

File 313-17

Asbestos Identification Survey

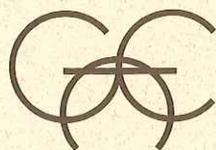
*3070 North Dr. Martin
Luther King Jr. Drive
Milwaukee, Wisconsin*

Prepared For:

*Redevelopment Authority of the City of Milwaukee
Milwaukee, Wisconsin*

September 25, 2002

Project No. 1E-0209013-A



GILES
ENGINEERING ASSOCIATES, INC.



GILES

ENGINEERING ASSOCIATES, INC.

GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

- Atlanta, GA
- Dallas, TX
- Los Angeles, CA
- Madison, WI
- Milwaukee, WI
- Orlando, FL
- Washington, D.C.

October 4, 2002

Redevelopment Authority of the City of Milwaukee
809 North Broadway, 2nd Floor
Milwaukee, WI 53202

Attention: Mr. Benjamin Timm

Subject: Asbestos Identification Survey
3070 North Dr. Martin Luther King Jr. Drive
Milwaukee, Wisconsin
Project No. 1E-0209013-A

Dear Mr. Timm:

In accordance with your request and subsequent authorization, we have completed an *Asbestos Identification Survey* on the above referenced property. Findings and conclusions are discussed in detail within the accompanying report.

We appreciate the opportunity to be of service on this project. If there are any questions regarding the information contained herein, or if we can be of any additional service, please contact the undersigned at your convenience.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.

Robert G. La Croix
Staff Geologist I

Jeffrey P. Dobrzynski, P.G.
Project Manager I

Distribution: Redevelopment Authority of the City of Milwaukee
Attn: Mr. Benjamin Timm (5)

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MILWAUKEE, WISCONSIN
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ASBESTOS IDENTIFICATION SURVEY

3070 NORTH DR. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WISCONSIN.
PROJECT NO. 1E-0209013-A

1.0 INTRODUCTION

At the request and authorization of Mr. Benjamin Timm of the Redevelopment Authority of the City of Milwaukee, Giles Engineering Associates, Inc. (*Giles*) conducted an *Asbestos Identification Survey* for friable and non-friable asbestos containing materials (ACM) at the above referenced property. It is understood the structure on the subject property is to be razed.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The subject property is located at 3070 North Dr. Martin Luther King Jr. Drive, in the City of Milwaukee, Milwaukee County, Wisconsin.

2.2 Site Description

The subject property is currently occupied by a 20' x 20' one-story, concrete block building with no basement. The structure is currently vacant but appeared to historically been a food stand and a gasoline station. The structure was built in 1933. The structure has gable roof however, a portion of the roof (approximately one-quarter) was cut out and made flat. Exterior walls are covered with concrete plaster. Interior of the structure consisted of two rooms. The interior walls consisted of paneling or plaster walls. The ceiling walls were also covered with paneling. Two layers of floor tiling were observed in one of the rooms.

3.0 ASBESTOS IDENTIFICATION SURVEY

3.1 Scope of Services

The scope of services for the *Asbestos Identification Survey* included:

- 1) A visual evaluation of accessible areas within the structure on the subject property for building materials that may contain asbestos;



- 2) The collection of representative samples of potential ACM within each unique homogeneous area (areas similar in appearance, material composition, and date of application) utilizing appropriate sampling methods;
- 3) An evaluation of the physical condition, location, friability and approximate dimensions and quantities of the potential ACM at each of the sampling locations;
- 4) Documentation of all sampling locations on building sketches;
- 5) The submittal of the collected samples to a subcontracted analytical laboratory, using standard chain-of-custody procedures;
- 6) An evaluation of the results of the microscopic analyses; and
- 7) The preparation of a written report that summarizes the scope of services and formulates conclusions and recommendations for ACM abatement activities, where applicable.

3.2 Methodology

Mr. Robert G. La Croix of Giles Engineering Associates, Inc., United States Environmental Protection Agency (USEPA)-certified and State of Wisconsin Department of Health and Family Services-licensed asbestos inspectors, performed the Asbestos Identification Survey. The asbestos identification survey was performed on September 19, 2002. Potential ACM were identified during a walk-through of the structure on the subject property. Professional judgement was utilized in the selection of sampling locations and in the number of samples that were collected.

3.3 Sampling Locations

Fifty-four samples of potential ACM were collected from accessible locations of the interior and exterior of the structure. Sampled materials included floor tile, plaster, paneling, mastic, window caulking, and roofing materials. The locations of the collected samples and reference numbers for the structures are shown on Figure 2, enclosed in Appendix A. The sample numbers, material sampled, and sampling locations are listed on Table 1 in Appendix B.

3.4 Analysis and Results

The collected samples were submitted to a subcontracted analytical laboratory, using standard chain-of-custody procedures, for Polarized Light Microscopy (PLM) analysis, in general accordance with the National Institute for Occupational Safety and Health (NIOSH) manual of analytical methods (USEPA 40 CFR Part 763, entitled *Methods for Determination of Asbestos in Bulk Samples*). The chain-of-custody forms are enclosed in Appendix C.



Asbestos fibers (5%) were detected in the window caulking. The caulking is in good condition, and is considered friable.

Asbestos was detected in the roof tar on the roof of the structure (10% asbestos fibers). The roof tar is in good condition and is considered non-friable.

Asbestos was detected in the white floor tile (5% asbestos fibers). The floor tile is in good condition and is considered non-friable.

Asbestos was plaster of the structure (2% asbestos fibers). The plaster is in damaged condition and is considered friable.

Asbestos fibers were not detected in any of the other sampled materials. Asbestos-containing materials are summarized on Table 2 enclosed in Appendix B. The quantities of asbestos-containing materials presented in Table 2 are field approximations only, and should not be used for bidding purposes. The laboratory analytical report is enclosed in Appendix C.

4.0 CONCLUSIONS

- 1) Asbestos fibers were detected in the in the caulking around the window and plaster walls. The plaster and caulking are considered friable. The caulking is in good condition. The plaster is in damaged condition.
- 2) Asbestos fibers were detected in the roof tar on the roof of the building and in the white floor tile. The roof tar and floor tile are in good condition, and are non-friable.
- 3) Asbestos fibers were not identified in any of the other samples collected from the structure.

5.0 RECOMMENDATIONS

- 1) The asbestos-containing caulking and plaster will require abatement prior to demolition of the structure.
- 2) The asbestos-containing roof tar or floor tile does not require abatement prior to demolition. However, be advised that landfills may charge higher tipping fees for construction debris that contains asbestos.
- 3) If the structure on the subject property is to be burned down as part of a fire department training exercise, or if materials from the structure are to be recycled, all asbestos-containing materials will require abatement.



6.0 GENERAL COMMENTS

This report has been prepared for the exclusive use of the Redevelopment Authority of the City of Milwaukee. This report may not be copied or distributed without prior authorization from Giles Engineering Associates, Inc. and the Redevelopment Authority of the City of Milwaukee. No other warranty is either expressed or implied.

The quantities of asbestos-containing materials presented in this report are rough field approximations only, and should not be used for bidding purposes.

The bulk samples we collected for this study included those areas that were reasonably accessible and did not include areas where access would cause undue risk to survey personnel. The recommendations of this report are based on the assumption of normal demolition and do not include intentional burning, blasting or recycling of building materials.

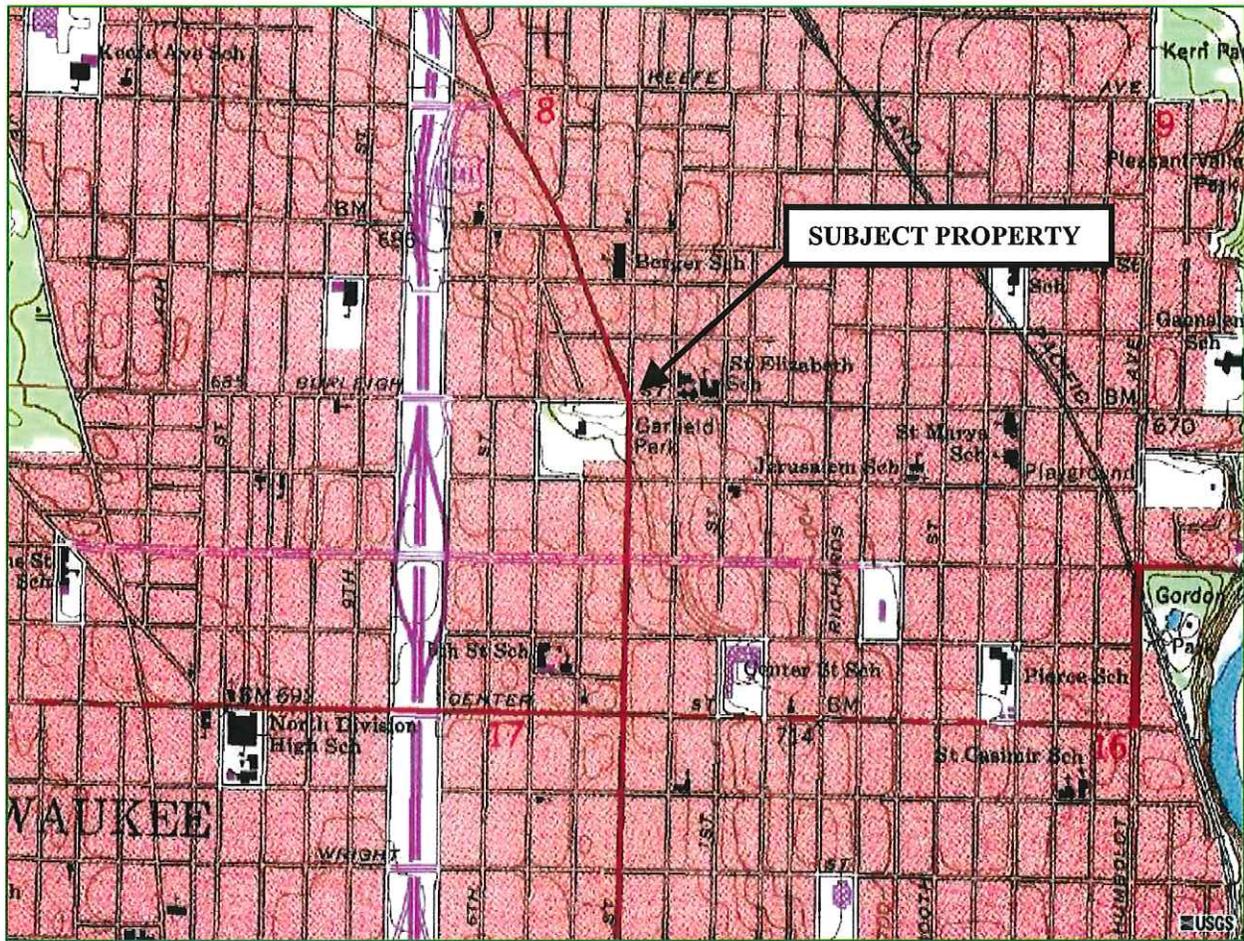
This report has been prepared in order to aid in the evaluation of the buildings located at 3070 North Dr. Martin Luther King Drive, in the City of Milwaukee, Milwaukee County, Wisconsin, with regard to the potential presence of asbestos containing building materials present at the time of this study. The conclusions presented in this report were based on available information pertaining to various points and time and were presented by others for our use or were based on informal discussion with various agency personnel. Important information regarding this report can be found in Appendix D.

The information and preparation of this report is based on field observations and independent analytical asbestos sampling results performed within the property boundaries of the subject property at a specific point in time. The opinions and conclusions formulated regarding the possible presence of asbestos containing building materials encountered on this property are based upon reasonable judgments made in light of this independent data and information obtained from the subject property.

This report has been prepared in accordance with generally accepted practice in the field of environmental consulting at the time of report preparation. No other warranty is either expressed or implied.

1e-0209013-A-report/02env3/RGL/hmo

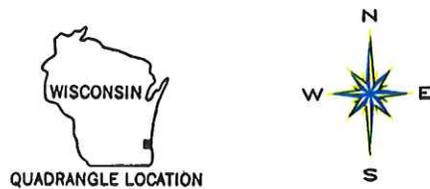




Source: USGS Milwaukee, Wisconsin (1958 photorevised 1972) 7.5 Minute Series (Topographic) Quadrangle Map

Scale: 1:24,000

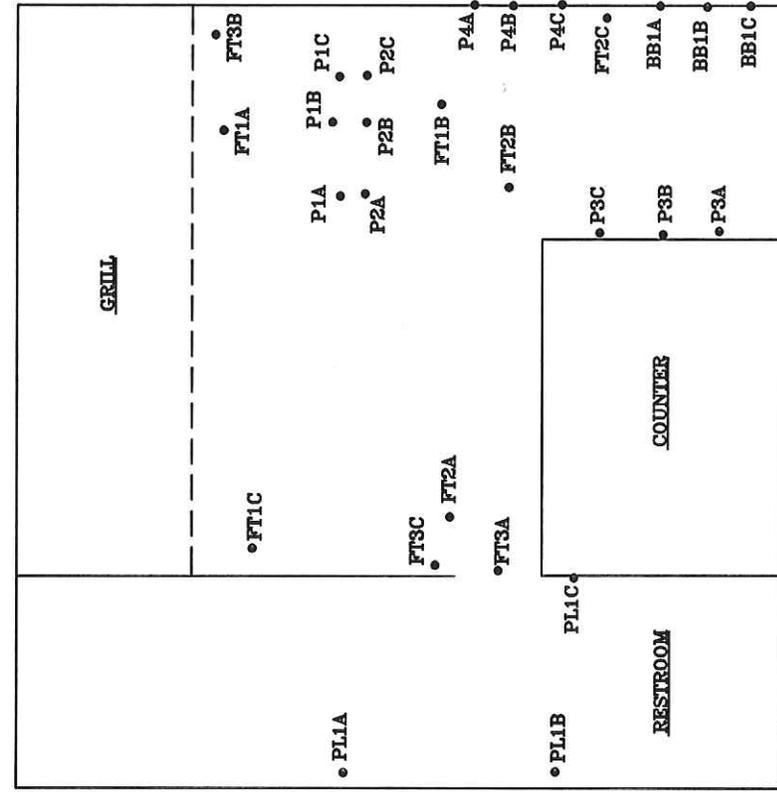
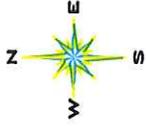
FIGURE 1 SUBJECT PROPERTY LOCATION



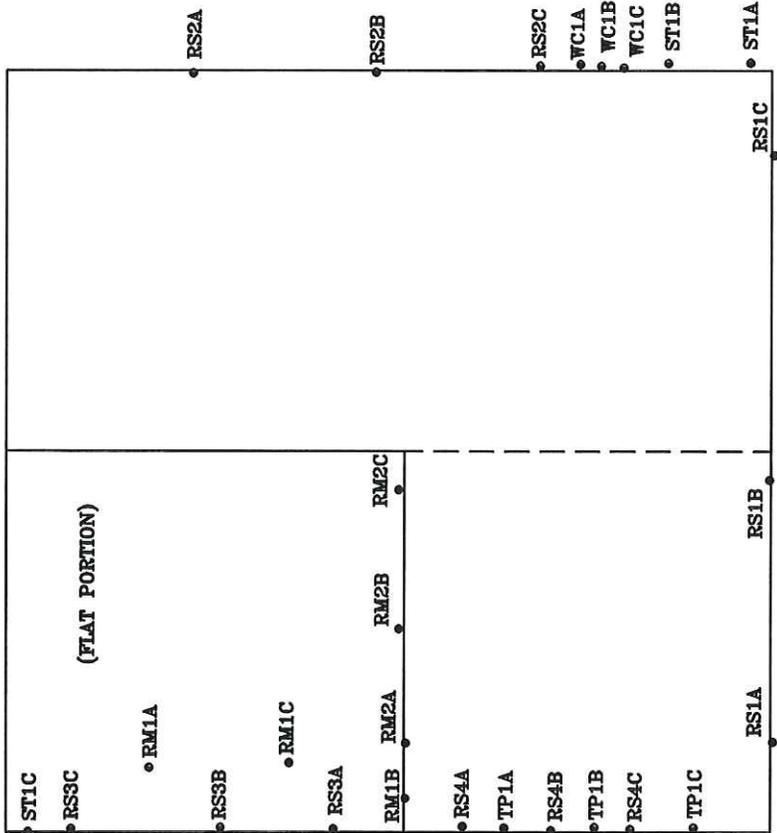
3070 North Dr. Martin Luther King Jr. Drive
 Milwaukee, Wisconsin
 Project No. 1E-0209013-A



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INTERIOR



EXTERIOR/ROOF

LEGEND:

●	RS1A	ASBESTOS SAMPLING LOCATION
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FIGURE 2
 ASBESTOS SAMPLING LOCATION PLAN
 3070 NORTH DR. MARTIN LUTHER KING DRIVE
 MILWAUKEE, WISCONSIN

DESIGNED	DRAWN	APPROVED	SCALE	DATE
RGL	RH	X	NTS	10/02/02
PROJECT NO.: 1E-0209013-A			CAD No. E20901321	

TABLE 1A

SAMPLING LOCATIONS
3075 NORTH DR. MARTIN LUTHER KING DRIVE
BROOKFIELD, WISCONSIN

Giles Project Number:		1E-0209013-A	Inspector:		Robert G. La Croix
Date:		SEPTEMBER 19, 2002	Registration Number:		AII-04443
Sample Number	Material Sampled	Location of Homogeneous Area		Asbestos-Containing	
RS1A RS1B RS1C	ROOF SHINGLE-BROWN	FRONT OF STRUCTURE		NO NO NO	
RS2A RS2B RS2C	ROOF SHINGLE-RED	SOUTH SIDE OF ROOF		NO NO NO	
RS3A RS3B RS3C	ROOF SHINGLE-GREEN & TAR	FLAT PORTION OF ROOF		Shingle No Tar YES Shingle No Tar YES Shingle No Tar YES	
RS4A RS4B RS4C	ROOF SHINGLE-RED	NORTH SIDE OF ROOF LAYER		NO NO NO	
RM1A RM1B RM1C	ROOF MATERIAL	TAR PATCH WORK		YES YES YES	
RM2A RM2B RM2C	FLASHING	FLAT PORTION OF ROOF		YES YES YES	
TP1A TP1B TP1C	TAR PAPER	ROOF		NO NO NO	
ST1A ST1B ST1C	STUCCO	EXTERIOR OF STRUCTURE		NO NO NO	
WC1A WC1B WC1C	WINDOW CAULK	SOUTH WINDOW		YES YES YES	
BB1A BB1B BB1C	BASEBOARD AND MASTIC	INTERIOR		NO NO NO	
P1A P1B P1C	PANELING	CEILING		NO NO NO	
P2A P2B P2C	PANELING	CEILING		NO NO NO	
P3A P3B P3C	PANELING	WALLS		NO NO NO	



Giles Project Number:		1E-0209013-A	Inspector:	Robert G. La Croix
Date:		SEPTEMBER 19, 2002	Registration Number:	AII-04443
Sample Number	Material Sampled	Location of Homogeneous Area	Asbestos-Containing	
P4A P4B P4C	PANELING	WALLS	NO NO NO	
PL1A PL1B PL1C	PLASTER	INTERIOR WALLS	YES YES YES	
FT1A FT1B FT1C	FLOOR TILE & MASTIC- WHITE	INTERIOR	MASTIC NO FLOOR TILE YES MASTIC NO FLOOR TILE YES MASTIC NO FLOOR TILE YES	
FT2A FT2B FT2C	FLOOR TILE & MASTIC-RED	INTERIOR	NO NO NO	
FT3A FT3B FT3C	FLOORTILE & MASTIC- WHITE	2 ND LAYER	MASTIC NO FLOOR TILE YES MASTIC NO FLOOR TILE YES MASTIC NO FLOOR TILE YES	

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TABLE 2

IDENTIFIED ASBESTOS

3070 Dr. Martin Luther King Jr. Drive
MILWAUKEE, WISCONSIN
Project No. 1E-0209013-A

Sample Number	Material Sampled	Dimensions	Condition	Friable/ Non-Friable	Composition
RS3A RS3B RS3C	Green Shingle and Tar	100 ft2	Good	Non-friable	10% chrysotile asbestos (tar)
RM1A RM1B RM1C	Roof Material	100 ft2	Good	Non-friable	10% Chrysotile asbestos (tar)
RM2A RM2B RM2C	Roof tar	100 ft2	Good	Non-friable	10% chrysotile asbestos (tar)
WC1A WC1B WC1C	Window Caulk	1 Window	Good	Friable	5% chrysotile asbestos
PL1A PL1B PL1C	Plaster	200FT2	Damaged	Friable	2% chrysotile asbestos
FT1A FT1B FT1C	Floor Tile White	200 FT2	Good	Non-friable	5% chrysotile asbestos
FT3A FT3B FT3C	Floor Tile White	200 FT2	Good	Non-friable	5% chrysotile asbestos

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LABORATORY REPORT

ASBESTOS BULK ANALYSIS

Client: Giles Engineering Associates, Inc.
 N8 W22350 Johnson Road, Suite A1
 Waukesha, WI 53186

CEI Lab Code: A02-6221
Received: 09-24-02
Analyzed: 09-27-02
Reported: 09-27-02
Analyst: Gary A. Swanson

Project: 1E-0209013

CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION					% ASBESTOS
RS1A	A77713	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					
RS1B	A77714	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					
RS1C	A77715	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					
RS2A	A77716	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					
RS2B	A77717	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					
RS2C	A77718	<u>ROOF SHINGLE</u>					ND
		Heterogeneous, Brown, Black, Fibrous, Bound					
		GRAV 20 %	CELL	40 %			
		TAR 40 %					

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Project: 1E-0209013
 Lab Code: A02-6221

CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION					% ASBESTOS	
RS3A	A77719A	<u>ROOF SHINGLE</u> Heterogeneous, Green, Black, Fibrous, Bound	GRAV	20 %	CELL	40 %	ND	
			TAR	40 %				
	A77719B	<u>TAR</u> Heterogeneous, Black, Fibrous, Bound	CHRY	10 %	TAR	85 %	CELL 5 %	CHRY 10 %
RS3B	A77720							
NOT ANALYZED								
RS3C	A77721							
NOT ANALYZED								
RS4A	A77722	<u>ROOF SHINGLE</u> Heterogeneous, Brown, Black, Fibrous, Bound	TAR	40 %	CELL	40 %	ND	
			GRAV	20 %				
RS4B	A77723	<u>ROOF SHINGLE</u> Heterogeneous, Brown, Black, Fibrous, Bound	TAR	40 %	CELL	40 %	ND	
			GRAV	20 %				
RS4C	A77724	<u>ROOF SHINGLE</u> Heterogeneous, Brown, Black, Fibrous, Bound	TAR	40 %	CELL	40 %	ND	
			GRAV	20 %				
RM1A	A77725	<u>ROOF SHINGLES</u> Heterogeneous, Brown, Black, Fibrous, Bound	TAR	40 %	CELL	40 %	ND	
			GRAV	20 %				

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS			
	A77725B	<u>TAR</u> Heterogeneous, Black, Fibrous, Bound CHRY 15 % TAR 85 %	CHRY 15 %			
RM1B	A77726		NOT ANALYZED			
RM1C	A77727		NOT ANALYZED			
RM2A	A77728	<u>ROOF MATERIAL</u> Heterogeneous, Black, Fibrous, Bound GRAV 10 % CELL 20 % TAR 70 %	ND			
RM2B	A77729A	<u>ROOF TAR</u> Heterogeneous, Black, Fibrous, Bound CHRY 10 % TAR 90 %	CHRY 10 %			
	A77729B	<u>SHINGLE</u> Heterogeneous, Black, Fibrous, Bound GRAV 20 % CELL 40 % TAR 40 %	ND			
RM2C	A77730		NOT ANALYZED			
TP1A	A77731	<u>TAR PAPER</u> Homogeneous, Black, Fibrous, Bound TAR 20 % CELL 80 %	ND			

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
TP1B	A77732	<u>TAR PAPER</u> Homogeneous, Black, Fibrous, Bound TAR 20 % CELL 80 %	ND
TP1C	A77733	<u>TAR PAPER</u> Homogeneous, Black, Fibrous, Bound TAR 20 % CELL 80 %	ND
ST1A	A77734	<u>STUCCO</u> Homogeneous, White, Grey, Fibrous, Bound BIND 100 %	ND
ST1B	A77735	<u>STUCCO</u> Homogeneous, White, Grey, Fibrous, Bound BIND 100 %	ND
ST1C	A77736	<u>STUCCO</u> Homogeneous, White, Grey, Fibrous, Bound BIND 100 %	ND
WC1A	A77737	<u>WINDOW CAULK</u> Homogeneous, Grey, Fibrous, Bound CHRY 5 % BIND 95 %	CHRY 5 %
WC1B	A77738		
NOT ANALYZED			
WC1C	A77739		
NOT ANALYZED			

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
BB1A	A77740A	<u>BASEBOARD</u> Homogeneous, Grey, Non-fibrous, Tightly Bound	ND
	A77740B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
BB1B	A77741A	<u>BASEBOARD</u> Homogeneous, Grey, Non-fibrous, Tightly Bound	ND
	A77741B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
BB1C	A77742A	<u>BASEBOARD</u> Homogeneous, Grey, Non-fibrous, Tightly Bound	ND
	A77742B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
P1A	A77743	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P1B	A77744	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
P1C	A77745	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P2A	A77746	<u>PANELING</u> Heterogeneous, Yellow, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P2B	A77747	<u>PANELING</u> Heterogeneous, Yellow, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P2C	A77748	<u>PANELING</u> Heterogeneous, Yellow, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P3A	A77749	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P3B	A77750	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P3C	A77751	<u>PANELING</u> Heterogeneous, White, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P4A	A77752	<u>PANELING</u> Heterogeneous, Beige, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
P4B	A77753	<u>PANELING</u> Heterogeneous, Beige, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
P4C	A77754	<u>PANELING</u> Heterogeneous, Beige, Brown, Fibrous, Bound PAINT 5 % CELL 95 %	ND
PL1A	A77755	<u>PLASTER</u> Heterogeneous, Grey, Fibrous, Bound CHRY 2 % BIND 98 %	CHRY 2 %
PL1B	A77756		
NOT ANALYZED			
PL1C	A77757		
NOT ANALYZED			
FT1A	A77758A	<u>FLOOR TILE (TOP)</u> Homogeneous, White, Fibrous, Tightly Bound CHRY 5 % VINYL 95 %	CHRY 5 %
	A77758B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
	A77758C	<u>FLOOR TILE (BOTTOM)</u> Homogeneous, White, Fibrous, Tightly Bound VINYL 100 %	ND

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
	A77758D	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound	ND
		MAST 95 % CELL 5 %	
FT1B	A77759A	<u>FLOOR TILE (TOP)</u>	
NOT ANALYZED			
	A77759B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound	ND
		MAST 95 % CELL 5 %	
	A77759C	<u>FLOOR TILE (BOTTOM)</u> Homogeneous, White, Fibrous, Tightly Bound	ND
		VINYL 100 %	
	A77759D	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound	ND
		MAST 95 % CELL 5 %	
FT1C	A77760A	<u>FLOOR TILE (TOP)</u> Homogeneous, Beige, Fibrous, Bound	ND
		VINYL 100 %	
Floor tiles in FT1C do not correspond to those in FT1A or FT1B			
	A77760B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound	ND
		MAST 95 % CELL 5 %	
	A77760C	<u>FLOOR TILE (MIDDLE)</u> Homogeneous, Tan, Fibrous, Bound	CHRY 5 %
		CHRY 5 % VINYL 95 %	

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CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
	A77760D	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
	A77760E	<u>FLOOR TILE (BOTTOM)</u> Homogeneous, Brown, Fibrous, Bound CHRY 5 % VINYL 95 %	CHRY 5 %
FT2A	A77761A	<u>FLOOR TILE</u> Homogeneous, Red, Fibrous, Bound VINYL 100 %	ND
	A77761B	<u>MASTIC</u> Homogeneous, Grey, Fibrous, Bound MAST 95 % CELL 5 %	ND
FT2B	A77762A	<u>FLOOR TILE</u> Homogeneous, Red, Fibrous, Bound VINYL 100 %	ND
	A77762B	<u>MASTIC</u> Homogeneous, Grey, Fibrous, Bound MAST 95 % CELL 5 %	ND
FT2C	A77763A	<u>FLOOR TILE</u> Homogeneous, Red, Fibrous, Bound VINYL 100 %	ND
	A77763B	<u>MASTIC</u> Homogeneous, Grey, Fibrous, Bound MAST 95 % CELL 5 %	ND

CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Phone: 919-481-1413 Fax: 919-481-1442

Project: 1E-0209013

Lab Code: A02-6221

CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
FT3A	A77764A	<u>FLOOR TILE (TOP)</u> Homogeneous, Beige, Fibrous, Tightly Bound CHRY 5 % VINYL 95 %	CHRY 5 %
	A77764B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
	A77764C	<u>FLOOR TILE (BOTTOM)</u> Homogeneous, Beige, Non-fibrous, Tightly Bound VINYL 100 %	ND
	A77764D	<u>MASTIC</u> Homogeneous, Beige, Fibrous, Bound MAST 95 % CELL 5 %	ND
FT3B	A77765A	<u>FLOOR TILE (TOP)</u>	
NOT ANALYZED			
	A77765B	<u>MASTIC</u> Homogeneous, Yellow, Fibrous, Bound MAST 95 % CELL 5 %	ND
	A77765C	<u>FLOOR TILE (BOTTOM)</u> Homogeneous, Beige, Non-fibrous, Tightly Bound VINYL 100 %	ND
	A77765D	<u>MASTIC</u> Homogeneous, Beige, Fibrous, Bound MAST 95 % CELL 5 %	ND

CAROLINA ENVIRONMENTAL, INC.
 107 New Edition Court, Cary, NC 27511
 Phone: 919-481-1413 Fax: 919-481-1442

Project: 1E-0209013
 Lab Code: A02-6221

CLIENT ID	CEI LAB ID	SAMPLE DESCRIPTION	% ASBESTOS
FT3C	A77766A	<u>FLOOR TILE</u> Homogeneous, Beige, Non-fibrous, Tightly Bound VINYL 100 %	ND
Floor tile in FT3C does not correspond to those in FT3A or FT3B			
	A77766B	<u>MASTIC</u> Homogeneous, Beige, Fibrous, Bound MAST 95 % CELL 5 %	ND

CHAIN OF CUSTODY

LABORATORY ANALYSIS

CLIENT: John C. Tesh

Voice: 336-798-5149

Fax: 336-731-4398

144 Riverside Court
Lexington, NC 27292

PURCHASE
ORDER:

PROJECT: 5905 Old Oak Ridge Rd

CLIENT CODE: 2024

MANAGER: John C. Tesh

DATE REC'D: 09-27-02

DATE DUE: 09-30-02

DATE FAXED:

TIME REC'D: 10:00 AM

TIME DUE: 10:00 AM

TIME FAXED:

RECEIVED BY: Joy Logan

FAX TO: John C. Tesh

CEI JOB #:

TURN AROUND: 24 hour

LAB CODE:	SAMPLE TYPE:	QUANTITY:	LAB ID RANGE:
A02-6318	PLM Asbestos Bulk	20	A78965-A78984

Mastic Layers

ANALYST:

DATE ANALYZED:

NOTES: ***FAX THEIR COC WITH ALL REPORTS AND NO COVERSHEET***
8-22-01 fax all reports to abatemaster number (Pat gave permission) from now on, Tesh's fax is failing. lot TIER 1

COMMENTS:

The following definitions apply to the abbreviations used in the ASBESTOS
BULK ANALYSIS REPORT:

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	ORGN = Organics	SILJ = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
ND = None Detected	NTREM = Non-Asbestiform Tremolite	PERL = Perlite
NANTH = Non-Asbestiform Anthophyllite		RUBR = Rubber

CLIENT: Giles Engineering Associates, Inc.

PROJECT: 1E-0209013

CEI LAB CODE: A02-6221

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, Carolina Environmental, Inc. will discard all bulk samples after 30 days.

Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that Carolina Environmental, Inc. is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). Carolina Environmental, Inc.'s NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST



REVIEWED BY



Tianbao Bai, Ph.D.
Laboratory Director

End of Report

077713-077704

54

GILES ENGINEERING ASSOCIATES, INC.

#1 N8 WP23350 Johnson Road Suite A1, Waukesha, WI 53186
 ☐ 4875 East La Palma Avenue, Suite 607, Anaheim, CA 92807
 ☐ 8300 Guilford Road, Suite F1, Columbia, MD 21046
 ☐ 10722 North Stonemans Freeway, Dallas, TX 75220
 ☐ 2630 Agriculture Drive, Madison, WI 53718
 ☐ 3990 Flowers Road, Suite 530, Atlanta, GA 30380

CHAIN-OF-CUSTODY

tel: 262-544-0118
 tel: 714-779-0652
 tel: 410-312-9950
 tel: 214-358-5885
 tel: 608-223-1853
 tel: 770-458-3998

☐ closure sample
 ☐ confirmation required (NR720)
 ☐ RUSH

Site

Address: 3070 North Martin Luther King Dr
 Milwaukee, Wisconsin

Sample Collector: ROBERT LA CROIX

Project Manager: ROBERT LA CROIX

Project Number: 1E-0209013

Lab Job Number

Lab Contact

Laboratory Used: CAROLINA ENVIRONMENTAL

POSSIBLE HAZARDS:

Analysis Required

SAMPLE NUMBER	SAMPLE DESCRIPTION	Date Collected	TIME COLLECTED			ASBESTOS PLM	ASBESTOS POINT COUNT	ANALYZE UNTIL POSITIVE	Number and Type of Containers	DUE DATE	Lab ID	Temp
			PM	AM	PM							
RS1A 0013	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS1B 14	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS1C 15	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS2A 10	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS2B 17	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS2C 18	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS3A 19	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS3B 20	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS3C 21	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS4A 22	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS4B 23	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		
RS4C 24	ROOF SHINGLE	09/19/2002	PM	X	X	X	X		G	09/27/2002		

I = _____
 J = _____

E = 1 L Amber
 F = 250 ml. plastic
 G = poly bag
 H = _____

INVOICE TO: Project Manager

REPORT TO: same PM

Relinquished By	Date	Time	Received By
			PM

GILES ENGINEERING ASSOCIATES, INC.

- * 418 W22350 Johnson Road Suite A1, Waukesha, WI 53186
- ☐ 4875 East Le Palma Avenue, Suite 607, Anaheim, CA 92807
- ☐ 8300 Guilford Road, Suite F1, Columbia, MD 21046
- ☐ 10722 North Sternstroms Freeway, Dallas, TX 75220
- ☐ 2830 Agriculture Drive, Madison, WI 53718
- ☐ 3990 Pleasant Road, Suite 530, Atlanta, GA 30360

- tel: 262-544-0118
- tel: 714-779-0052
- tel: 410-312-9950
- tel: 214-358-5885
- tel: 608-228-1853
- tel: 770-458-3399

CHAIN-OF-CUSTODY

- ☐ closure sample
- ☐ confirmation required (NR720)
- ☐ RUSH

Site: 3070 N. MLK Drive
 Address: Milwaukee, Wisconsin

POSSIBLE HAZARDS:

Sample Collector: ROBERT LA CROIX Project Manager: ROBERT LA CROIX Project Number: 1E-0206013

Laboratory Used: CAROLINA ENVIRONMENTAL Lab Contact: Lab Job Number: Lab ID: Temp: Due Date: Number and Type of Containers: Analysis Required:

Sample Number	Sample Description	Date Collected	Time Collected	ASBESTOS P.M.	ASBESTOS P.M. COUNT	ASBESTOS TEM	ANALYZE UNTIL	Lab ID	Temp
RM1A 01125	ROOF MATERIAL	09/19/2002	PM	X			X		
RM1B 210	ROOF MATERIAL	09/19/2002	PM	X					
RM1C 27	ROOF MATERIAL	09/19/2002	PM	X					
RM2A 28	ROOF MATERIAL	09/19/2002	PM	X			X		
RM2B 29	ROOF MATERIAL	09/19/2002	PM	X					
RM2C 30	ROOF MATERIAL	09/19/2002	PM	X					
TP1A 31	TAR PAPER	09/19/2002	PM	X			X		
TP1B 32	TAR PAPER	09/19/2002	PM	X					
TP1C 33	TAR PAPER	09/19/2002	PM	X					
ST1A 34	STUCCO EXTERIOR	09/19/2002	PM	X			X		
ST1B 35	STUCCO EXTERIOR	09/19/2002	PM	X					
ST1C 36	STUCCO EXTERIOR	09/19/2002	PM	X					

Container code: A = 8 oz/250 ml, B = 4 oz/120 ml

C = 2 oz/60 ml, D = 40 ml VOA vial

E = 1 L Amber, F = 250 ml plastic

G = poly bag, H =

INVOICE TO: Project Manager

REFORT TO: same PM

Send copy to: _____

Page 2 of 5

Terms: MS/COG 09/23/02

GILES ENGINEERING ASSOCIATES, INC.

88 W22350 Johnson Road Suite A1, Waukesha, WI 53186
 4875 East La Palma Avenue, Suite 697, Anaheim, CA 92807
 8800 Guilford Road, Suite F1, Coltrahia, MD 21046
 10722 North Stearns Freeway, Dallas, TX 75220
 2830 Agriculture Drive, Madison, WI 53718
 3990 Flowers Road, Suite 530, Atlanta, GA 30360

tel: 262-544-0118
 tel: 714-779-0052
 tel: 410-312-9850
 tel: 214-359-5885
 tel: 608-223-1853
 tel: 770-458-3399

CHAIN-OF-CUSTODY

fax: 262-549-5868
 fax: 714-779-0068
 fax: 410-312-9935
 fax: 214-358-5884
 fax: 608-223-1854
 fax: 770-458-3998

Site _____

Address _____

closure sample
 confirmation required (NR720)
 RUSH

MILWAUKEE, WISCONSIN

POSSIBLE HAZARDS:

Sample Collector: **ROBERT LA CROIX** Project Number: **1E0206013**
 Laboratory Used: **CAROLINA ENVIRONMENTAL** Lab Job Number: _____

SAMPLE NUMBER	SAMPLE DESCRIPTION	Date Collected	TIME COLLECTED	ANALYSIS REQUIRED				DUE DATE	Lab ID	Temp
				ASBESTOS P.M.	ASBESTOS T.M.	ANALYZE UNTIL POSITIVE	Number and Type of Containers			
P3A	PANELING	09/19/2002	PM	X		X		09/27/2002		
P3B	PANELING	09/19/2002	PM	X				09/27/2002		
P3C	PANELING	09/19/2002	PM	X				09/27/2002		
P4A	PANELING	09/19/2002	PM	X		X		09/27/2002		
P4B	PANELING	09/19/2002	PM	X				09/27/2002		
P4C	PANELING	09/19/2002	PM	X				09/27/2002		
PL1A	PLASTER	09/19/2002	PM	X		X		09/27/2002		
PL1B	PLASTER	09/19/2002	PM	X				09/27/2002		
PL1C	PLASTER	09/19/2002	PM	X				09/27/2002		
FT1A	FLOOR TILE & MASTIC	09/19/2002	PM	X				09/27/2002		
FT1B	FLOOR TILE & MASTIC	09/19/2002	PM	X				09/27/2002		
FT1C	FLOOR TILE & MASTIC	09/19/2002	PM	X				09/27/2002		

container code: _____
 A = 8 oz/250 ml
 B = 4 oz/120 ml

E = 1 L Amber G = poly bag
 F = 250 mL plastic H = _____

Invoice TO: _____ Project Manager
 Report TO: _____ same
 _____ PM

I# _____
 J# _____

Page 4
 of 5

GILES ENGINEERING ASSOCIATES, INC.

* 183 W2350 Johnson Road Suite A1, Waukesha, WI 53186
 ☐ 4875 East La Palma Avenue, Suite 607, Anaheim, CA 92897
 ☐ 8300 Guilford Road, Suite F1, Columbia, MD 21046
 ☐ 10722 North Stemmons Freeway, Dallas, TX 75220
 ☐ 2830 Agriculture Drive, Madison, WI 53718
 ☐ 3990 Flowers Road, Suite 530, Atlanta, GA, 30360

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 tel: 410-312-9850
 tel: 214-358-5885
 tel: 608-223-1853
 tel: 770-458-3398

CHAIN-OF-CUSTODY

fax: 262-549-8868
 fax: 714-779-0668
 fax: 410-312-9955
 fax: 214-358-5884
 fax: 608-223-1854
 fax: 770-458-3998

closure sample
 confirmation required (NR720)
 RUSH

POSSIBLE HAZARDS:

Site _____
 Address _____ 3075 N MLK DR
 MILWAUKEE, WISCONSIN

Project Number 1E-0269013
 Lab Job Number _____
 Project Manager ROBERT LA CROIX
 Lab Contact _____

SAMPLE NUMBER	SAMPLE DESCRIPTION	Date Collected	TIME COLLECTED	ANALYZE UNTIL POSITIVE					DUE DATE	Number and Type of Containers	Lab ID	Temp.
				ASBESTOS PLM	ASBESTOS POINT	ASBESTOS TEM	ASBESTOS FIBER	ASBESTOS FIBER				
FT2A-0111A	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		
FT2B-012	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		
FT2C-013	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		
FT3A-014	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		
FT3B-015	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		
FT3C-016	FLOOR TILE & MASTIC	09/19/2002	PM	X					09/27/2002	G		

Container codes:
 A = 8 oz/250 ml
 B = 4 oz/ 125 ml

Container code: _____
 E = 1 L Amber
 F = 250 mL plastic

INVOICE TO: _____
 G = poly bag
 H = _____
 Send copy to Project Manager

REPORT TO: _____
 same PM

Requisitioned By _____
 Date _____ Time _____ Received By _____

Page 5 OF 5

forms.xls/KOCC 09/3/02

Important Information About Your Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provision you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- Modification of the proposed development or ownership group,
- Sale or other property transfer,
- Replacement of or additions to the financing entity,
- Amendment of existing regulations or introduction of new ones, or
- Changes in the use or condition of adjacent property.

Should you become aware of any change *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that

passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface track of its existence. *Even conditions in areas that were tested can change,* sometimes suddenly, due to any number of events, not the least of which include occurrences at adjacent sites. Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency . . . or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else — a third-party — will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service),

and that — in any event — they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so as its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care.

Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that seldom is the case.

Realize that Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental profes-

sional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in ASFE exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your ASFE-member geoenvironmental professional for more information.

ASFE

8811 Colesville Road/Suite G108, Silver Spring, MD 20910

Telephone: 301/565-2733 Facsimile: 301/589-2017

e-mail: info@asfe.org www.asfe.org

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