



Industrial Hygiene and
Safety Technology, Inc.

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Leaders in
Quality, Service
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Report of
**Comprehensive
Asbestos Survey**

Prepared for:
City of Fort Worth
1000 Throckmorton
Fort Worth, TX 76102

Building Surveyed:
Oak Hollow Office
5901 Boca Raton
Fort Worth, TX 76112
(Oak Hollow Office)

Report Date:
Monday, July 09, 2007

Comprehensive Asbestos Survey

Oak Hollow Office
5901 Boca Raton
Fort Worth, TX 76112
(Oak Hollow Office)

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1.0 Introduction

This document is a report of a Comprehensive Asbestos Survey performed by Industrial Hygiene and Safety Technology, Inc. (IHST). IHST is licensed by the Texas Department of State Health Services (DSHS), formerly the Texas Department of Health, as an Asbestos Consultant Agency (DSHS License #10-0145). Figure 1 provides a description of the assessment described by this report.

Figure 1. Comprehensive Asbestos Survey Profile

Client Name: City of Fort Worth
Facility/Campus: Oak Hollow Office
Building: *Oak Hollow Office*
5901 Boca Raton
Fort Worth, TX 76112
Survey Date(s): 7/3/2007
Inspector(s): Doug Easley - DSHS Asbestos Inspector License #60-2207

2.0 Purpose and Scope

The purpose of this project was to locate, identify, and assess the condition of asbestos containing material (ACM) present at the subject building, and to develop recommendations based on existing and potential asbestos related hazards. The following scope of work was used during the asbestos assessment for the subject property:

- A. Collecting and analyzing bulk samples of suspected asbestos-containing materials.
- B. Quantification of the suspected asbestos-containing material.
- C. Approximate costs of abatement, to include abatement specifications, contractor selection, and on-site management during remediation activities.
- D. Provide an approximate time schedule for abatement procedures.
- E. Make recommendations based on survey data collected to implement an Operation and Maintenance (O&M) Program or abatement procedures.
- F. Preparing a report discussing the findings and remedial recommendations.

3.0 Report Organization

This report is divided into sections which discuss the review of available documentation, field investigation, laboratory analysis, hazard assessments, and recommendations. Illustrations, such as tables and figures follow the text. Other supporting documentation, such as laboratory reports are also included.

4.0 Field Investigation

The survey was conducted to determine the amount of asbestos-containing materials present in the subject building. The survey included an observation of accessible areas and unusual conditions; and bulk sampling of suspected asbestos-containing materials. Bulk samples were collected of suspect materials and analyzed by Polarized Light Microscopy (PLM) with dispersion staining, in accordance with the Environmental Protection Agency's (EPA) Method for the Determination of Asbestos in Bulk Insulation Samples (Method 600/R-93/116). Percentage estimates are based on the analyst's best

judgment following PLM/DS and examination with a stereoscope. Laboratory reports containing sample location and results are included with this report.

The survey was designed to identify the presence of both friable and non-friable asbestos-containing materials present in the surveyed area. Friable means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Building materials suspected of containing asbestos were grouped into "Homogeneous" sampling areas. The homogeneous areas were defined based on uniform texture, color, and appearance. Additionally, homogeneous areas were further defined based on building construction date(s). Each of the items sampled were classified into one of three categories:

- 1.) Surfacing Material: A surfacing material is a building material which has been applied to a surface (i.e., walls or ceilings) or structural members. Examples of surfacing materials which may contain asbestos are: spray-applied fireproofing, spray-applied acoustical texture, and trowel-applied textured ceilings and walls.
- 2.) Thermal System Insulation: All types of insulation used on a building's mechanical system are classified into the category of thermal system insulation. Examples of thermal system materials which may contain asbestos are: boilers and related piping, or duct insulation.
- 3.) Miscellaneous: All remaining materials which do not fall into the two above categories are placed in the miscellaneous category. Examples of miscellaneous materials which may contain asbestos are: lay-in ceiling tile, floor tile, mastic adhesives and roofing felt.

An assessment was conducted for each building material sampled. The physical assessment consists of evaluating the condition of the suspect material and the potential for future disturbance. Recommendations made for a building material which contains asbestos are based on the assessments made by the inspector during the survey. The data developed during the asbestos survey is presented in the following sections of this report.

Table 1 contains the Summary of Bulk Sample Analysis and Assessment and Table 2 contains the Cost Estimate Summary. Both tables present specific locations, results of additional asbestos analysis, time schedules, and quantities of asbestos. These cost estimates are based on IHST's experience and commercial estimates used by local abatement contractors. However, it should be noted that the cost estimates are not based on a written set of specifications or a confirmed scope of work, which can affect the final contract cost.

5.0 Sampling

Sampling during the field investigation included the collection of bulk samples of suspected asbestos containing materials, as listed in Table 1., Summary of Bulk Sample Analysis and Assessment. After sample recovery, samples were placed in secure containers, and the sampling vicinity was cleaned and sealed. Appropriate chain-of-custody protocols were initiated at that time to track handling of bulk samples.

5.1 Laboratory Analysis

The samples were transported to and analyzed by the analytical laboratory specified in Figure 2., a successful participant in the Department of Commerce, National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program and licensed by the Texas Department of State Health Services (DSHS), formerly the Texas Department of Health. Ten percent (10%) of the bulk samples were reanalyzed independently as part of the quality assurance and quality control programs.

Figure 2. Bulk Sample Laboratory Profile

Laboratory Name: Steve Moody Micro Services
DSHS License Number: #30-0084
NVLAP Lab ID: #102056 **Expires:** 5/31/2009

5.2 Analytical Methods

Bulk samples were analyzed by Polarized Light Microscopy (PLM). This technique characterizes the materials refractive indices, fiber morphology, birefringence, extinction angle, sign of elongation, and dispersion staining colors to detect asbestos. Percentage estimates are based on approximate area compositions under a stereo-microscope.

5.3 Bulk Sample Results

The results of the sample analysis are presented in Table 1, and the laboratory analysis report is included as Appendix B.

Figure 3. Materials with Asbestos Detected at 1% or Greater

Mat'l Type	Description	Location
▪ Sheetrock	Ceiling Texture (White, Popcorn)	Office #1, Upstairs Open Area, Next to Fire Place Lounge
▪ Sheetrock	Sheetrock (White) and Joint Compound	Upstairs Open Area, Office #3, Foyer
▪ Flooring Mats	9" x 9" Floor Tile with Mastic	Kitchen
▪ Sheetrock	Ceiling Texture (Beige, Popcorn)	Work Room, Sauna
▪ Sheetrock	Sheetrock and Joint Compound, Beige Walls	Work Room, Storage Room

Figure 4. Materials with NO Asbestos Detected (Pursuant to EPA and DSHS Definition)

Mat'l Type	Description	Location
▪ Flooring Mats	12" x 12" Floor Tile (Green and White) with Mastic (Yellow)	Work Room, Kitchen



6.0 Hazard Assessment

Asbestos is an airborne hazard. A hazard assessment refers to the process by which we evaluate a material's potential to release fibers into the air. Fibers may be released spontaneously as part of the aging process, or as a result of sudden impact, vibration, air movement, or localized deterioration. Assessing a material's potential for fiber release, and hence its associated hazard, is based upon evaluating the material's condition and potential for further disturbance, damage, or deterioration.

6.1 Hazard Assessment Rankings

Any material identified as asbestos containing that exhibits damage, should be considered a hazard to anyone who works in the area. Typically, damage is classified as minor or significant. Minor damage is characterized by small cuts, tears, scuffs, small openings, or other limited disturbance to asbestos containing materials. Areas with minor damage represent varying degrees of hazards from slight to high depending on:

- * The nature of the damage;
- * Proximity to disturbers, such as airstreams;
- * Location with respect to building occupants;
- * Activity in the immediate area; and
- * Frequency of maintenance in the area.

Significant damage is characterized by large openings, visible flaking, loose particles, and debris on surfaces below the material. Asbestos containing materials which exhibit significant damage are either high or critical hazards, depending upon accessibility. High hazards exist where significantly damaged materials are generally inaccessible; however, where significant damage is accessible, or in the vicinity of building occupants, there is a critical hazard. The recommended action for addressing asbestos related hazards depends upon the degree of hazard. For example:

- * An immediate hazard or critical assessment describes a situation in which the material is exposed and friable, accessible to personnel, and is disturbed releasing fibers in the air. In this situation, immediate action should be taken. At a minimum, the area should be isolated and access restricted.

- * A high assessment describes a situation in which the material is in poor condition, exposed and friable, with a potential for disturbance. In this case, interim controls should be instituted, and the material should be removed when practical. Repairs should be made to the ACM if abatement is not scheduled.

- * A medium or moderate assessment describes a situation in which a combination of the determining factors vary, such as a material that is in good condition but has a high asbestos content and is generally accessible. In situations like this, abatement can be scheduled with future building renovation or maintenance.

- * A low or slight assessment describes a situation in which the material is in good condition and has a low potential for disturbance, damage, or deterioration. In this situation, an O&M program is usually all that is needed.

In general, those areas that are classified as critical or high damage should be abated. These are areas where a high probability of exposure could occur. Moderately damaged areas would require an Operations and Maintenance (O&M) Program to be instituted. In addition, these areas should be considered for abatement, or at the very least repaired.

6.2 Asbestos-Containing Material Assessments

Figure 5 provides a summary of the asbestos identified during the survey, along with a hazard assessment for each type and condition of asbestos-containing material.

Figure 5. Hazard Assessments for Asbestos-Containing Materials

Flooring Materials

Condition: Good, Friability: NF I, Disturbance Potential: Low

The floor tile and mastic in good condition presents a low potential health hazard to building occupants due to its observed good condition and intact binding matrices. Prior to building demolition, renovation or work activities that would disturb these materials, removal must be performed by a properly trained and TDSHS-licensed abatement contractor. Prior to building demolition, removal of any damaged or significantly damaged floor tile and linoleum flooring should be performed by a properly trained and state-licensed abatement contractor.

Currently, National Emission Standards for Hazard Air Pollutants (NESHAP) regulations allow Category I non-friable asbestos floor tile, sheet flooring and mastic in good condition, to be left in place during structural building demolition. Buildings subject to NESHAP regulations, require that wet demolition work be conducted with no visible emissions, and the presence of a "Competent Person" trained under the provisions of NESHAP to supervise the demolition work.

The asbestos-containing materials should be placed in a management program and monitored until renovation or demolition activity occurs.

The preceding hazard assessment applies to the asbestos-containing materials listed below:

Area Ref#	Homogeneous Area Description	Quantity	Location
■ 04	9" x 9" Floor Tile with Mastic	80 s.f.	Kitchen

Sheetrock Wall or Ceiling Covering

Condition: Good, Friability: NF II, Disturbance Potential: Low

Sheetrock wall and ceiling covering in good condition presents a low potential health hazard to building occupants due to its observed good condition and intact binding matrices. Prior to building demolition, renovation or work activities that would disturb these materials, removal must be performed by a properly trained and licensed abatement contractor.

The preceding hazard assessment applies to the asbestos-containing materials listed below:

Area Ref#	Homogeneous Area Description	Quantity	Location
■ 01	Ceiling Texture (White, Popcorn)	1803 s.f.	Office #1, Upstairs Open Area, Next to Fire Place Lounge
■ 02	Sheetrock (White) and Joint Compound	5628 s.f.	Upstairs Open Area, Office #3, Foyer
■ 05	Ceiling Texture (Beige, Popcorn)	200 s.f.	Work Room, Sauna
■ 06	Sheetrock and Joint Compound, Beige Walls	1152 s.f.	Work Room, Storage Room

7.0 Hazard Assessment Summary

In the event other building materials are discovered in addition to the materials sampled in this survey, those building materials should be presumed to contain asbestos and treated as such until proven otherwise by PLM laboratory analysis.

7.1 Response Actions

Popcorn ceiling and sheetrock joint compound

The popcorn ceiling and sheetrock joint compound should be placed into an operations and maintenance program and managed appropriately until such time that renovation or demolition plans call for removal by a Texas licensed asbestos abatement contractor.

7.2 Explanation of Response Ratings

Table 1 includes a response rating based on factors such as friability, accessibility, potential for disturbance, etc. Definitions for the response ratings are listed below:

0 = Material does not contain detectable amounts of asbestos and requires no asbestos-related abatement action.

1 = Material contains asbestos, was non-friable, and requires no abatement action unless sanded, abraded, drilled or otherwise disturbed.

2 = Material contains asbestos and was friable. Damage was not observed; no immediate abatement action is required.

3 = Material contains asbestos, was friable, and shows signs of localized damage with a potential for disturbance.

4 = Material contains friable asbestos and was significantly damaged.

8.0 Qualifications

Industrial Hygiene and Safety Technology, Inc. has attempted to observe the existing conditions within the aforementioned building utilizing generally accepted procedures. Regardless of the thoroughness of a survey, the possibility exists that some areas containing asbestos were overlooked, inaccessible or different from those at specific locations. Furthermore, renovation and/or construction may reveal altered conditions.

This report describes only the conditions present at the time of the survey, in the areas surveyed. The recommendations presented apply to the conditions that were observed during the survey. IHST policies are to not perform destructive sampling unless previously authorized by the client. Therefore, IHST does not perform core sampling of roofing materials unless previously authorized and accompanied by the owner and/or his representative. Other conditions may exist in unsurveyed or inaccessible areas such as behind walls and above permanent ceilings. In addition, the conditions of asbestos-containing materials may change gradually or suddenly depending upon use, maintenance or accident. As a result, the recommendations presented should be periodically reviewed and updated.

The quantity estimates presented in this report were based upon observations during the survey as well as information from building plans provided by the owner. While it is believed that the estimated quantities are reasonable, unanticipated conditions could be present in inaccessible or unsurveyed areas. Industrial Hygiene & Safety Technology, Inc. do not warrant or guarantee the quantity estimates. The use of such estimates shall be at the user's own risk and shall constitute a release and agreement to defend and indemnify Industrial Hygiene & Safety Technology, Inc. from and against any liability.

If you have any questions or comments regarding the content of this report, I would be glad to discuss them at your convenience.

Sincerely,



Doug Easley DSHS Asbestos Inspector License #60-2207



Tracy K. Bramlett

President

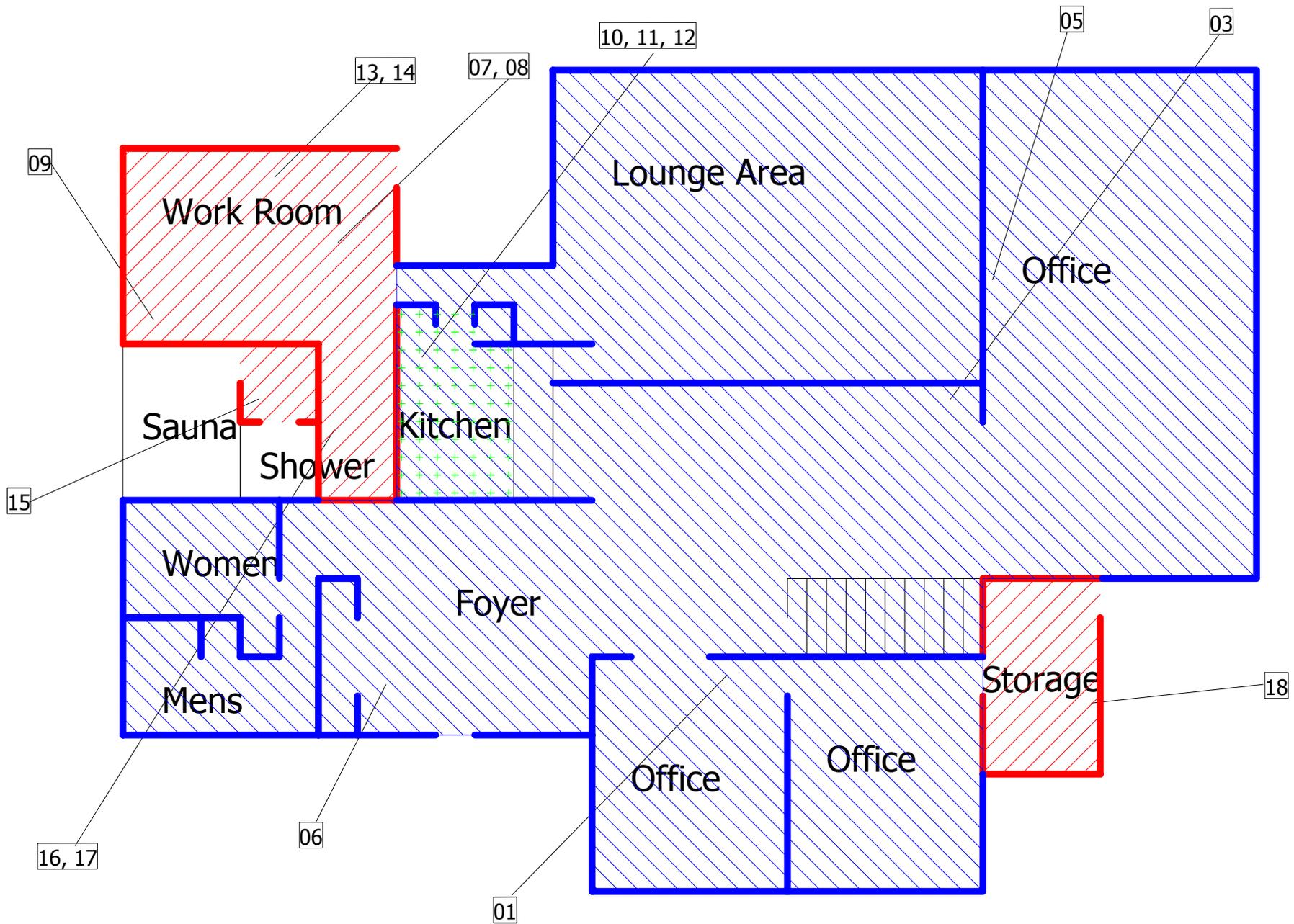
DSHS Individual Asbestos Consultant License #10-5040



Appendix:

Appendix A: Site Drawings





- Beige Sheetrock walls with joint compound
- Beige Sheetrock ceiling with joint compound
- White Sheetrock walls with joint compound
- White Popcorn ceiling
- 9x9 Floortile

City of Fort Worth Oak Hollow Office, 5901 Boca Raton Fort Worth, Texas	
Asbestos Removal Specification	
Project # 17617	Drawing #1
Not To Scale	
Drawn by: AHG	Date: 07/09/07
Revised by:	Date:

Downstairs

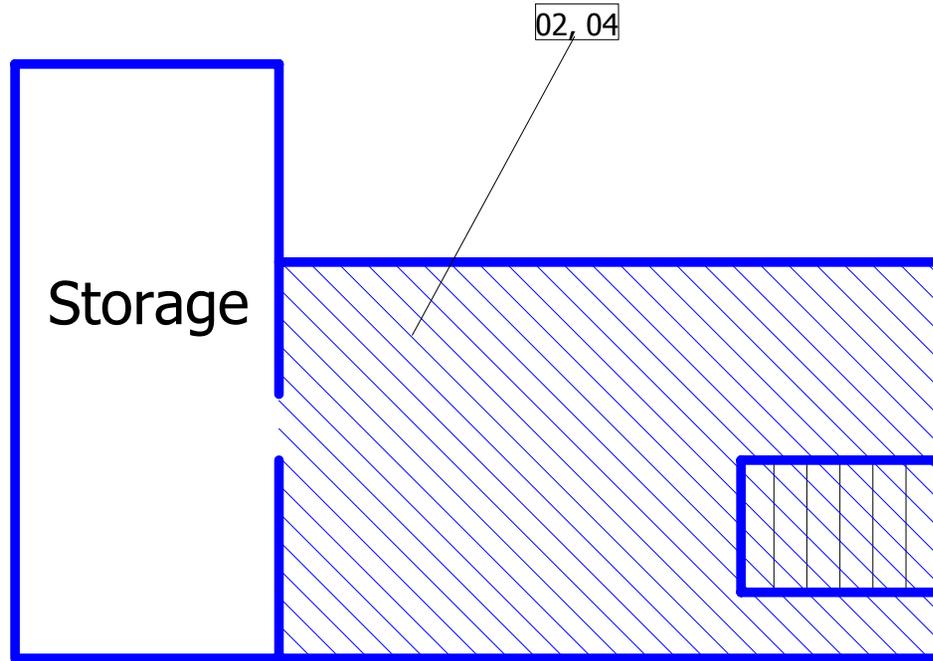
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-  White Sheetrock walls with joint compound
-  White Popcorn ceiling

Upstairs

City of Fort Worth Oak Hollow Office, 5901 Boca Raton Fort Worth, Texas	
Asbestos Removal Specification	
Project # 17617	Drawing #1
Not To Scale	
Drawn by: AHG	Date: 07/09/07
Revised by:	Date:



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Appendix:

Appendix B: Lab Results



PLM Summary Report

Steve Moody Micro Services, Inc.
2051 Valley View Lane
Farmers Branch, TX 75234 (Phone 972-241-8460)

NVLAP Lab No. 102056
TDH License No. 30-0084

Client :	Industrial Hygiene & Safety Technology, Inc.	Lab Job No. : x7B-06214
Project :	City of Fort Worth, Oak Hollow Office, 5901 Boca Raton	Report Date : 07/04/2007
Project # :	Not Provided	Sample Date : 07/03/2007
Identification :	Asbestos, Bulk Sample Analysis	
Test Method :	Polarized Light Microscopy / Dispersion Staining (PLM/DS) EPA Method 600 / R-93 / 116	

Page 1 of 2

On 7/3/2007, eighteen (18) bulk material samples were submitted by Doug Easley of Industrial Hygiene & Safety Technology, Inc. for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
OHO 01	Ceiling Texture (White, Popcorn), Office #1	5% Chrysotile - Acoustic Texture
OHO 02	Ceiling Texture (White, Popcorn), Upstairs Open Area	5% Chrysotile - Acoustic Texture
OHO 03	Ceiling Texture (White, Popcorn), next to Fireplace Lounge	5% Chrysotile - Acoustic Texture
OHO 04	Sheetrock (White) and Joint Compound, Ceiling and Walls, Upstairs Open Area	None Detected - Drywall Material 2% Chrysotile - Joint Compound
OHO 05	Sheetrock (White) and Joint Compound, Ceiling and Walls, Office #3	None Detected - Joint Compound
OHO 06	Sheetrock (White) and Joint Compound, Ceiling and Walls, Foyer	2% Chrysotile - Joint Compound
OHO 07	12" x 12" Floor Tile (Green and White) with Mastic (Yellow), Work Room	None Detected - Floor Tile None Detected - Yellow Mastic
OHO 08	12" x 12" Floor Tile (Green and White) with Mastic (Yellow), Kitchen	None Detected - Floor Tile None Detected - Yellow Mastic
OHO 09	12" x 12" Floor Tile (Green and White) with Mastic (Yellow), Kitchen	None Detected - Floor Tile None Detected - Yellow Mastic
OHO 10	9" x 9" Floor Tile with Mastic, Kitchen	None Detected - Yellow Mastic 2% Chrysotile - Floor Tile None Detected - Yellow Mastic
OHO 11	9" x 9" Floor Tile with Mastic, Kitchen	None Detected - Yellow Mastic 2% Chrysotile - Floor Tile None Detected - Yellow Mastic
OHO 12	9" x 9" Floor Tile with Mastic, Kitchen	None Detected - Yellow Mastic 2% Chrysotile - Floor Tile None Detected - Yellow Mastic
OHO 13	Ceiling Texture (Beige, Popcorn), Work Room	None Detected - Acoustic Texture
OHO 14	Ceiling Texture (Beige, Popcorn), Work Room	5% Chrysotile - Acoustic Texture
OHO 15	Ceiling Texture (Beige, Popcorn), Sauna	5% Chrysotile - Acoustic Texture

PLM Summary Report

Steve Moody Micro Services, Inc.

2051 Valley View Lane

Farmers Branch, TX 75234 (Phone 972-241-8460)

NVLAP Lab No. 102056

TDH License No. 30-0084

Client :	Industrial Hygiene & Safety Technology, Inc.	Lab Job No. : x7B-06214
Project :	City of Fort Worth, Oak Hollow Office, 5901 Boca Raton	Report Date : 07/04/2007
Project # :	Not Provided	Sample Date : 07/03/2007
Identification :	Asbestos, Bulk Sample Analysis	
Test Method :	Polarized Light Microscopy / Dispersion Staining (PLM/DS)	
	EPA Method 600 / R-93 / 116	

Page 2 of 2

On 7/3/2007, eighteen (18) bulk material samples were submitted by Doug Easley of Industrial Hygiene & Safety Technology, Inc. for asbestos analysis by PLM/DS. The PLM Detail Report is attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
OHO 16	Sheetrock and Joint Compound, Beige Walls, Work Room	None Detected - Drywall Material 2% Chrysotile - Old Joint Compound None Detected - New Joint Compound
OHO 17	Sheetrock and Joint Compound, Beige Walls, Work Room	2% Chrysotile - Old Joint Compound None Detected - New Joint Compound
OHO 18	Sheetrock and Joint Compound, Beige Walls, Storage Room	None Detected - Drywall Material 2% Chrysotile - Old Joint Compound None Detected - New Joint Compound

These samples were analyzed by layers. Quantification, unless otherwise noted, is performed by calibrated visual estimate. Results may not be reproduced except in full. This test report relates only to the samples tested. These test results do not imply endorsement by NVLAP or any agency of the U.S. Government. Accredited by the National Voluntary Laboratory Accreditation Program for Bulk Asbestos Fiber Analysis under Lab Code 102056.



Analyst(s): Steve Moody

Lab Manager : Bruce Crabb

Lab Director : Steve Moody

Approved Signatory :

Approved Signatory :

Thank you for choosing Steve Moody Micro Services

Appendix:

**Appendix C: Bulk Summary
Report**



Table 1. Summary of Bulk Sample Analysis and Assessment

City of Fort Worth

Oak Hollow Office

5901 Boca Raton

Fort Worth, TX 76112

Survey Date(s): 7/3/2007 through 7/3/2007

Sample ID#	Sample Description	Material Location	Percent & Type of Asbestos Detected (a)	Estimated Quantity	Type of ACM (b)	Friability (c)	Physical Condition	Potential for Disturbance	Response Rating
OHO-01	Ceiling Texture (White, Popcorn) (homogeneous area # 01)	Office #1, Upstairs Open Area, Next to Fire Place Lounge	Acoustic Texture - 5% CH	1803 s.f.	Surfacing	NF II	Good	Low	1
OHO-02	Ceiling Texture (White, Popcorn) (homogeneous area # 01)	Office #1, Upstairs Open Area, Next to Fire Place Lounge	Acoustic Texture - 5% CH	1803 s.f.	Surfacing	NF II	Good	Low	1
OHO-03	Ceiling Texture (White, Popcorn) (homogeneous area # 01)	Office #1, Upstairs Open Area, Next to Fire Place Lounge	Acoustic Texture - 5% CH	1803 s.f.	Surfacing	NF II	Good	Low	1
OHO-04	Sheetrock (White) and Joint Compound (homogeneous area # 02)	Upstairs Open Area, Office #3, Foyer	Drywall Material - NAD Joint Compound - 2% CH	5628 s.f.	Surfacing	NF II	Good	Low	1
OHO-05	Sheetrock (White) and Joint Compound (homogeneous area # 02)	Upstairs Open Area, Office #3, Foyer	Joint Compound - NAD	5628 s.f.	Surfacing	NF II	Good	Low	1
OHO-06	Sheetrock (White) and Joint Compound (homogeneous area # 02)	Upstairs Open Area, Office #3, Foyer	Joint Compound - 2% CH	5628 s.f.	Surfacing	NF II	Good	Low	1



Sample ID#	Sample Description	Material Location	Percent & Type of Asbestos Detected (a)	Estimated Quantity	Type of ACM (b)	Friability (c)	Physical Condition	Potential for Disturbance	Response Rating
OHO-07	12" x 12" Floor Tile (Green and White) with Mastic (Yellow) (homogeneous area # 03)	Work Room, Kitchen	Floor Tile - NAD Yellow Mastic - NAD	234 s.f.	Misc	NF I	Good	Low	0
OHO-08	12" x 12" Floor Tile (Green and White) with Mastic (Yellow) (homogeneous area # 03)	Work Room, Kitchen	Floor Tile - NAD Yellow Mastic - NAD	234 s.f.	Misc	NF I	Good	Low	0
OHO-09	12" x 12" Floor Tile (Green and White) with Mastic (Yellow) (homogeneous area # 03)	Work Room, Kitchen	Floor Tile - NAD Yellow Mastic - NAD	234 s.f.	Misc	NF I	Good	Low	0
OHO-10	9" x 9" Floor Tile with Mastic (homogeneous area # 04)	Kitchen	Yellow Mastic - NAD Floor Tile - 2% CH Yellow Mastic - NAD	80 s.f.	Misc	NF I	Good	Low	1
OHO-11	9" x 9" Floor Tile with Mastic (homogeneous area # 04)	Kitchen	Yellow Mastic - NAD Floor Tile - 2% CH Yellow Mastic - NAD	80 s.f.	Misc	NF I	Good	Low	1
OHO-12	9" x 9" Floor Tile with Mastic (homogeneous area # 04)	Kitchen	Yellow Mastic - NAD Floor Tile - 2% CH Yellow Mastic - NAD	80 s.f.	Misc	NF I	Good	Low	1
OHO-13	Ceiling Texture (Beige, Popcorn) (homogeneous area # 05)	Work Room, Sauna	Acoustic Texture - NAD	200 s.f.	Surfacing	NF II	Good	Low	1
OHO-14	Ceiling Texture (Beige, Popcorn) (homogeneous area # 05)	Work Room, Sauna	Acoustic Texture - 5% CH	200 s.f.	Surfacing	NF II	Good	Low	1



Sample ID#	Sample Description	Material Location	Percent & Type of Asbestos Detected (a)	Estimated Quantity	Type of ACM (b)	Friability (c)	Physical Condition	Potential for Disturbance	Response Rating
OHO-15	Ceiling Texture (Beige, Popcorn) (homogeneous area # 05)	Work Room, Sauna	Acoustic Texture - 5% CH	200 s.f.	Surfacing	NF II	Good	Low	1
OHO-16	Sheetrock and Joint Compound, Beige Walls (homogeneous area # 06)	Work Room, Storage Room	Drywall Material - NAD Old Joint Compound - 2% CH New Joint Compound - NAD	1152 s.f.	Surfacing	NF II	Good	Low	1
OHO-17	Sheetrock and Joint Compound, Beige Walls (homogeneous area # 06)	Work Room, Storage Room	Old Joint Compound - 2% CH New Joint Compound - NAD	1152 s.f.	Surfacing	NF II	Good	Low	1
OHO-18	Sheetrock and Joint Compound, Beige Walls (homogeneous area # 06)	Work Room, Storage Room	Drywall Material - NAD Old Joint Compound - 2% CH New Joint Compound - NAD	1152 s.f.	Surfacing	NF II	Good	Low	1

Table Key:

- (a) CH = Chrysotile; AM = Amosite; CR = Crocidolite; AN = Anthophyllite; AC = Actinolite; NAD = NAD = No Asbestos Detected
(b) Misc = Miscellaneous; TSI = Thermal Systems Insulation
(c) F = Friable; NF I = Non-Friable Category I; NF II = Non-Friable Category II



Appendix:

**Appendix D: Cost Estimate
for Removal**



**Table 2. Approximate Cost to Remove Asbestos
City of Fort Worth**

**Oak Hollow Office
5901 Boca Raton
Fort Worth, TX 76112**

Survey Date(s): 7/3/2007 through 7/3/2007

Material Description	Location(s)	Approx. Quantity	Unit Cost	# Days to Abate	Removal Cost	Air Monitoring (per day)	Line Item Subtotal
Popcorn ceiling texture	Ceiling of office, work room and sauna	2003 s.f.	\$2.00	3	\$4,006.00	\$600.00	\$5,806.00
Sheetrock and joint compound	Throughout complex	6780 s.f.	\$2.00	5	\$13,560.00	\$600.00	\$16,560.00
9" x 9" floor tile	Kitchen	200 s.f.	\$2.50	1	\$500.00	\$600.00	\$1,100.00

Removal Costs Subtotal: \$23,466.00

Abatement Specifications: \$350.00

Total Abatement Cost: \$23,816.00

1. The price estimates were derived from current estimates from asbestos abatement contractors.
2. Price does not include replacement costs with non-asbestos materials.
3. Air monitoring costs do not include final air clearance by Transmission Electron Microscopy.
4. Price estimates listed above are intended as a guide for budget estimating only. To determine the total abatement costs for the project, asbestos removal specifications should be prepared and the project bid by professional asbestos abatement contractors.
5. Prices could be reduced if all abatement activities are performed at one time.
6. Prices may be slightly higher for small abatement projects due to mobilization costs.
7. Prices do not include the Texas Department of State Health Services (DSHS) fee for asbestos regulated units generated for the removal of ACM quantified in Table 2.
8. Time schedule includes air clearance monitoring and contractor demobilization from site. Time schedule for abatement will also vary depending on the size of the contractor's work force and the specified scope of work.

