022 - 2'x2' White Pinhole Ceiling Tile, Lay In	2nd Floor	Common Area	

22-069	022 - 2'x2' White Pinhole Ceiling Tile, Lay In	2nd Floor	Office 003	
22-070	022 - 2'x2' White Pinhole Ceiling Tile, Lay In	2nd Floor	Office 006	
23-071	023 - Red Caulk, Fire Stop	2nd Floor	Mechanical Room 2	
23-072	023 - Red Caulk, Fire Stop	2nd Floor	Mechanical Room 3	
23-073	023 - Red Caulk, Fire Stop	2nd Floor	Mechanical Room 4	
24-074	024 - Yellow HVAC Insulation	2nd Floor	Common Area	
24-075	024 - Yellow HVAC Insulation	2nd Floor	Mechanical Room 4	
24-076	024 - Yellow HVAC Insulation	2nd Floor	Mechanical Room 4	
25-077	025 - 1"x1" Yellow Ceramic Tile System	2nd Floor	Women's Room 2	
25-078	025 - 1"x1" Yellow Ceramic Tile System	2nd Floor	Women's Room 2	
25-079	025 - 1"x1" Yellow Ceramic Tile System	2nd Floor	Women's Room 2	
26-080	026 - 1"x1" Blue Ceramic Tile System	2nd Floor	Men's Room 2	
26-081	026 - 1"x1" Blue Ceramic Tile System	2nd Floor	Men's Room 2	
26-082	026 - 1"x1" Blue Ceramic Tile System	2nd Floor	Men's Room 2	
27-083	027 - Gray Transite Panel	2nd Floor	Mechanical Room 4	
27-084	027 - Gray Transite Panel	2nd Floor	Mechanical Room 4	
27-085	027 - Gray Transite Panel	2nd Floor	Mechanical Room 4	
28-086	028 - Yellow Orange Insulation, Batting	Roof	Roof	
28-087	028 - Yellow Orange Insulation, Batting	Roof	Roof	
28-088	028 - Yellow Orange Insulation, Batting	Roof	Roof	
29-089	029 - Black Roof Felt	Roof	Roof	
29-090	029 - Black Roof Felt	Roof	Roof	
29-091	029 - Black Roof Felt	Roof	Roof	
30-092	030 - Black Roofing Flashing/Penetration Tar	Roof	Roof	
30-093	030 - Black Roofing Flashing/Penetration Tar	Roof	Roof	
30-094	030 - Black Roofing Flashing/Penetration Tar	Roof	Roof	
31-095	031 - Black Roofing, Built-Up	Roof	Roof	
31-096	031 - Black Roofing, Built-Up	Roof	Roof	
31-097	031 - Black Roofing, Built-Up	Roof	Roof	

32-098	032 - Beige Sealant	Roof	Roof	
32-099	032 - Beige Sealant	Roof	Roof	
32-100	032 - Beige Sealant	Roof	Roof	
33-101	033 - Beige Masonry Brick	Roof	Roof	
33-102	033 - Beige Masonry Brick	Roof	Roof	
33-103	033 - Beige Masonry Brick	Roof	Roof	

Sampled By	Date	Time
Adam Smak	5-11-21	15:00

Received By	Date	Time	Received By	Date	Time	Received By	Date	Time
J.C	05/13	13:10						
Relinquished By	**Date**	**Time**	**Relinquished By**	**Date**	**Time**	**Relinquished By**	**Date**	**Time**

Analysis By	Date	Time

EUROFINS CEI, INC
SAMPLES ACCEPTED
J.C

APPENDIX D – PHOTOGRAPHIC LOG

Site Photos

Taco Bell #341481

Taco Bell #341481

Taco Bell #341481

Taco Bell #341481

Taco Bell #341481

Taco Bell #341481

Location Photos

Front Entryway, 1st floor

Office 001, 1st floor

Lobby, 1st floor

Office 002, 1st floor

Vault, 1st floor

Rear Entryway , 1st floor

Men's Room, 1st floor

Women's Room, 1st floor

Drive Through Window Teller Area, 1st floor

Storage Room, 1st floor

Bank Teller Area, 1st floor

Bank Teller Area, 1st floor

Closet, 1st floor

Breakroom, 1st floor

Mechanical Room 1, 1st floor

Stairwell, 1st floor

Common Area, 2nd Floor

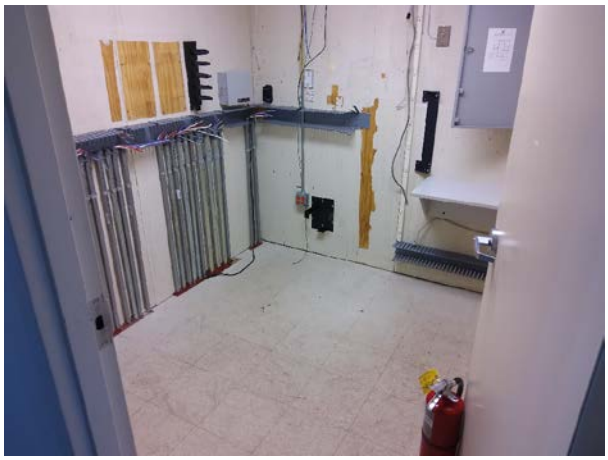
Mechanical Room 2, 2nd Floor

Office 003, 2nd Floor

Office 004, 2nd Floor

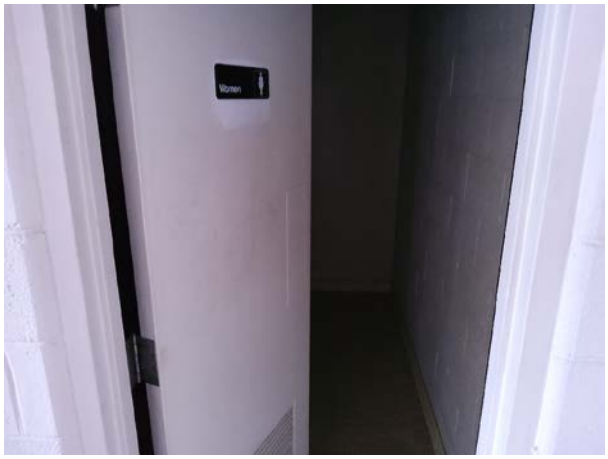
Office 005, 2nd Floor

Office 006, 2nd Floor



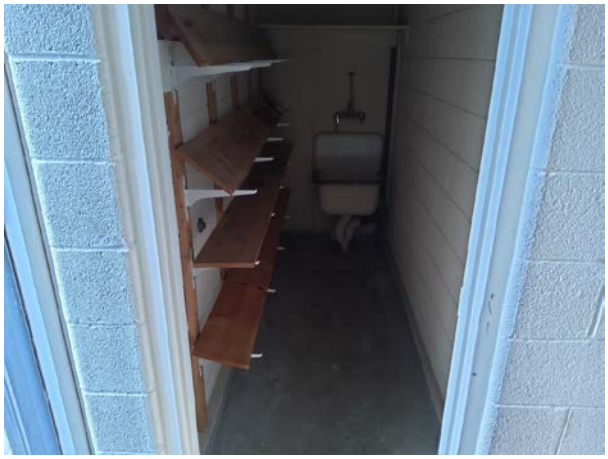
Mechanical Room 3, 2nd Floor

Mechanical Room 4, 2nd Floor

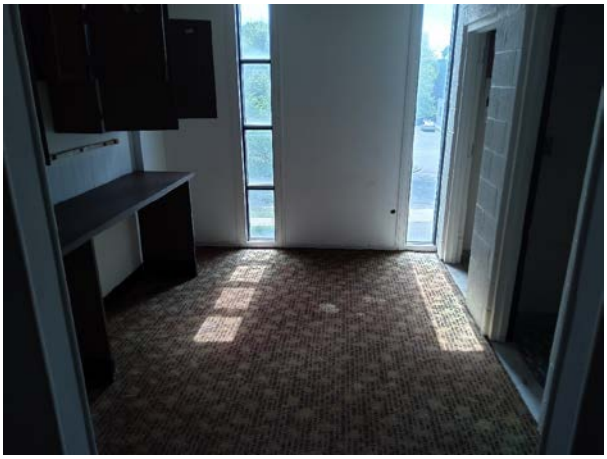


Women's Room 2, 2nd Floor

Men's Room 2, 2nd Floor



Janitor Closet, 2nd Floor



Breakroom 2, 2nd Floor

Roof

Roof

Asbestos-Containing Material (Greater Than 1%) Sample Photos

11-031, 032, 033 - White Gaskets, Rope

12-034, 035, 036 - 12"x12" White Floor Tile and Black Mastic

27-083, 084, 085 - Gray Transite Panel

APPENDIX E – OSHA ABATEMENT PROCEDURES

Subpart Z—Toxic and Hazardous Substances

AUTHORITY: Sec. 107, Contract Work Hours and Safety Standards Act (40 U.S.C. 333); Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order Nos. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), or 6–96 (62 FR 111), as applicable; 29 CFR part 1911.
Section 1926.1102 not issued under 29 U.S.C. 655 or 29 CFR part 1911; also issued under 5 U.S.C. 553.
SOURCE: 58 FR 35190, June 30, 1993, unless otherwise noted.

§ 1926.1100 [Reserved]

§ 1926.1101 Asbestos.

(5) *Specific control methods for Class I work.* In addition, Class I asbestos work shall be performed using one or more of the following control methods pursuant to the limitations stated below:
(i) Negative Pressure Enclosure (NPE) systems: NPE systems may be used where the configuration of the work area does not make the erection of the enclosure infeasible, with the following specifications and work practices.
(A) *Specifications:*
(*1*) The negative pressure enclosure (NPE) may be of any configuration,
(*2*) At least 4 air changes per hour shall be maintained in the NPE,
(*3*) A minimum of ´0.02 column inches of water pressure differential, relative to outside pressure, shall be maintained within the NPE as evidenced by manometric measurements,
(*4*) The NPE shall be kept under negative pressure throughout the period of its use, and
(*5*) Air movement shall be directed away from employees performing asbestos work within the enclosure, and toward a HEPA filtration or a collection device.
(B) *Work Practices:*
(*1*) Before beginning work within the enclosure and at the beginning of each shift, the NPE shall be inspected for breaches and smoke-tested for leaks, and any leaks sealed.
(*2*) Electrical circuits in the enclosure shall be deactivated, unless equipped with ground-fault circuit interrupters.
(ii) Glove bag systems may be used to remove PACM and/or ACM from straight runs of piping and elbows and other connections with the following specifications and work practices:
(A) *Specifications:*
(*1*) Glovebags shall be made of 6 mil thick plastic and shall be seamless at the bottom.
(*2*) Glovebags used on elbows and other connections must be designed for that purpose and used without modifications.
(B) *Work Practices:*
(*1*) Each glovebag shall be installed so that it completely covers the circumference of pipe or other structure where the work is to be done.
(*2*) Glovebags shall be smoke-tested for leaks and any leaks sealed prior to use.
(*3*) Glovebags may be used only once and may not be moved.
(*4*) Glovebags shall not be used on surfaces whose temperature exceeds 150 °F.
(*5*) Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum.
(*6*) Before beginning the operation, loose and friable material adjacent to the glovebag/box operation shall be wrapped and sealed in two layers of six mil plastic or otherwise rendered intact,
(*7*) Where system uses attached waste bag, such bag shall be connected to collection bag using hose or other material which shall withstand pressure of ACM waste and water without losing its integrity:
(*8*) Sliding valve or other device shall separate waste bag from hose to ensure no exposure when waste bag is disconnected:
(*9*) At least two persons shall perform Class I glovebag removal operations.
(iii) *Negative Pressure Glove Bag Systems.*
Negative pressure glove bag systems may be used to remove ACM or PACM from piping.
(A) *Specifications:* In addition to specifications for glove bag systems above, negative pressure glove bag systems shall attach HEPA vacuum systems or other devices to bag to prevent collapse during removal.
(B) *Work Practices:* (*1*) The employer shall comply with the work practices for glove bag systems in paragraph (g)(5)(ii)(B)(*4*) of this section.
(*2*) The HEPA vacuum cleaner or other device used to prevent collapse of bag during removal shall run continually during the operation until it is completed at which time the bag shall be collapsed prior to removal of the bag from the pipe.
(*3*) Where a separate waste bag is used along with a collection bag and discarded after one use, the collection bag may be reused if rinsed clean with amended water before reuse.
(iv) Negative Pressure Glove Box Systems: Negative pressure glove boxes may be used to remove ACM or PACM from pipe runs with the following specifications and work practices.
(A) *Specifications:*
(*1*) Glove boxes shall be constructed with rigid sides and made from metal or other material which can withstand the weight of the ACM and PACM and water used during removal:
(*2*) A negative pressure generator shall be used to create negative pressure in the system:
(*3*) An air filtration unit shall be attached to the box:
(*4*) The box shall be fitted with gloved apertures:
(*5*) An aperture at the base of the box shall serve as a bagging outlet for waste ACM and water:
(*6*) A back-up generator shall be present on site:
(*7*) Waste bags shall consist of 6 mil thick plastic double-bagged before they are filled or plastic thicker than 6 mil.
(B) *Work practices:*
(*1*) At least two persons shall perform the removal:
(*2*) The box shall be smoke-tested for leaks and any leaks sealed prior to each use.
(*3*) Loose or damaged ACM adjacent to the box shall be wrapped and sealed in two layers of 6 mil plastic prior to the job, or otherwise made intact prior to the job.
(*4*) A HEPA filtration system shall be used to maintain pressure barrier in box.
(v) *Water Spray Process System.* A water spray process system may be used for removal of ACM and PACM from cold line piping if, employees carrying out such process have completed a 40-hour separate training course in its use, in addition to training required for employees performing Class I work. The system shall meet the following specifications and shall be performed by employees using the following work practices.
(A) *Specifications:*
(*1*) Piping shall be surrounded on 3 sides by rigid framing,
(*2*) A 360 degree water spray, delivered through nozzles supplied by a high pressure separate water line, shall be formed around the piping.
(*3*) The spray shall collide to form a fine aerosol which provides a liquid barrier between workers and the ACM and PACM.
(B) *Work Practices:*
(*1*) The system shall be run for at least 10 minutes before removal begins.
(*2*) All removal shall take place within the water barrier.
(*3*) The system shall be operated by

at least three persons, one of whom shall not perform removal, but shall check equipment, and ensure proper operation of the system.
(*4*) After removal, the ACM and PACM shall be bagged while still inside the water barrier.
(vi) A small walk-in enclosure which accommodates no more than two persons
(mini-enclosure) may be used if the disturbance or removal can be completely
contained by the enclosure with the following specifications and work practices.
(A) *Specifications:*
(*1*) The fabricated or job-made enclosure shall be constructed of 6 mil plastic or equivalent:
(*2*) The enclosure shall be placed under negative pressure by means of a HEPA filtered vacuum or similar ventilation
unit:
(B) *Work practices:*
(*1*) Before use, the mini-enclosure shall be inspected for leaks and smoketested
to detect breaches, and any breaches sealed.
(*2*) Before reuse, the interior shall be completely washed with amended water and HEPA-vacuumed..
(*3*) During use, air movement shall be directed away from the employee's breathing zone within the mini-enclosure.
(6) *Alternative control methods for Class I work.* Class I work may be performed using a control method which is not referenced in paragraph (g)(5) of this section, or which modifies a control method referenced in paragraph (g)(5)of this section, if the following provisions are complied with:
(i) The control method shall enclose, contain or isolate the processes or source of airborne asbestos dust, or otherwise capture or redirect such dust before it enters the breathing zone of employees.
(ii) A certified industrial hygienist or licensed professional engineer who is also qualified as a project designer as defined in paragraph (b) of this section, shall evaluate the work area, the projected
work practices and the engineering controls and shall certify in writing that the planned control method is adequate to reduce direct and indirect employee exposure to below the PELs under worst-case conditions of use, and that the planned control method will prevent asbestos contamination outside the regulated area, as measured by clearance sampling which meets the requirements
of EPA's Asbestos in Schools rule issued under AHERA, or perimeter monitoring which meets the criteria in paragraph (g)(4)(ii)(B) of this section.
(A) Where the TSI or surfacing material to be removed is 25 linear or 10 square feet or less , the evaluation required
in paragraph (g)(6) of this section may be performed by a ''competent person'', and may omit consideration of perimeter or clearance monitoring otherwise required.
(B) The evaluation of employee exposure
required in paragraph (g)(6) of this section, shall include and be based on sampling and analytical data representing
employee exposure during the use of such method under worstcase conditions and by employees whose training and experience are equivalent to employees who are to perform the current job.
(iii) Before work which involves the removal of more than 25 linear or 10 square feet of thermal system insulation or surfacing material is begun
using an alternative method which has been the subject of a paragraph (g)(6) of this section required evaluation and certification, the employer shall send a copy of such evaluation and certification to the national office of OSHA, Office of Technical Support, Room N3653, 200 Constitution Avenue, NW, Washington, DC 20210. The submission shall not constitute approval by OSHA.
(7) Work Practices and Engineering Controls for Class II work.
(i) All Class II work shall be supervised by a competent person as defined in paragraph (b) of this section.
(ii) For all indoor Class II jobs, where the employer has not produced a negative
exposure assessment pursuant to paragraph (f)(2)(iii) of this section, or where during the job, changed conditions
indicate there may be exposure above the PEL or where the employer does not remove the ACM in a substantially
intact state, the employer shall use one of the following methods to ensure
that airborne asbestos does not migrate from the regulated area;
(A) Critical barriers shall be placed over all openings to the regulated area; or,
(B) The employer shall use another barrier or isolation method which prevents
the migration of airborne asbestos from the regulated area, as verified by perimeter area monitoring or clearance monitoring which meets the criteria set out in paragraph (g)(4)(ii)(B) of this section.
(C) Impermeable dropcloths shall be placed on surfaces beneath all removal activity;
(iii) [Reserved]
(iv) All Class II asbestos work shall be performed using the work practices and requirements set out above in paragraph (g)(1) (i) through (g)(1)(iii) of this section.
(8) *Additional Controls for Class II work.* Class II asbestos work shall also be performed by complying with the work practices and controls designated for each type of asbestos work to be performed, set out in this paragraph. Where more than one control method may be used for a type of asbestos work, the employer may choose one or a combination of designated control methods. Class II work also may be performed using a method allowed for Class I work, except that glove bags and glove boxes are allowed if they fully enclose the Class II material to be removed.
(i) For removing vinyl and asphalt flooring materials which contain ACM or for which in buildings constructed no later than 1980, the employer has not verified the absence of ACM pursuant
to paragraph (g)(8)(i)(I) of this section. The employer shall ensure that employees comply with the following work practices and that employees are trained in these practices pursuant to paragraph (k)(9):
(A) Flooring or its backing shall not be sanded.
(B) Vacuums equipped with HEPA filter,
disposable dust bag, and metal floor tool (no brush) shall be used to clean floors.
(C) Resilient sheeting shall be removed by cutting with wetting of the snip point and wetting during delamination. Rip-up of resilient sheet floor material is prohibited.
(D) All scraping of residual adhesive and/or backing shall be performed using wet methods.
(E) Dry sweeping is prohibited.
(F) Mechanical chipping is prohibited unless performed in a negative pressure enclosure which meets the requirements of paragraph (g)(5)(i) of this section.
(G) Tiles shall be removed intact, unless the employer demonstrates that intact removal is not possible.
(H) When tiles are heated and can be removed intact, wetting may be omitted.
(I) Resilient flooring material including associated mastic and backing
shall be assumed to be asbestos-containing
unless an industrial hygienist

determines that it is asbestos-free using recognized analytical techniques.
(ii) For removing roofing material which contains ACM the employer shall ensure that the following work practices are followed:
(A) Roofing material shall be removed in an intact state to the extent feasible.
(B) Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards.
(C) Cutting machines shall be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety.
(D) When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation shall be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along the cut line. The dust and debris shall be immediately bagged or placed in covered containers.
(E) Asbestos-containing material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist:
(*1*) Any ACM that is not intact shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. While the material remains on the roof it shall either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.
(*2*) Intact ACM shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift.
(F) Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust.
(G) Roof level heating and ventilation air intake sources shall be isolated or the ventilation system shall be shut down.
(H) Notwithstanding any other provision of this section, removal or repair of sections of intact roofing less than 25 square feet in area does not require use of wet methods or HEPA vacuuming as long as manual methods which do not render the material nonintact are used to remove the material and no visible dust is created by the removal method used. In determining whether a job involves less than 25 square feet, the employer shall include all removal and repair work performed on the same roof on the same day.
(iii) When removing cementitious asbestos-containing siding and shingles or transite panels containing ACM on building exteriors (other than roofs, where paragraph (g)(8)(ii) of this section applies) the employer shall ensure that the following work practices are followed:
(A) Cutting, abrading or breaking siding, shingles, or transite panels, shall be prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release cannot be used.
(B) Each panel or shingle shall be sprayed with amended water prior to removal.
(C) Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.
(D) Nails shall be cut with flat, sharp instruments.
(iv) When removing gaskets containing ACM, the employer shall ensure that the following work practices are followed:
(A) If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag as described in paragraph (g)(5)(ii) of this section.
(B) [Reserved]
(C) The gasket shall be immediately placed in a disposal container.
(D) Any scraping to remove residue must be performed wet.
(v) When performing any other Class II removal of asbestos containing material for which specific controls have not been listed in paragraph (g)(8)(iv) (A) through (D) of this section, the employer shall ensure that the following work practices are complied with.
(A) The material shall be thoroughly wetted with amended water prior to and during its removal.
(B) The material shall be removed in an intact state unless the employer demonstrates that intact removal is not possible.
(C) Cutting, abrading or breaking the material shall be prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release are not feasible.
(D) Asbestos-containing material removed, shall be immediately bagged or wrapped, or kept wetted until transferred to a closed receptacle, no later than the end of the work shift.
(vi) *Alternative Work Practices and Controls.* Instead of the work practices and controls listed in paragraph (g)(8)(i) through (v) of this section, the employer may use different or modified engineering and work practice controls if the following provisions are complied with.
(A) The employer shall demonstrate by data representing employee exposure during the use of such method under conditions which closely resemble the conditions under which the method is to be used, that employee exposure will not exceed the PELs under any anticipated circumstances.
(B) A competent person shall evaluate the work area, the projected work practices and the engineering controls, and shall certify in writing, that the different or modified controls are adequate to reduce direct and indirect employee exposure to below the PELs under all expected conditions of use and that the method meets the requirements of this standard. The evaluation shall include and be based on data representing employee exposure during the use of such method under conditions which closely resemble the conditions under which the method is to be used for the current job, and by employees whose training and experience are equivalent to employees who are to perform the current job.
(9) *Work Practices and Engineering Controls for Class III asbestos work.* Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees.
(i) The work shall be performed using wet methods.
(ii) To the extent feasible, the work

shall be performed using local exhaust ventilation.
(iii) Where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of thermal system insulation or surfacing material, the employer shall use impermeable dropcloths, and shall isolate the operation using mini-enclosures or glove bag systems pursuant to paragraph (g)(5) of this section or another isolation method.
(iv) Where the employer does not produce a ''negative exposure assessment'' for a job, or where monitoring results show the PEL has been exceeded, the employer shall contain the area using impermeable dropcloths and plastic barriers or their equivalent, or shall isolate the operation using a control system listed in and in compliance with paragraph (g)(5) of this section.
(v) Employees performing Class III jobs, which involve the disturbance of thermal system insulation or surfacing material, or where the employer does not produce a ''negative exposure assessment'' or where monitoring results show a PEL has been exceeded, shall wear respirators which are selected, used and fitted pursuant to provisions of paragraph (h) of this section.
(10) *Class IV asbestos work.* Class IV asbestos jobs shall be conducted by employees trained pursuant to the asbestos awareness training program set out in paragraph (k)(9) of this section. In addition, all Class IV jobs shall be conducted in conformity with the requirements set out in paragraph (g)(1) of this section, mandating wet methods, HEPA vacuums, and prompt clean up of debris containing ACM or PACM.
(i) Employees cleaning up debris and waste in a regulated area where respirators are required shall wear respirators which are selected, used and fitted pursuant to provisions of paragraph (h) of this section.
(ii) Employers of employees who clean up waste and debris in, and employers in control of, areas where friable thermal system insulation or surfacing material is accessible, shall assume that such waste and debris contain asbestos.
(11) *Alternative methods of compliance for installation, removal, repair, and maintenance of certain roofing and pipeline coating materials.* Notwithstanding any other provision of this section, an employer who complies with all provisions of this paragraph (g)(11) when installing, removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds shall be deemed to be in compliance with this section. If an employer does not comply with all provisions of this paragraph (g)(11) or if during the course of the job the material does not remain intact, the provisions of paragraph (g)(8) of this section apply instead of this paragraph (g)(11).
(i) Before work begins and as needed during the job, a competent person who is capable of identifying asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate such hazards, shall conduct an inspection of the worksite and determine that the roofing material is intact and will likely remain intact.
(ii) All employees performing work covered by this paragraph (g)(11) shall be trained in a training program that meets the requirements of paragraph (k)(9)(viii) of this section.
(iii) The material shall not be sanded, abraded, or ground. Manual methods which do not render the material non-intact shall be used.
(iv) Material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist. All such material shall be removed from the roof as soon as is practicable, but in any event no later than the end of the work shift.
(v) Where roofing products which have been labeled as containing asbestos pursuant to paragraph (k)(8) of this section are installed on non-residential roofs during operations covered by this paragraph (g)(11), the employer shall notify the building owner of the presence and location of such materials no later than the end of the job.
(vi) All removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.
(h) *Respiratory protection.* (1) *General.* For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this paragraph. Respirators must be used during:
(i) Class I asbestos work.
(ii) Class II asbestos work when ACM is not removed in a substantially intact state.