ASBESTOS INSPECTION

Former Michiana Lock & Key 306 W. Monroe Street South Bend, Indiana

Project No. 2011-5041

June 27, 2011

Prepared For:

City of South Bend
Department of Economic Development
County-City Building, Suite 1200
227 W. Jefferson Boulevard
South Bend, Indiana 46601

Prepared By:

Wightman Petrie 412 S. Lafayette Blvd. South Bend, Indiana 46601



ASBESTOS INSPECTION PRIOR TO DEMOLITION REPORT OF FINDINGS

June 27, 2011

Report For: City of South Bend

Department of Economic Development County-City Building, Suite 1200

227 W. Jefferson Blvd. South Bend, Indiana 46601

Subject Site Address: Former Michiana Lock & Key

306 W. Monroe Street South Bend, Indiana

Date of Inspection: June 9, 2011

Date of Laboratory Report of Analysis: June 10, 2011

SITE DESCRIPTION

The subject site consists of three (3) adjoining land parcels identified as 306 W. Monroe Street, 501 S. Lafayette Blvd. and 503 ½ Lafayette Blvd. The 306 W. Monroe Street parcel (Parcel #71-08-12-304-002.000-026) consists of approximately 0.03-acres that has been developed with a two story, wood-frame structure (each level of approximately 780 sq. ft.), and a full basement (brick and block foundation, 780 sq. ft.), constructed in 1909. The structure originally served as a residential dwelling; however, since the late 1960s/early 1970s has operated as a locksmith (with retail sales of locks and locking mechanisms). Mechanical systems were located in the basement and consisted of a former coal fired boiler system that had been converted to natural gas and gas fired hot water heater (recently replaced). The exterior of the dwelling was aluminum siding over a wooden framing and tar paper, with portions of the main level also being side by side vertical wooden planking. Interior construction consisted of resilient floor tile, lath and plaster wall construction, and lay-in and nail up acoustical tile. The structure is currently and has been historically connected to the City of South Bend municipal water and sanitary sewer system.



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Thomas A. Deneau, PE MS

The 501 S. Lafayette Blvd. parcel (Parcel #71-08-12-304-003.000-026), consists of approximately 0.05-acres of land serving as a gravel parking area for Michiana Lock & Key operations. The 503 ½ Lafayette Blvd. parcel (Parcel 71-08-12-304-004.000-026), consists of approximately 0.18-acres of land that also serves as a gravel parking lot for Michiana Lock & Key, extending to the grass covered area behind the adjacent Zion Hill Baptist Church. There are no existing structures on either the 501 or 503 ½ Lafayette Blvd. parcels.

SUMMARY OF INSPECTION RESULTS

The following materials were deemed by laboratory analysis to be Non-Asbestos Containing Building Materials (Non-Detect (ND) for the presence of asbestos):

Sample No.	ID No.	Homogeneous Area Description, Sample Description
306MON -1	1106055	Dark grey, friable flaky material, tar paper covering brick foundation
306MON -2	1106056	Brown fibrous material, Non-friable, sheet floor covering, basement landing
306MON -6	1106060	Brown fibrous material, friable, Masonite pegboard walls in retail area
306MON -7	1106061	Brown pliable material, non-friable, vinyl sheet flooring, main retail area
306MON -8	1106062	Yellow fibrous material, friable, acoustical ceiling tile, main retail area
306MON -9	1106063	Red/Brown pliable material, non-friable, vinyl sheet flooring, upstairs landing
306MON -9	1106063A	Clear adhesive material on Red/Brown vinyl sheet flooring, upstairs landing
306MON -10	1106064	Brown fibrous material, friable, attic ceiling paper
306MON -11	1106065	Tan pliable material, non-friable sheet flooring, upstairs bathroom
306MON -11	1106065A	Clear adhesive material on Tan pliable flooring of upstairs bathroom
306MON -12	1106066	White flakey material, friable, plaster skimcoat, stairwell to attic
306MON -13	1106067	White grainy material, friable plaster basecoat, stairwell to attic

The following materials were deemed by the analytical laboratory to contain asbestos:

Sample No.	ID No.	Homogeneous Area Description, Sample Description	Category (I or II) ¹	Area/Volume ² , % Asbestos
306MON-3	1106057	White fibrous, TSI -	N/A (friable	Chrysotile 36%
		basement air cell	TSI)	10 square feet
306MON-4	1106058	Brown fibrous TSI	N/A (friable	Chrysotile 31%
2001/1011	1100030	Octagon furnace wrap	TSI)	100 square feet
306MON-5	1106059	White fibrous, TSI -	N/A (friable	Chrysotile 38%
300111011-3	1100037	basement duct wrap	TSI)	32 square feet

¹ Category I material is defined as asbestos-containing resilient floor covering, asphalt roofing products, packings and gaskets. Asbestos-containing mastic is also considered a Category I material (EPA determination - April 9, 1991). Category II material is defined as all remaining types of non-friable ACM not included in Category I that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable asbestos-cement products such as transite are an example of Category II material.

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² De minimis amounts which trigger the "notification-only" requirements of paragraphs 40 CFR 61.145 (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) are: RACM Less than 260 linear feet on pipes and less than 160 square feet on other facility components (and less than 35 cubic feet of facility components where the length or area could not be measured previously or there is no asbestos). Indiana requires use of a licensed contractor for removal of friable (or potentially friable) asbestoscontaining materials (ACM) when quantities exceed 3.0 linear feet for Thermal System Insulation (TSI)-wrapped duct, or 3.0 square feet of ACM, or 0.75 cubic feet of ACM.

Wightman Petrie did not sample the asphalt roof shingles, as a safety precaution given the height and condition of the structure. The asphalt shingles should be assumed positive as Category I Non-Friable ACM.

CONCLUSIONS AND RECOMMENDATIONS

Wightman Petrie was retained by the City of South Bend to perform an asbestos inspection prior to the demolition of the Michiana Lock & Key facility, which was originally constructed as a residential dwelling, and subsequently converted in the late 1960s/early 1970s to a locksmith and retail lock sales operation, continuing through current date. The facility is located at 306 W. Monroe Street, South Bend, Indiana. It has been confirmed that Asbestos-Containing Material (ACM) is present in the structure to be demolished (Thermal System Insulation), and that asbestos is present in the material in a quantity greater than 1%, the established Action Level by the State of Indiana.

For a municipality ordering the demolition of a building (where the order is issued because the facility is structurally unsound and in danger of imminent collapse), the requirements of federal environmental regulation (40 CFR, Part 61, National Emission Standards For Hazardous Air Pollutants, Subpart M, National Emission Standard for Asbestos, Section 61.145, Standard for Demolition and Renovation) apply as follows:

Notification is required. Notification to the Indiana Department of Environmental Management (IDEM) is accomplished by submitting Form 44593 (IDEM Notification of Demolition and Renovation Operations). A copy of Form 44593 is included with this report. The report must be filed with the IDEM Office of Air Quality (OAQ) Compliance Branch:

IDEM, OAQ Compliance Branch 100 N. Senate Ave. Mail Code 61-53 IGCN 1003 Indianapolis, IN 46204-2251

Form 44593 may be submitted by fax to 317-233-6865. IDEM's contact for these notices is Mr. John Clevenger, Environmental Manager. His telephone number is 317-233-6880. His e-mail address is jcleveng@idem.in.gov.

The notice should be delivered in accordance with 40 CFR 61.145(b)(3)(iii):

- (3) Postmark or deliver the notice as follows:
 - (iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

A licensed contractor is required to remove Thermal System Insulation prior to any demolition activity. Licensed contractors must follow the procedures as described in 61.145(c), Procedures for asbestos emission control, beginning with subsection (4):

(4) After a facility component covered with, coated with, or containing RACM³ has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section⁴, it shall be

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June 2011

³ Regulated asbestos-containing material (RACM) means

stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

- (i) Adequately wet the RACM during stripping; or
- (ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in 61.152.
- (5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:
 - (i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.
 - (ii) The component is encased in a leak-tight wrapping.
 - (iii) The leak-tight wrapping is labeled according to 61.149 (d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.
- (6) For all RACM, including material that has been removed or stripped:
 - (i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with 61.150; and
 - (ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.
 - (iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.
 - (iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(3) of this section need not be wetted.
- (7) When the temperature at the point of wetting is below 0 °C (32 °F):
 - (i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.
 - (ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.
 - (iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.
- (8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures,

(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 regulated by this subpart.

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June 2011 4

⁽a) Friable asbestos material,

^{4 (}c)(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections: (i) Adequately wet all RACM exposed during cutting or disjoining operations; and (ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section⁵, adequately wet the portion of the facility that contains RACM during the wrecking operation.

Disposal requirements for asbestos. Disposal of asbestos from demolition sites is regulated by 40 CFR 61.150 (Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations). The text of Section 150 follows:

Each owner or operator of any source covered under the provisions of 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

- (a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.
 - (1) Adequately wet asbestos-containing waste material as follows:
 - (i) Mix control device asbestos waste to form a slurry; adequately wet other asbestoscontaining waste material; and
 - (ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and
 - (iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and
 - (iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001 (j)(2) or 1926.58 (k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.
 - (v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.
 - (2) Process asbestos-containing waste material into non-friable forms as follows:
 - (i) Form all asbestos-containing waste material into non-friable pellets or other shapes:
 - (ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by 61.152 to clean emissions containing particulate asbestos material before they escape to, or is vented to, the outside air.
 - (3) For facilities demolished where the RACM is not removed prior to demolition according to 61.145 (c)(1) (i), (ii), (iii), and (iv) or for facilities demolished according to 61.145 (c)(9), adequately wet asbestos containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.
 - (4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in 61.149 (c)(2).



June 2011 5

⁵ (a)(3) refers to emergency demolitions ordered by municipalities.

- (5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I non-friable ACM waste and Category II non-friable ACM waste that did not become crumbled, pulverized, or reduced to powder.
- (b) All asbestos-containing waste material shall be deposited as soon as is practical by the waste generator at:
 - (1) A waste disposal site operated in accordance with the provisions of 61.154, or
 - (2) An EPA-approved site that converts RACM and asbestos-containing waste material into non-asbestos (asbestos-free) material according to the provisions of 61.155.
 - (3) The requirements of paragraph (b) of this section do not apply to Category I non-friable ACM that is not RACM.
- (c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of 61.149 (d)(1) (i), (ii), and (iii).
- (d) For all asbestos-containing waste material transported off the facility site:
 - (1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:
 - (i) The name, address, and telephone number of the waste generator.
 - (ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
 - (iii) The approximate quantity in cubic meters (cubic yards).
 - (iv) The name and telephone number of the disposal site operator.
 - (v) The name and physical site location of the disposal site.
 - (vi) The date transported.
 - (vii) The name, address, and telephone number of the transporter(s).
 - (viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.
 - (2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.
 - (3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.
 - (4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:
 - (i) A copy of the waste shipment record for which a confirmation of delivery was not received, and
 - (ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
 - (5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.
- (e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.



1.0 BACKGROUND

Wightman Petrie was retained by the City of South Bend to perform an asbestos survey within the former Michiana Lock & Key facility as part of the proposed re-development and capital improvements project. The subject site, located at 306 W. Monroe Street, was acquired by the City of South Bend for demolition and subsequent re-development as a paved parking area in support of ongoing operations at Coveleski Stadium. Wightman Petrie conducted such asbestos survey on June 9, 2011.

The investigator and inspector responsible for this project is Conley Phifer, who holds a license issued by the State of Indiana, Department of Environmental Management.

License No:

19A002353

Profession:

Asbestos

License Type:

Asbestos Inspector

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Obtained By Method: Application

Issue Date:

August 16, 2010

Expiration Date:

August 16, 2011

License Status:

Active

2.0 FIELD PROCEDURES AND ANALYSIS METHODOLOGY

Guidelines used for the inspection were based on those established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, DOC #560/5-85-024 and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA), and by 40 CFR, § 61.145 (National Emission Standard for Hazardous Air Pollutants, Asbestos, Standard for Demolition and Renovation).

Field information was organized as per the AHERA concept of Homogeneous Area (HA). An HA is defined as a suspect material of similar age, appearance, function and texture. Each material represents a specific HA, sampled and then assessed for condition. Bulk samples of suspect ACM were analyzed by Polarized Light Microscopy (PLM) with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M.

3.0 SCOPE OF WORK

The entire dwelling including areas both interior and exterior were inspected for ACM. The inspection was characterized by a close visual inspection of all accessible areas.

Materials examined included:

- 1. Surfacing Materials (ceilings, interior and exterior walls and their backing materials, roofing materials)
- 2. Thermal Insulating Materials
- 3. Miscellaneous Materials (for friability)



4.0 SUMMARY OF FILE SEARCH

As the structure has clearly been used as a residence and locksmith operation since initial construction in 1909 (as opposed to manufacturing or commercial use), and the entire structure is to be demolished, no document search was conducted.

5.0 INSPECTION RESULTS

The asbestos inspection involved a thorough visual examination of all areas and sampling of suspect materials. ACM Engineering and Environmental Services, certified by the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101977), performed analysis of bulk samples collected during the inspection using Polarized Light Microscopy (PLM) and the central stop dispersion testing method. The results are summarized on the first and second pages of this report.

6.0 ASBESTOS QUANTITY SCHEDULE

Results of the survey and subsequent analysis of bulk samples by the laboratory indicate that Asbestos-Containing Material (ACM) is present in the structure to be demolished (Thermal System Insulation), and that asbestos (31% to 38% Chyrsotile) is present in the materials in a quantity greater than 1%, the established Action Level by the State of Indiana. The material has been identified as approximately 142 square feet of octagon furnace wrap, duct wrap, and air cell material between the rafters in the basement.

7.0 AREAS NOT ACCESSIBLE

Wightman Petrie inspected and sampled materials which were observable and accessible to the survey team. Suspect ACMs that have not been sampled and tested and found negative for asbestos (if any) must be assumed ACM until and unless they are tested.

The term "suspect ACM" would include materials discovered in the course of demolition which only become visible during demolition. One example is Thermal System Insulation (TSI) which may be found on vertical duct runs through walls or beneath the existing foundation. These TSI materials may become visible only after the wall or foundation has been demolished. If such materials are discovered during demolition, demolition should be halted immediately, and we should be contacted so that we may sample the suspect ACM in question. Only after laboratory analysis has been conducted on these samples and reported to you should regulatory-appropriate demolition continue.

Similarly, for reasons of safety, the roofing materials have been assumed to be non-friable asbestos material (Category 1).



8.0 REPORT CERTIFICATION

Wightman Petrie certifies that the information contained herein is based on the physical and visual inspections conducted by Conley Phifer of Wightman Petrie, Inc. and data collected during the inspection survey.

Conley B. Phifer III

Environmental Department Manager

Asbestos License 19A002353

LIST OF ATTACHMENTS:

A – Analytical Datasheets/Chain of Custody

B – IDEM Form 44593

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ANALYSIS OF SUSPECT ASBESTOS CONTAINING BUILDING MATERIALS

FOR:

WIGHTMAN PETRIE INC. 412 S. LAFAYETTE BLVD SOUTH BEND, IN 46601

LOCATION:

MICHIANA LOCK AND KEY 306 WEST MONROE

ACM ENGINEERING & ENVIRONMENTAL SERVICES PROJECT#: 17681

DATE OF REPORT:

JUNE 10, 2011

PREPARED BY:

ACM ENGINEERING & ENVIRONMENTAL SERVICES
26598 U.S. 20 WEST
SOUTH BEND, IN 46628

NVLAP LAB CODE: 101977

INTRODUCTION:

In June 2011, ACM Engineering & Environmental Services received bulk samples of suspect asbestos containing building material from Wightman Petrie Inc.. These are to be analyzed by ACM Engineering & Environmental Services for possible asbestos content.

THE REPORT:

The attached report quantifies the fibrous materials found in each sample submitted for analysis. A complete fibrous analysis of samples is given for each sample followed by a breakdown analysis of any sub-samples for heterogeneous material.

The first column is the client sample identification.

The second column is the laboratory sample number. The laboratory number for the overall sample analysis is a digit number. The laboratory number followed by a letter designation (A,B,C. etc.) indicates a sub-sample analysis.

The third column is the sample identification, which indicates whether the sample is homogeneous or heterogeneous, the color of the sample, and the physical description (cementitious, fibrous, cloth, etc.)

The fourth column indicates the types and percentages of asbestos identified in the sample or sub-sample.

The fifth column indicates the types and percentages of non-asbestos identified in the sample or sub-sample.

The sixth column indicates the types and percentages of non-asbestos, non-fibrous material in the sample or sub-sample.

The seventh column indicates the types and percentages of non-asbestos fibrous material in the sample or sub-sample. Fibrous material will not necessarily total 100% of the sample.

There will be dashes (----) in each column when nothing is detected.

METHOD:

All analyses and quantifications are performed in accordance with the U.S. Environmental Protection Agency's "Method for the Determination of Asbestos in Bulk Building Materials", EPA/600/R-93/116.

The method utilizes stereoscopical examination of the bulk samples, as well as utilizing the polarized light microscope and the central stop dispersion staining method.

If applicable, please be advised that the Stereo Scope/PLM methods have limitations regarding floor tile analysis for asbestos content. Historically, the production of floor tile has included the grinding of asbestos into submicroscopic portions. Therefore, this method of analysis may produce incorrect results for tests of floor tile which produce negative finding for asbestos.

PAGE 2

Gross samples are examined under a 10X or 20X stereoscope where homogeneity (need for sub-samples), texture and /or any other distinguishing characteristics are determined.

Sub-samples are prepared if needed. Any fibrous material is mounted in high dispersion oil for further microscope examination utilizing polarized light microscopy. Any possible asbestos fibers are analyzed for morphology, color and pleochroism, index of refraction parallel and perpendicular to elongation, birefringence, extinction characteristic and sign of elongation, and any other distinguishing characteristics observed.

To determine the refractive index, the central stop dispersion staining method is used, as well as matching with refractive index oil and using light matching the sodium D line wavelength. Identification of non-asbestos species is less rigorous, as they are of secondary interest.

The percentage of asbestos and other fibrous materials are then determined according to sample area coverage and thickness. The limit of qualification is one percent (1%). The above is recorded on the laboratory analysis sheet and maintained for three years.

The error involved for reported percentages of fibrous is 100% error for 1% to 5%, 50% error for 5% to 20%, and 25% error for 20% to 100%. All percentages will be reported in a range indicating error or a single value, in which case the above error should be applied. When the value 1% or greater is reported this indicates asbestos is present in the sample.

ASBESTOS CHARACTERIZATION:

The features of the various forms of asbestos are as follows:

CHRYSOTILE: Thin fibers and fiber bundles with both straight and wavy sections. The ends of bundles tend to be frayed. Sign of elongation is positive, refractive indices are 1.493-1.560 (alpha) and 1.668-1.717 (gamma), and birefringence of 0.009-0.016. It is commonly referred to as white asbestos.

AMOSITE: Straight thin single fibers and bundles of such fibers usually with cleanly broken ends on individual fibers, positive sign of elongation, refractive indices of 1.653-1.696 (alpha) and 1.655-1.729 (gamma), and birefringence of 0.020-0.033. Fibers exhibit parallel extinction.

CROCIDOLITE: Similar in morphology to amosite, but is distinguished by negative sign of elongation, blue to blue-green pleochroic coloration, refractive indices of 1.654-1.701 (alpha) and 1.668-1.717 (gamma), and birefringence of 0.009-0.016. It is commonly referred to as blue asbestos.

ANTHOPHYLITE: Similar in morphology to amosite, but has refractive indices of 1.596-1.652 (alpha) and 1.615-1.676 (gamma), anthophylite fibers show parallel extinction and positive sign of elongation.

PAGE 3

TREMOLITE/ACTINOLITE SERIES:

Transparent, elongated furrowed prisms, usually with uneven, jagged ends and smooth sides, with oblique (0-20 degree) to parallel extinction and positive elongation; refractive indices are 1.599-1.668 (alpha) and 1.622-1.688 (gamma) and birefringence is 0.020-0.028.

SAMPLE RETENTION:

Samples will be retained for 6 months unless otherwise instructed. After this period, the sample(s) will be disposed of appropriately. Upon written request, the samples will be returned by mail or delivery for a nominal fee to cover postage and handling. There would be no charge for samples picked-up at ACM Engineering & Environmental Services.

DISCUSSION AND RECOMMENDATIONS:

In order to reduce the risk of introducing asbestos fibers into the air, care should be taken not to disturb the asbestos containing building materials. If renovation, demolition or other activities might disturb known asbestos containing building materials, a reputable asbestos consultant should be contacted to help effectively design and implement an asbestos management program.

Report prepared by:

Patrick T. Griffin

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ACM Engineering & Environmental Services President/CEO

Analysis of Suspect Asbestos Containing Building Materials

CLIENT:

WIGHTMAN PETRIE INC

412 S LAFAYETTE BLVD

SOUTH BEND, IN 46601

ANALYTICAL METHOD: EPA/600/R-93/116

NVLAP LAB CODE #: 101977

CLIENT PROJECT:

MICHIANA LOCK AND KEY

MATRIX: BULK

DATE OF SAMPLE:

06/09/11

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DATE OF ANALYSIS: 06/10/11

SAMPLE SITE:

306 MONROE

ACM PROJECT #:

17681

CLIENT SAMPLE	LAB SAMPLE				NON FIB	FIB NON
NUMBER	NUMBER	SAMPLE IDENTIFICATION	ASBEST	CELL	ACBM	ACBM
306MON-1	1106055	GREY FLAKY MATERIAL			100%	
306MON-2	1106056	BROWN FIBROUS MATERIAL		62%	38%	
306MON-3	1106057	WHITE FIBROUS MATERIAL	36% C	60%	4%	
306MON-4	1106058	BROWN FIBROUS MATERIAL	31% C	64%	5%	
306MON-5	1106059	WHITE FIBROUS MATERIAL	38% C	57%	5%	
306MON-6	1106060	BROWN FIBROUS MATERIAL		91%	9%	
306MON-7	1106061	BROWN PLIABLE MATERIAL			100%	
306MON-8	1106062	YELLOW FIBROUS MATERIAL			16%	84% G
306MON-9	1106063	RED/BROWN PLIABLE MATERIAL			100%	
306MON-9	1106063A	CLEAR ADHESIVE MATERIAL			100%	
306MON-10	1106064	BROWN FIBROUS MATERIAL		94%	6%	
306MON-11	1106065	TAN PLIABLE MATERIAL			100%	
306MON-11	1106065A	CLEAR ADHESIVE MATERIAL			100%	
306MON-12	1106066	WHITE FLAKY MATERIAL			100%	
306MON-13	1106067	WHITE GRAINY MATERIAL			100%	No. 40 No. 44

ACM RECOMMENDS POINT COUNTING ANALYSIS ON ALL BULK SAMPLES

WITH LESS THAN 10% (< 10%) ASBESTOS CONTENT

MICROSCOPIST:

DATE: (0/10/1)

Analysis of Suspect Asbestos Containing Materials

ACM ENGINEERING & ENVIRONMENTAL SERVICES PROJECT NO.: 17681

DESCRIPTION OF ANY PROBLEMS ENCOUNTERED IN THE SAMPLE ANALYSIS: None

COMPONENTS DESCRIPTION:

ASBESTOS MATERIALS

ACBM = ASBESTOS CONTAINING BUILDING MATERIAL

C = CHRYSOTILE

A = AMOSITE

CR = CROCIDOLITE
AN = ANTHOPHYLITE

AC = ACTINOLITE T = TREMOLITE

---- = NO ASBESTOS DETECTED

NON-ASBESTOS MATERIALS

CELL = CELLULOSE

G = FIBROUS GLASS

M = MINERAL WOOL

S = SYNTHETICS

H = HAIR

CO = COTTON

O = OTHER

CF = CERAMIC FIBERS

M = MICA

NON-FIB NON-ACM = NON FIBROUS NON ACBM

FIB NON ACM = FIBROUS NON ACBM

NOTES:

FIBROUS QUANTITIES DO NOT NECESSARILY ADD UP TO 100%, REMAINING QUANTITIES ARE COMPOSED OF NON-FIBROUS ROCKS, BINDERS AND MISC. MATERIALS.

THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT ENDORSEMENT BY NVLAP OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT RELATES ONLY TO THE ITEMS ABOVE.

THIS TEST REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN CONSENT OF ACM ENGINEERING & ENVIRONMENTAL SERVICES.

ACM ENGINEERING & ENVIRONMENTAL SERVICES DOES NOT DEVIATE FROM THE TEST METHOD DESCRIBED IN THIS REPORT.

ACM Engineering & Environmental Services, Inc.

ACM Project #

Sampling - Chain-of-Custody - Analysis Request Form

Suspect Asbestos Containing Building Material

26598 US 20 West

South Bend, Indiana 46628 Phone (574) 234-8435

Fax (574) 234-6800

Client: Mightman Petrele

Billing Address: 412 5. LAFAYETTE

Billing City, State, Zip: South Denis IN Report Results To: CONEY PhIFER

Sampled By: CBP Sampling Date: 6 9 111

Site Location: Michiana Lock & KEN Address: 300 W. Monzos

Type of Project: Democifical

ACCREDITED LABORATORY

Requested Turn Around Time:

2011-5041 Reference Number:

	Communa True			
Identification	(Bulk, Wipe, Other)	Sample Description	Sample Location	Requested Analysis;
306 MON-1	Buck	BARK GRAY, FRIABLE, TAR PAPER BOUERING OF BRICK TOUNDATION FIREBLE	EAST SIDE BRICK FUEDO	monucinis / Comments
300 Man-2	Buck	GREEN/BROWN, MON-FRIABLE Sheet Floor COVERING	Bass	
306 Mon-3	BULK	VENTILATION BOARD, FIBROUS	DASE MENT	
306 Mon-4	Buck	FIBROUS FURNAME WRAD FIBROUS FRIABLE BROWN	DASS MENT	
306 Mars	Bay	DUCT WAYSON	JA SS MS LE	
300 Mar 6	Back	MASON IZ BEGBOARD	MAIN (EUST, WALL PAIS)	
306 Mon-7	BULK	Sheet Flooring	MAIN LEUZEL	
306 Mon-8	Buck	White/Couden MARKOUS FRIABLE	- MAIN LEVEL	
300 Mon9	Buch	RED NON-FRIABLE SHEET FlOORING	- N	The second secon
306 Men-10	Buck	BROWN, Fibrews, FRIABLE PAPER	ATTIC CEILING TAPEZ	THE TABLE AND ADDRESS OF THE TABLE AND ADDRESS
306 Mon-11	Buck	Light Brown, Non-FRIABLE SKEET	Upstairs BATHROOM Floor	
306 Mon-12 Buck	Back	TAN/WILLS PLASTER SKIMCOAT	STAIR WELL TO ATTIC	
Submitted by: (sign) Luty	Contrac		Date Submitted: 6/8///	
Received by: (sign) Chustua (Kthya	Quettine 1	Who (print) Justino Ni Fora	Date and time received: $6/9/1$	
	,	_		

am/pm to_

Time: From

Date: 06/10/1

(For lab use only) Samples processed by:

Suspect Asbestos Containing Building Material ACM Engineering & Environmental Services, Inc.

ACM Project#

Sampling - Chain-of-Custody - Analysis Request Form

26598 US 20 West

South Bend, Indiana 46628 Phone (574) 234-8435

Fax (574) 234-6800

Billing Address: 412 S. CAFAYETTE WIGHTMAN PETRIE Client:

Billing City, State, Zip: South Ben

PhiFER _Sampled By: _ Contey 9 Report Results To: Sampling Date: 6

AIHA Environmental Microbiology ACCREDITED LABORATORY CBF

Site Location: Michiana Lock & Key

306 W. Monras Address:

DEMOLITION

Requested Turn Around Time:

Type of Project:

Reference Number: 2011-5041

Sample Identification	Sample Type (Bulk, Wipe, Other)	Sample Description	Sample Location	Requested Analysis; Instructions / Comments
306 Mm-13	Buck	WhITE GRAINY, FRIABLE PLASTER DASS CORT	STAIRWEI TO ATTIC	

	7,77			

				deformer returnable processor returns to the contract of the c
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				Williams and the second
				demonstratus de servicios de la companya de la comp
Submitted by: (sign)	(Inty of	The (print) Conley PhiFed	Date Submitted: 49/1/	
Received by: (sign)	flustina (Gold Migring Westing Witson	Date and time received:	
(a of 140 use office) samples processed by:	es processed by:		Time: From	am/pm to (\(\sigma\) am/pm-

IDEM Form 44593

Indiana Department of Environmental Management GUIDANCE FOR PREPARING ASBESTOS DEMOLITION/RENOVATION NOTIFICATIONS

**Per Indiana Rule 326 IAC 14-10-3(1), all notifications to the IDEM must be submitted on State Form Number 44593.

Per 326 IAC 14-10-5, demolition/renovation fees will be assessed quarterly to owners/ Operators submitting notifications during the previous quarter.

I. Type of Notification -326 IAC 14-10-3(4).

- A. If this is the <u>original notice</u>, please check the appropriate space on the notification form.
- B. If this is a <u>revised notice</u>, please check the appropriate space on the notification form. The revised notice must be postmarked and sent by certified mail, return receipt requested, at least 5 working days or delivered at least 2 working days before the start date of asbestos stripping or removal specified in: (1) the notice being revised <u>and</u> (2) the new revised notice. Facsimiles <u>will</u> be accepted by the IDEM.
- C. All revisions must include a copy of the notice being revised.
- D. If this is a <u>canceled notice</u>, please check the appropriate space on the notification form.
- E. Courtesy Notification

II. Facility Information - 326 IAC 14-10-3(3)(B) and (R)

- A. Either the owner or operator must submit the notice.
- B. The owner means the individual(s) who own the property or lease the property.
- C. The operator means the asbestos removal contractor or demolition contractor.
- D. Specify the name, address, telephone number, Indiana license number and license expiration date, of the:
 - 1. asbestos removal contractor,
 - 2. inspector who conducted the assessment prior to demolition or renovation and
 - 3. project designer required or asbestos projects at schools K-12, or if project designer is used for non-school projects must be licensed.

III. Type of Operation - 326-IAC 14-10-3(3)(C), (O) and (S)

- A. Refer to the definitions of demolition, renovation, and emergency renovation Operation in 326-IAC 14-10-2.
- B. Ordered demolitions and emergency renovation operations have additional

- Notification requirements. Owner/operator must also complete Section XV or XVI of notification form.
- C. Demolition by intentional burning must comply with an approved Variance from Opening Burning Regulation 326IAC 4-1.

IV. Is Asbestos Present? - Required by Federal 40 CFR Part 61, Subpart M

- A. If asbestos is present, indicate "yes" in the space provided.
- B. If asbestos is not present, indicate "no".

V. <u>Procedures, Including Analytical Methods, if appropriate, Used to Detect the Presence and Amount of Asbestos Material - 326 IAC 14-10-3(3)(E).</u>

Describe how the asbestos was detected and, if samples were analyzed, specify the amount of friable asbestos visually during a walk-through inspections using a tape measure, blueprints, or pacing. Analytical methods could include the collection of samples and sample analyses by a polarized light microscope with dispersion staining.

For samples that test under 10% asbestos content: An owner or operator may (1) elect to assume material to be greater than 1% asbestos, or, (2) require verification by point counting in which the point counting result will supercede the visual estimation. Either choice and result should be stated on the notice when a sample is under 10% asbestos.

VI. Approximate Amount of Asbestos to be Removed - 326 IAC 14-10-3(3)(F)

- A. Specify the amount of regulated (friable) asbestos-containing material to be removed as follows:
 - 1. linear feet on pipes,
 - 2. square feet (surface area) on the facility components, and
 - 3. total cubic feet (volume) on or off all facility components. (All reported regulated amounts must be converted to cubic feet).
- B. Estimate the approximate amount of Category I and Category II non-friable asbestos-containing material in the affected part of the facility that will be removed before demolition.
- C. Estimate the approximate amount of Category I and Category II non-friable asbestos-containing material in the affected part of the facility that will not be removed before demolition.

VII. Scheduled Dates of Asbestos Stripping/Removal - 326 IAC 14-10-3(3)(H)

This means the actual start and end dates of the asbestos stripping or removal.

VIII. Scheduled Dates of Asbestos Stripping/Removal - 326 IAC 14-10-3(3)(H)

This means the starting and ending dates of the total demolition or renovation operation. For example: A renovation project may be scheduled from February 1 through March 15, 1995, however, the actual asbestos removal will occur from February 15, through 20, 1995. Demolition <u>must</u> start on date given in most recent notification.

IX Facility Description - 326 IAC 14-10-3(3)(D) and (G)

Include the building name, floor and number of the room(s) where the asbestos stripping or removal will take place. Provide enough detail that an unfamiliar inspector can find the asbestos project without asking anyone.

X. <u>Description of planned Demolition or Renovation Work, Methods/Techniques to be Used, and Affected Facility Components - 326 IAC 14-10-3(3)(K)</u>

Briefly describe the methods to be used to conduct the demolition or renovation. For renovations, these methods may include gross removal, glove bag removal, hand stripping or scraping. For demolitions, methods may include a wrecking Ball, bulldozer, dynamite, or unbolting panels or sections and carefully lowering to the ground. Affected facility components may include pipe wrap, floor tile, sprayed-on insulation, transite, etc.

- XI. <u>Description of Work Practices and Engineering Controls To Be Used To Prevent Emissions of Asbestos At the Site, Including Asbestos Stripping, Removal, and Waste Handling Procedures and the Procedures to Prevent Non-Friable Asbestos Material from Becoming Friable in the Course of the Project 326 IAC 14-10-3(3)(L)</u>
 - A. Examples of work practices and engineering controls to prevent asbestos emissions at the site would include: the use of water or wetting agents, containments, and negative air units during removal; placing into leak-tight containers or wrapping with six (6) mil thick polyethylene plastic sheeting which is properly labeled prior to disposal, etc.
 - B. Examples of removal and waste handling procedures to prevent non-friable material from becoming friable would include: removing by sections or units taking care not to crumble, pulverize, or reduce to power, using water to prevent any emissions, placing into leak-tight containers or wrapping with six (6) mil thick plastic which is properly labeled prior to disposal (including name or waste generator and location at which the waste was generated), etc.
- XII.** Description of Procedures to be Followed in the Event that Unexpected Asbestos is Found or Previously Non-Friable Asbestos Material Becomes Crumbled, Pulverized or Reduced to Powder 326 IAC 18-3 and 326 IAC 14-10-3(3)(M).
 - A. If the amount of unexpected asbestos or previously non-friable asbestos material is > 3 LnFt on pipes, 3 SqFt on other facility components, or a total of 0.75 CuFt on or off all facility components, then an accredited contractor (unless in-house accredited

personnel) with accredited personnel must implement the asbestos removal project in accordance with the requirements of 326 IAC 14-10.

- B. Pursuant to 326 IAC 14-10, a revised demolition/renovation notification must be submitted to the IDEM, which reflects the change in the amount of affected asbestoscontaining material. The revised notice must also reflect the new asbestos removal start date, if applicable.
- ** Required by 40 CFR Part 61, Subpart M

XIII. Waste Transporter - 326 IAC 14-10-3(3)(T)

Provide the name, address and telephone number of only the asbestos waste transporter. This should include the waste transporter's name, street address, city, state, zip code, contact person, and telephone number.

XIV. Waste Disposal site - 326 IAC 14-10-3(3)(N)

Provide the name and location of the sanitary landfill where the asbestos-containing waste material will be deposited. This should include the name, street address, city, state, zip code, waste disposal site contact person, and telephone number.

XV. <u>If Demolition Ordered by a Governmental Agency, Identify the Agency and Attach a Copy of the Order - 326 IAC 14-10-3(3)(O)</u>

- A. Provide the name, title and authority of the of the state or local governmental representative who has ordered the demolition.
- B. The authority is the applicable state or local regulation under which the demolition order has been issued.
- C. Attach a copy of the demolition order to the notice.

XVI. Emergency Renovations - 326 IAC 14-10-3(3)(S)

- A. Specify
 - 1. the date and hour that the emergency occurred,
 - 2. a description of the sudden unexpected event, and
 - 3. an explanation of how the event has caused emergency conditions
- B. An "emergency renovation operation" is a renovation operation that was not planned but results from a sudden, unexpected event. This term includes operations necessitated by non-routine failures of equipment.

XVII. <u>Certification Statement and Signature by Owner/Operator - 326 IAC 14-10-3(3)(O) and (P)</u>

Self-explanatory.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT NOTIFICATION OF DEMOLITION AND RENOVATION OPERATIONS

State From 44593 (R2 / 8-99)

1.	TYPE OF NOT	IFICATION (check one):	Original * Must incl	Revised *ude copy of notification whi	Canceled	Courtesy			
II.	FACILITY INF	ORMATION (identify owner,	removal contractor, demolitic	on contractor, inspector, and	project designer)				
13	Owner:								
	Address:								
	City:		Zip:						
	Contact:			Telephone #					
	Removal Contractor:_			Demolition					
				1					
		State:		1	State:				
	Contact:		Phone:		Phone:				
	IN License #		Expiration:						
				(Required for asbesto	s projects at schools K –	12)			
	Inspector:			Project Designer:					
				Address:					
	City:	State:	Zip:	1	State:				
	IN License #:		Expiration:	1	Expiratio				
	Phone:			Phone:					
III.		RATION (check one) ntentional Burning:	Renovation: Demolition:		Emergency Renovation:				
IV.		PRESENT? (check one)	YES:	NO:	Ordered Demolition:				
V.	PROCEDURES	, INCLUDING ANALYTICAL M	ETHODS, IF APPROPRIATE.	USED TO DETECT THE PRI	ESENCE AND AMOUNT OF A	SBESTOS MATERIAL			
	APPROXIMATE AMOUNT OF ASSESTED (Including Devil 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2								
VI.	APPROXIMATE AMOUNT OF ASBESTOS (Including Regulated ACM, Category I non-friable Category II non-friable ACM)								
	Regulated Non-friable Asbestos Material Non-friable Asbestos Material Not to be removed before demolition								
			Category I	Category II	Category I	Category II			
Pipes (I									
	Area (SqFt)								
	omponents								
VII.	SCHEDULED DA	ATES OF ASBESTOS STRIPP	ING/REMOVAL: Start		End:				
VIII.	SCHEDULED DATES OF RENOVATION: Start: End: DEMOLITION: Start: End:								
IX.	FACILITY DESCRIPTION (Including building name, floor, and room number)								
	Building Name:								
		ss:							
				State:	County:				
	Location of re	moval within building:							
	Building Size	(SqFt):			# of Floors:	Age:			
	Present Use:			Prio	or use:				

X.	DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, METHODS/TECHNIQUES TO BE USED, AFFECTED FACILITY COMPONENTS AND TYPE OF MATERIALS REMOVED							
								
XI.	DESCRIPTION OF WORK PF INCLUDING ASBESTOS STR BECOMING FRIABLE IN THE	RIPPING, REMOVAL AN	D WASTE HANDLING	TO BE USE PROCED	D TO PREVENT EMIS URES TO PREVENT I	SSIONS OF A NON-FRIABL	ASBESTOS AT THI E ASBESTOS MAT	E SITE; FERIAL FROM
								-
	-							
								The National State of the Section 2 and 2
XII.	DESCRIPTION OF PROCEDUM MATERIAL BECOMES CRUM	JRES TO BE FOLLOWE IBLED, PULVERIZED, C	ED IN THE EVENT THA OR REDUCED POWDE	T UNEXPE ER:	CTED ASBESTOS IS	FOUND OR I	PREVIOUSLY NON	I-FRIABLE ASBESTOS
								•
XIII.	WASTE TRANSPORTER			XIV.	WASTE DISPOSAL	SITE		
	Name:				Name:			•
	Address:				Address:			
	City:	State:	Zip:		City:	Sta	te:	Zip:
	Contact:	Phone:			Contact:			
XV.	IF DEMOLITION ORDERED B FACILITY IS NOT INSPECTED DEMOLITION OR ASSUME A	D PRIOR TO DEMOLITI	ON THE DERRIS MIL	ST RE KED	T ADECITATELY WE	T THE DEDI	DIC MILET THEM DIC	E INCOCOTED AFTED
	Name:		Title:			_ Date or	dered to begin:	
	Authority:					_ Date of	Order:	
XVI.	FOR EMERGENCY RENOVA	TIONS:			Date and time of eme	ergency:		
	Description of sudden, unexpe	cted event:						
	Explanation of how the event of	aused unsafe conditions	s or would cause equip	ment dama	ge:	-		
				0				
XVII.	I HEREBY CERTIFY THAT THE SUPERVISORS, TO IMPLEME INDIANAPOLIS AIR POLLUTIC WAS ACCOMPLISHED SHALI	NT THIS ASBESTOS PF ON CONTROL BOARD F	ROJECT, WHICH HAVE REGULATION 14 THE	BEENTRA	INED IN 326IAC 14-10	· AOCED DAE	TE4 CHIDDADTM	AND ICADDITIONER
	Owner/operator (signature)				date			
	Owner/operator (printed)				affiliation			
*****	*********	*******	***** OFFICEUSEO	NLY ****	******	*****	*******	*******
POSTM	ARK:	RECEIVED:		REVIEV	VED BY:		DEFICIENCIE	
			page	2 of 2				