

Project #: 13916

**ASBESTOS ASSESSMENT
Doyle House
Memorial University of Newfoundland
St. John's, NL**



Prepared for:

**Sheila Miller
Director, Department of Health and Safety
Memorial University of Newfoundland
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August 2011

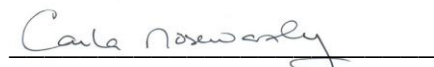
EXECUTIVE SUMMARY

ALL-TECH Environmental Services Limited conducted an Asbestos Assessment at Doyle House, located at Memorial University of Newfoundland (MUN), St. John's, NL. The objective of the assessment was to determine the presence of asbestos containing materials throughout the building. It was determined that:

- Six (6) of the twenty-two (22) suspect asbestos samples collected contained asbestos greater than 1%. (*Newfoundland and Labrador Regulation 111/98, Asbestos Abatement Regulations, 1998 under the Occupational Health and Safety Act.*)
- Plaster samples from various locations were found to contain up to 2% chrysotile asbestos
- 9" x 9" and 1' x 1' vinyl floor tiles sampled from various locations were found to contain between 2 – 3% Chrysotile asbestos.
- Pipe fitting insulation was sampled and found to contain 15% Chrysotile asbestos.
- Light fixture heat shields were sampled and found to contain 20% Chrysotile asbestos.

This summary is not to be used alone. This report must be reviewed in its entirety.

Thank you,



Carla Noseworthy, C.E.T.
Environmental Consultant

ALL-TECH Environmental Services Limited

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1.0 INTRODUCTION

ALL-TECH Environmental Services Limited was contracted by Sheila Miller, Director – Department of Health and Safety, Memorial University of Newfoundland (MUN), to complete an Asbestos Assessment at Doyle House located at Memorial University of Newfoundland, St. John's, NL. The purpose of the assessment was to identify the presence of asbestos containing materials located throughout the building. The assessment was conducted in August 2011.

2.0 ASBESTOS ASSESSMENT

Asbestos is a general term which is used to describe a group of fibrous mineral silicates. The six major types of asbestos are; chrysotile (white asbestos), crocidolite (blue), amosite (brown), anthophyllite, tremolite and actinolite. Commercially, asbestos has been used widely in such applications as fireproofing, textiles, friction products, reinforcing materials (i.e. cement pipes, sheets) and insulation (both thermal and acoustic).

Asbestos materials can be found in one of two forms; friable or non-friable. Friable asbestos material refers to material that when dry, can be crumbled, pulverized or reduced to a powder by hand pressure thus releasing fibers into the air. This type of asbestos material is hazardous due to its potential to become airborne if damaged or disturbed. Friable asbestos building products used in the past were sprayed acoustic & fire protection insulations, ceiling/wall finishes, drywall joint compounds, mechanical insulations on pipes, tanks, boilers, vessels, etc. Non-friable building products used in the past were vinyl floor tiles, gaskets, transite panels, and transite shingles. Non-friable materials if handled improperly during removal or renovations, such as cutting transite panels with an electrical tool, can cause high fiber release. Also, non-friable asbestos products can become friable if damaged through years of aging (water damage, general deterioration of materials, etc.).

Asbestos containing materials (ACM) can be properly managed and left in place depending on their location, condition, and friability. Non-friable materials receive less attention than friable materials due to the fact that the asbestos fibers in the non-friable material are bound or held tightly together, reducing the chance of fibers becoming airborne. This makes the non-friable products safer and easier to manage.

The mere presence of asbestos in building materials is not necessarily a problem; however, inhaling asbestos fibers can cause associated health problems. The hazards of asbestos exposure are directly related to the degree to which fibers are released (become airborne). Intact and undisturbed asbestos do not pose a health risk.

2.1 Scope of Work

Representative suspect asbestos containing materials were sampled from wall finishes, various types of flooring, and exterior finishes located throughout the building.

The asbestos assessment involved a visual investigation of representative building structures, wall & ceiling finishes, and flooring for the presence of asbestos materials. If these materials were suspected to contain asbestos, a bulk sample was collected of the representative material.

It should be noted that asbestos containing materials such as piping straight runs & fittings may be present behind existing drywall walls, ceilings, columns, shafts, etc. Since no destructive testing was performed during this assessment, additional care should be taken during renovations/demolition to ensure that no asbestos containing materials are to be disturbed.

2.2 Methodology

A total of twenty-two (22) suspect asbestos bulk samples were collected from the building. Representative suspect asbestos bulk material samples from floors, wall finishes, ceiling tiles, pipe fitting insulation and light fixture heat shields were carefully collected and placed into labeled sealable plastic bags and transported to the EMSL Analytical Inc. in New Jersey, USA, for Polarized Light Microscopy/ Dispersion Staining (PLM/DS) analysis. The EPA test method for bulk analysis (EPA/600/R-93/116) states in paragraph 2.2.2 that *“the detection limit for visual estimation is a function of the quantity of the sample analyzed, the nature of matrix interference, sample preparation, and fiber size and distribution. Asbestos may be detected in concentrations of less than one percent by area if sufficient material is analyzed. Samples may contain fibers too small to be resolved by PLM (< 0.25 µm in diameter) so detection of those fibers by this method may not be possible.”*

2.3 Applicable Standards

The province defines Asbestos material as “material containing greater than 1% asbestos by dry weight.” Materials identified as ACM must be managed, handled and disposed of as per the Newfoundland and Labrador Regulation 111/98, *Asbestos Abatement Regulations, 1998* under the *Occupational Health and Safety Act* (O.C. 98-730).

Also, the Province of Newfoundland and Labrador have set standards for exposure to airborne asbestos fibres to as low as is reasonably achievable (ALARA) but in any case shall not exceed Threshold Limit Values (TLVs) as published by the American Conference of Governmental Industrial Hygienists (ACGIH) and are primarily used for the occupational exposure to employees and workers who from day to day come in contact with asbestos. ACGIH guidelines state the airborne asbestos limit as follows:

- Asbestos (all forms) 0.1 fibres per cubic centimetre (f/cc) as determined by air sampling following the NIOSH 7400 Asbestos and Other Fibres by Phase Contrast Microscopy.

The *Newfoundland Asbestos Abatement Regulations 111/98* requires that all employers, building owners and principal contractors follow this Regulation when handling or using asbestos in their workplace. This Regulation applies to every workplace covered under the Occupational Health and Safety Legislation where asbestos or materials containing asbestos, is likely to be handled, dealt with, disturbed or removed and includes every project, project owner, contractor, employer and employee engaged in or on the project. An owner/contractor to whom this Regulation applies shall take every reasonable precaution to ensure that every worker who is not an employee of the owner/contractor and who works in the workplace of the owner/contractor is protected and every such worker shall comply with the requirements of this Regulation.

2.4 Survey Findings

Laboratory analysis confirmed that six (6) of the twenty-two (22) bulk samples collected from the building contained asbestos greater than 1%. Table 1.0 below illustrates the results of this sampling. **See Appendix II - Laboratory Asbestos Results.**

Table 1.0
Summary of Suspect Asbestos Containing Materials Tested
Doyle House
Memorial University of Newfoundland
St. John's, NL

Sample No.	Sample Description and Location	Asbestos Results
DO-1	1' x 1' Vinyl Floor Tile, blue, Room DO1C02	None Detected
	Mastic	None Detected
DO-2	1' x 1' Ceiling Tile , white, widely spaced fissures, Room DO1C02	None Detected
DO-3	1' x 1' Ceiling Tile, white, narrow spaced fissures, Room DO1C02	None Detected
DO-4	9" x 9" Vinyl Floor Tile, dark brown with white Room DO108	2% Chrysotile
	Mastic	None Detected
DO-5	9" x 9" Vinyl Floor Tile, light brown with brown, white Room DO108	2% Chrysotile
	Mastic	None Detected

Sample No.	Sample Description and Location	Asbestos Results
DO-6	1' x 1' Vinyl Floor Tile, light grey, Room DO101	None Detected
	Mastic	None Detected
DO-7	1' x 1' Vinyl Floor Tile, dark grey, Room DO101	None Detected
	Mastic	None Detected
DO-8	1' x 1' Vinyl Floor Tile, light beige with brown, Room DO1S01	None Detected
DO-9	1' x 1' Vinyl Floor Tile, dark beige with white, Room DO1S01	None Detected
	Mastic	None Detected
DO-10	1' x 1' Vinyl Floor Tile, medium brown with dark brown, white, Room DO104	3% Chrysotile
DO-11	1' x 1' Vinyl Floor Tile, yellow with white, Room DO111	None Detected
	Mastic	None Detected
DO-12	Pipe Fitting Insulation Room DO111	15% Chrysotile
DO-13	Light Fixture Heat Shield Room DO111	20% Chrysotile
DO-14	Plaster, Room DO115	None Detected
DO-15	Drywall Joint Compound, Room DO117	<1% Chrysotile
DO-16	Plaster, Room DO117	None Detected
DO-17	Plaster Room DO218	None Detected
DO-18	Plaster Room DO324	None Detected
DO-19	Plaster Room DO4S02	None Detected
DO-20	Plaster Room DO404	2% Chrysotile

Sample No.	Sample Description and Location	Asbestos Results
DO-21	Plaster – Plaster Base Coat Room DO409	None Detected
	Plaster - Skim Coat	None Detected
DO-22	1' x 1' Vinyl Floor Tile – Olive green with Stripes	None Detected
	Mastic	None Detected

Mechanical and Pipe Material

Pipe fitting insulation which could potentially contain asbestos was observed in select areas throughout the building during this assessment. Samples were collected and analyzed for asbestos content using the PLM method of detection and found to contain 15% Chrysotile asbestos (see sample DO-12 in Appendix II, Photographs 1-4, Appendix I)

An insulated duct unit was observed at ceiling height in the stairway DO1S03. This duct was inaccessible for sampling due to height and safety restrictions. As such, the duct must be considered to be asbestos containing until proven otherwise. (see Photograph 9, Appendix I)

However, it should be noted that asbestos containing pipe insulation may be located behind fixed wall cavities and ceiling plenums that were inaccessible at the time of assessment. During demolition precautionary measures must be taken to avoid disturbing any potential ACM in these areas.

Acoustic and Thermal Insulating Products

No acoustic or thermal insulating products were observed during the assessment.

Friable Acoustic Texture Coats and Plaster Finishes

Plaster finishes were observed throughout the building during the assessment. Six (6) samples of this material were sampled and analyzed for asbestos content using the PLM method of detection. One (1) sample was found to contain 2% Chrysotile asbestos. (See samples DO-14, DO-16, DO-17, DO-18, DO-19, DO-20, DO-21, in Appendix II, see Photograph 8 in Appendix I).

Drywall joint compound (DJC) finishes were observed in select locations within the building during the assessment. One (1) sample was collected and analyzed for asbestos content using the PLM method of detection. The sample was found to contain <1% Chrysotile asbestos. As such, in accordance with the *Newfoundland Asbestos Abatement Regulations 111/98*, it is not considered to be asbestos containing. (See sample DO-15 in Appendix II).

It should be noted that due to the uncertainty of when and where a specific type of plaster was used, it is to be assumed that all plaster present in the building contains asbestos.

Friable Acoustic and Thermal Fireproofing Products

Sprayed acoustic or sprayed fireproofing was not observed during the assessment.

Friable Ceiling Tiles / Ceiling Tile Adhesives

1' x 1' ceiling tiles were observed in select areas of the building during the assessment. Two (2) samples of these materials were collected and analyzed for asbestos content using the PLM method of detection. All samples were identified as non-asbestos containing. (See samples DO-2, DO-3 in Appendix II).

Vinyl Sheet/Linoleum Flooring

Vinyl sheet/linoleum flooring was not identified during the assessment of the building.

Non-Friable Vinyl Floor Tiles/ Floor Tile Adhesives

Vinyl floor tiles which could potentially contain asbestos were identified during the assessment. Seven (7) samples of 1' x 1' vinyl floor tiles were sampled and analyzed for asbestos content using the PLM method of detection. One (1) of the seven (7) samples was identified as containing 3% Chrysotile asbestos. Its associated mastic was identified as non-asbestos containing. Sample DO-1 (a blue tile) was visually similar to, but of different colour, than an adjacent tile (a yellow tile). Due to the placement of these tiles in DO1C02, a common area, a sample of the yellow tile was not collected in order to preserve the integrity of the location. (see Photograph 10, Appendix I) (See samples DO-1, DO-6, DO-7, DO-8, DO-9, DO-10, DO-11 in Appendix II)

Two (2) samples of 9" x 9" vinyl floor tiles were sampled and analyzed for asbestos content using the PLM method of detection. Both of the samples were identified as containing 2 % Chrysotile asbestos. Their associated mastics were identified as non-asbestos containing. (See samples DO-4, DO-5, in Appendix II, Photographs 5, 6, Appendix I)

Non-Friable Transite Panels, Sheeting and Shingles

Asbestos containing transite paneling was not observed in the building during the assessment.

Non-Friable Transite Piping

Transite piping was not observed during the assessment.

Electrical Wiring/ Lighting

One type of a light fixture heat shield was observed throughout the building. A sample was collected and analyzed for asbestos content using the PLM method of detection, this sample was found to contain 20% Chrysotile asbestos (see samples DO-13 in Appendix II, see Photograph 7 in Appendix I).

Roofing Materials

Access to the roof was not available at the time of the assessment.

Other Materials

Window caulking, interior or exterior, was not sampled during this assessment.

No other materials suspected of containing asbestos were observed during the assessment.

2.5 Recommendations

The assessment identified that numerous materials contained a concentration of asbestos equal to or greater than 1% by dry weight. According to regulations, the owner of any building/ residence is required to implement and maintain specific health and safety measures, therefore the following recommendations are provided:

- All materials listed in fair and/or poor condition are to be repaired or removed immediately. See APPENDIX III – Asbestos Building Survey Information for materials condition and locations.
- Ensure that prior to and during any major renovations/demolition extreme caution is implemented to make certain that asbestos containing materials are not disturbed. It should be noted that asbestos containing materials may be concealed behind fixed walls/ceiling plenums and under existing sub-floors.
- Ensure that when disturbing asbestos materials, the asbestos removal contractor follows all federal and provincial regulations in accordance to the Newfoundland and Labrador Regulation 111/98.
- Retain a copy of this report on-site for future reference of friable and non-friable asbestos products.
- Provide asbestos air monitoring and inspection during the removal of asbestos to ensure that all government guidelines and regulations are followed throughout the removal process.

3.0 DISCLAIMER

This report was prepared by ALL-TECH Environmental Services Limited for the sole benefit of our client Ms. Sheila Miller. The information in the report is based on information provided or obtained by ALL-TECH. The report is based on ALL-TECH's best judgment with the information provided at the time of the assessment. Any use and/or conclusions used by any third party, is the responsibility of that third party. ALL-TECH accepts no liability and/or damages occurred by any third party that uses information obtained in this report.

If you have any questions regarding this report, please do not hesitate to call me at (709) 754-4146.

Thank You,



Carla Noseworthy, CET
Environmental Consultant
ALL-TECH Environmental Services Limited

Reviewed by:



Orven Newhook, B.Sc.
Project Manager
ALL-TECH Environmental Services Limited

APPENDIX I
PHOTOGRAPHS OF ASBESTOS CONTAINING MATERIALS



Photograph 1: Pipe fitting insulation in the Corridor DO3C01, in poor condition.



Photograph 2: Pipe fitting insulation in Room DO216, in poor condition.

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Photograph 3: Pipe fitting insulation in Room DO216, in poor condition.



Photograph 4: Pipe fitting insulation in Corridor DO4C01, in poor condition.

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Photograph 5: Samples DO-4 (dark brown) and DO-5 (light brown), as found and sampled from Room DO108.



Photograph 6: Sample DO-10 as found in Corridor DO1C03, outside of Room DO104.

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Photograph 7: Sample DO-13 as found in Room DO111. Light fixture heat shield in poor condition.



Photograph 8: Sample DO-21, as found in Room DO409. The plaster is in poor condition.

Consultant: Carla Noseworthy, CET ALL-TECH Environmental	Building: Doyle House Memorial University of Newfoundland St. John's, NL	Date: August 18, 2011
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Photograph 9: Insulation duct located above a stairway of DO1S03. The duct was not accessible for sampling. As such it must be considered to be asbestos containing until proven otherwise.

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APPENDIX II
LABORATORY ASBESTOS RESULTS

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

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Attn: **Carla Noseworthy**
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Received: 08/24/11 11:55 AM
EMSL Order: 041123000

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Project: 13916/Doyle

Phone: (709) 754-4146

EMSL Proj:
Analysis Date: 8/24/2011

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using
Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO1-Floor Tile 041123000-0001	- 1x1 vft-blue- DO1C02	Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO1-Mastic 041123000-0001A	- 1x1 vft-blue- DO1C02	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DO2 041123000-0002	- 1x1 ct-Widely spaced fissures- DO1C02	Gray Fibrous Heterogeneous	45% Cellulose 30% Min. Wool	25% Non-fibrous (other)	None Detected
DO3 041123000-0003	- 1x1 ct, narrow spaced fissures- DO1C02	Gray/White Fibrous Heterogeneous	45% Cellulose 30% Min. Wool	25% Non-fibrous (other)	None Detected
DO4-Floor Tile 041123000-0004	- 9x9 vft dk brown w/ white-DO108	Brown Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
DO4-Mastic 041123000-0004A	- 9x9 vft dk brown w/ white-DO108	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 08/30/2011 14:00:18 Replaces the Initial Report 08/25/2011 08:00:34. Reason Code: Data Entry-Change to Appearance

Analyst(s)

Steven Reynolds (32)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO5-Floor Tile 041123000-0005	- 9x9 vft lt brown w/ brown, white- DO108	Tan Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
DO5-Mastic 041123000-0005A	- 9x9 vft lt brown w/ brown, white- DO108	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DO6-Floor Tile 041123000-0006	- 1x1 vft lt grey- DO101	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Suggest TEM					
DO6-Mastic 041123000-0006A	- 1x1 vft lt grey- DO101	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DO7-Floor Tile 041123000-0007	- 1x1 vft dk grey- DO101	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO7-Mastic 041123000-0007A	- 1x1 vft dk grey- DO101	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO8 041123000-0008	- 1x1 vft lt beige w/brown-DO1501	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO9-Floor Tile 041123000-0009	- 1x1 vft dk beige w/white-DO1501	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO9-Mastic 041123000-0009A	- 1x1 vft dk beige w/white-DO1501	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO10 041123000-0010	- 1x1 vft med brown w/ dk brown, white- DO104	Brown Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
DO11-Floor Tile 041123000-0011	- 1x1 vft mustard yellow w/ white- DO111	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Suggest TEM					
DO11-Mastic 041123000-0011A	- 1x1 vft mustard yellow w/ white- DO111	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO12 041123000-0012	- Pipe fitting insulation-DO111	Gray Fibrous Heterogeneous		85% Non-fibrous (other)	15% Chrysotile
DO13 041123000-0013	- Light fixture heat shield-DO111	Brown/Silver Fibrous Heterogeneous	10% Cellulose	70% Non-fibrous (other)	20% Chrysotile
DO14 041123000-0014	- Plaster-DO115	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO15 041123000-0015	- Drywall joint compound-DO117	Cream Non-Fibrous Heterogeneous		100% Non-fibrous (other)	<1% Chrysotile
DO16 041123000-0016	- Plaster-DO117	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO17 041123000-0017	- Plaster-DO218	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (800) 220-3675 Fax: (856) 786-5974 Email: cinnaslab@EMSL.com

Attn: **Carla Noseworthy**
All-Tech Environmental Services Limited
151 Crosbie Road
Suite 402
St. John's, NL A1B 4B4

Customer ID: ATE544D
Customer PO:
Received: 08/24/11 11:55 AM
EMSL Order: 041123000

Fax:
Project: 13916/Doyle

Phone: (709) 754-4146

EMSL Proj:
Analysis Date: 8/24/2011

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using
Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO18-Base Coat 041123000-0018	- Plaster-DO324	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO18-Skim Coat 041123000-0018A	- Plaster-DO324	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO19 041123000-0019	- Plaster-DO4502	White Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
DO20 041123000-0020	- Plaster-DO404	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO21-Base Coat 041123000-0021	- Plaster-DO409	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DO21-Skim Coat 041123000-0021A	- Plaster-DO409	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 08/30/2011 14:00:18 Replaces the Initial Report 08/25/2011 08:00:34. Reason Code: Data Entry-Change to Appearance

Analyst(s)

Steven Reynolds (32)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

**EMSL Analytical, Inc.**

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EMSL Proj:
Analysis Date: 8/24/2011

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using
Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DO22-Floor Tile 041123000-0022	- 1'x1' VFT Grey w/Olive stripe	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Suggest TEM					
DO22-Mastic 041123000-0022A	- 1'x1' VFT Grey w/Olive stripe	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Report Amended: 08/30/2011 14:00:18 Replaces the Initial Report 08/25/2011 08:00:34. Reason Code: Data Entry-Change to Appearance

Analyst(s)

Steven Reynolds (32)

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

APPENDIX III
ASBESTOS BUILDING SURVEY INFORMATION

Asbestos Bldg Survey Information -- Doyle House

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
Throughout Building			Plaster	A		X				DO19	Wall	White Plaster	2% Chrysotile
DO-0001/0001A			Pipe Fitting Insulation	A	X				~ 40	DO12		Grey Insulation	15% Chrysotile
DO-0001/0001A			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-0004			Pipe Fitting Insulation	A	X				1	DO12		Grey Insulation	15% Chrysotile
DO-0503			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-1501			Vinyl Floor Tile	A	X				~ 185 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-1C03			Vinyl Floor Tile	A	X				~ 275 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-1C04			Vinyl Floor Tile	A	X				~ 250 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-1V02			Vinyl Floor Tile	A	X				~ 65 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-1502			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-1502			Pipe Fitting Insulation	A	X				3	DO12		Grey Insulation	15% Chrysotile
DO-1503			¹ Duct Insulation	A	X				3	DO12		Grey Insulation	15% Chrysotile
DO-1503			Light Fixture Heat Shield	A			X		2	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-2501			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-2501			Pipe Fitting Insulation	A		X	X		7	DO12		Grey Insulation	15% Chrysotile
DO-2502			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-2502			Pipe Fitting Insulation	A	X				6	DO12		Grey Insulation	15% Chrysotile
DO-2C01			Vinyl Floor Tile	A	X				~ 830 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-3S01			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-3S01			Pipe Fitting Insulation	A	X				6	DO12	Wall, Ceiling	Grey Insulation	15% Chrysotile
DO-3S02			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-3S02			Pipe Fitting Insulation	A	X				4	DO12		Grey Insulation	15% Chrysotile
DO-3C01			Vinyl Floor Tile	A	X				~ 830 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-3C01			Pipe Fitting Insulation	A	X		X		6	DO12		Grey Insulation	15% Chrysotile
DO-4S01			Vinyl Floor Tile	A	X				~ 60 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-4S01			Pipe Fitting Insulation	A	X				3	DO12		Grey Insulation	15% Chrysotile
DO-4S02			Vinyl Floor Tile	A	X				~ 50 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-4S02			Pipe Fitting Insulation	A	X				2	DO12		Grey Insulation	15% Chrysotile
DO-4C01			Vinyl Floor Tile	A	X				~ 830 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-102			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-103/103A			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-104			Vinyl Floor Tile	A	X				~ 10 ft ²	DO10	Floor	1' x 1' Med Brown with Dark Brown, White Tile	3% Chrysotile
DO-107/107A			Vinyl Floor Tile	A	X				~ 150 ft ²	DO4		9" x 9" Dark Brown with White Tile	2% Chrysotile
DO-107/107A			Pipe Fitting Insulation	A	X				1	DO12		Grey Insulation	15% Chrysotile
DO-107/107A			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-108			Vinyl Floor Tile	A	X				~ 150 ft ²	DO4	Floor	9" x 9" Dark Brown with White Tile	2% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-108			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5	Floor	9" x 9" Light Brown with White Tile	3% Chrysotile
DO-108			Pipe Fitting Insulation	A	X				2	DO12		Grey Insulation	15% Chrysotile
DO-108			Light Fixture Heat Shield	A			X		2	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-109			Light Fixture Heat Shield	A			X			DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-111			Vinyl Floor Tile	A	X				~ 50 ft ²	DO10	Floor	1' x 1' Med Brown with Dark Brown, White Tile	3% Chrysotile
DO-111			Vinyl Floor Tile	A	X				~ 165 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-111			Pipe Fitting Insulation	A	X				1	DO12	Wall	Grey Insulation	15% Chrysotile
DO-111			Light Fixture Heat Shield	A			X		1	DO13	Ceiling	Grey Insulation behind foil backing	20% Chrysotile
DO-113			Vinyl Floor Tile	A	X				~ 165 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-114			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-114			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-116			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-118			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-118			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-119			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-201			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-201			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-202			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-202			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-203			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-204			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-205			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-205			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-206			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-206			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-207			Light Fixture Heat Shield	A			X		2	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-208			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-208			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-210			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-211			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-211			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-213			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-213			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-214			Vinyl Floor Tile	A	X				~ 60 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-214			Pipe Fitting Insulation	A	X				1	DO12		Grey Insulation	15% Chrysotile
DO-215			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-215			Light Fixture Heat Shield	A	X		X		3	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-216			Pipe Fitting Insulation	A			X		7	DO12		Grey Insulation	15% Chrysotile
DO-217			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-217			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-219			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-220			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-222			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-223			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-301			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-302			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-303			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-304			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-304			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-305			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-305			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-306			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-308			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-309			Vinyl Floor Tile	A	X				~ 25 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-309			Pipe Fitting Insulation	A	X		X		3	DO12		Grey Insulation	15% Chrysotile
DO-310			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-311			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-312			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-312			Light Fixture Heat Shield	A			X		1	DO13	Ceiling	Grey Insulation behind foil backing	20% Chrysotile
DO-313			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-313			Light Fixture Heat Shield	A			X		1	DO13	Ceiling	Grey Insulation behind foil backing	20% Chrysotile
DO-314			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-315			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-315			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-317			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-319			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-321			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-321			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-322			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-323			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-324			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-324			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-325			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-326			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-326			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-401			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-401			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-402			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-402			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-403			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-404			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-404			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-405			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-406			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-406			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-408			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-409			Vinyl Floor Tile	A	X				~ 25 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-409			Pipe Fitting Insulation	A	X				2	DO12		Grey Insulation	15% Chrysotile
DO-410			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-411			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-411			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-412			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-412			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-413			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-413			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-414			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-415			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-417			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-417			Light Fixture Heat Shield	A			X		2	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-419			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-420			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile

Room #	Bldg. System	Component	Material Type	Access	Conditions				Quantity	Sample No.	Sample Location	Sample Description	Result
					Good	Fair	Poor	Sprayed					
DO-421			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-422			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-422			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-423			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-424			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-425			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-425			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile
DO-426			Vinyl Floor Tile	A	X				~ 150 ft ²	DO5		9" x 9" Light Brown with White Tile	3% Chrysotile
DO-426			Light Fixture Heat Shield	A			X		1	DO13		Grey Insulation behind foil backing	20% Chrysotile

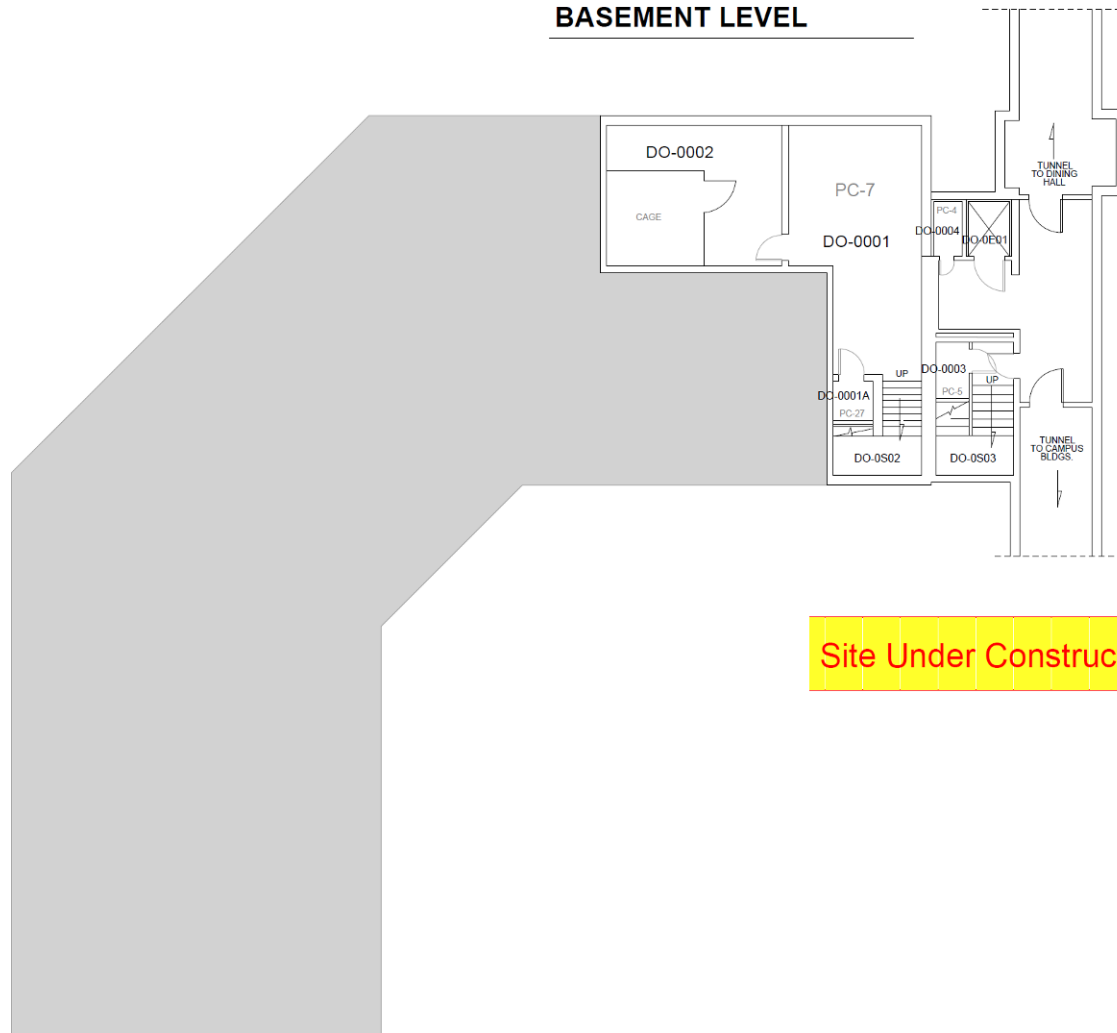
No Access was available to the following rooms: DO-207A DO-209, DO-221, DO-316, DO-416, DO-407

Access: A - Areas within reach from the floor. B - Frequently entered maintenance areas floor level. C - exposed / concealed above 8 ft, crawl space, etc.D - Inaccessible

¹ Unable to access due to height safety. Suspect asbestos containing until proven otherwise.

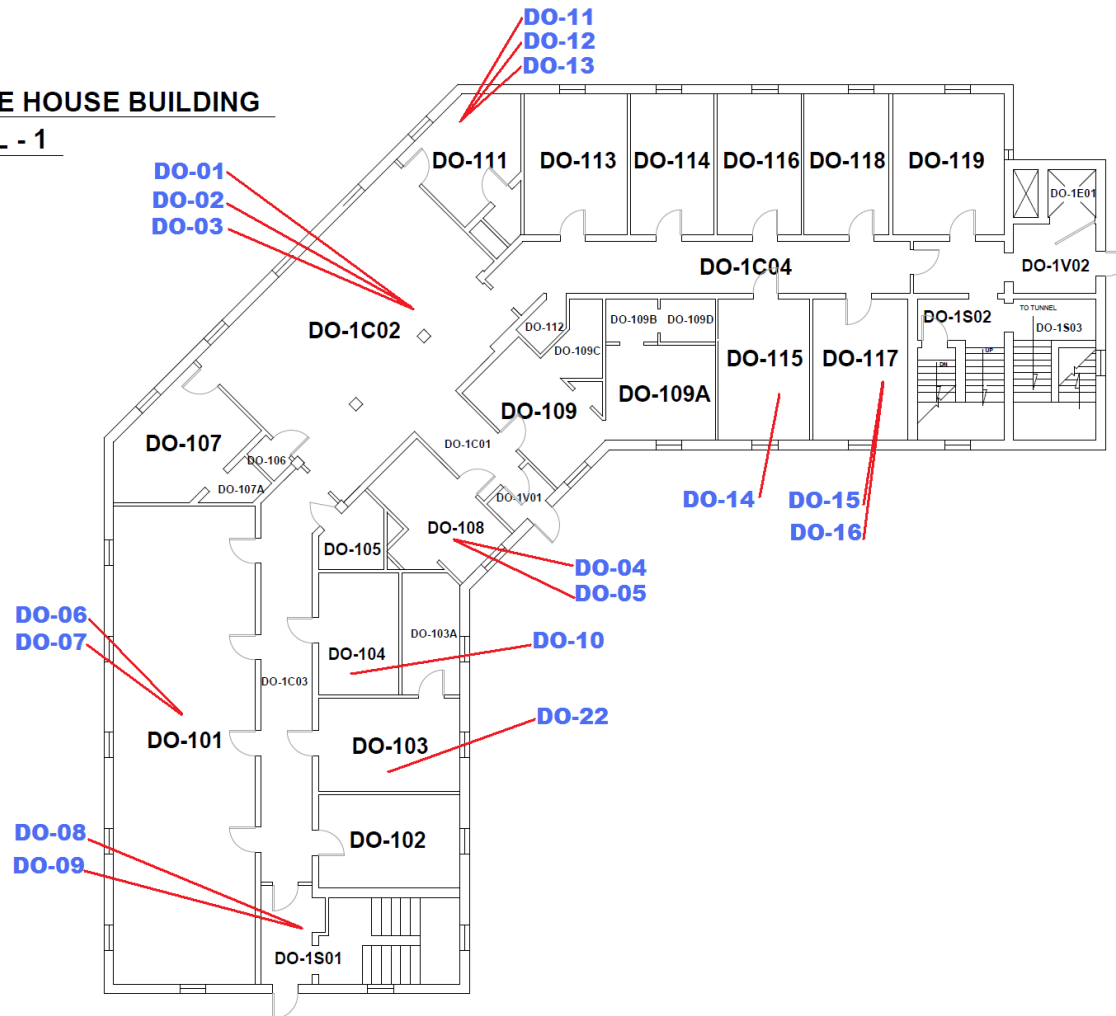
APPENDIX IV
FLOOR PLANS SHOWING SAMPLING LOCATIONS

**DOYLE HOUSE BUILDING
BASEMENT LEVEL**

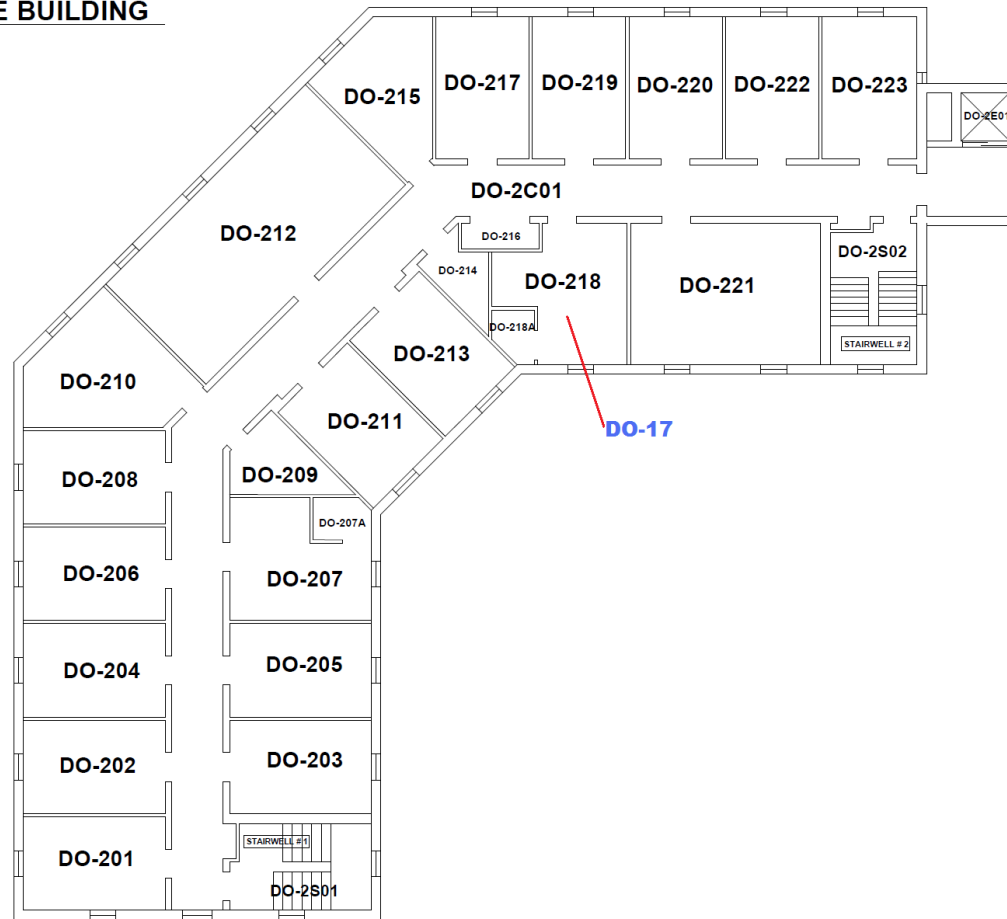


Site Under Construction !!!

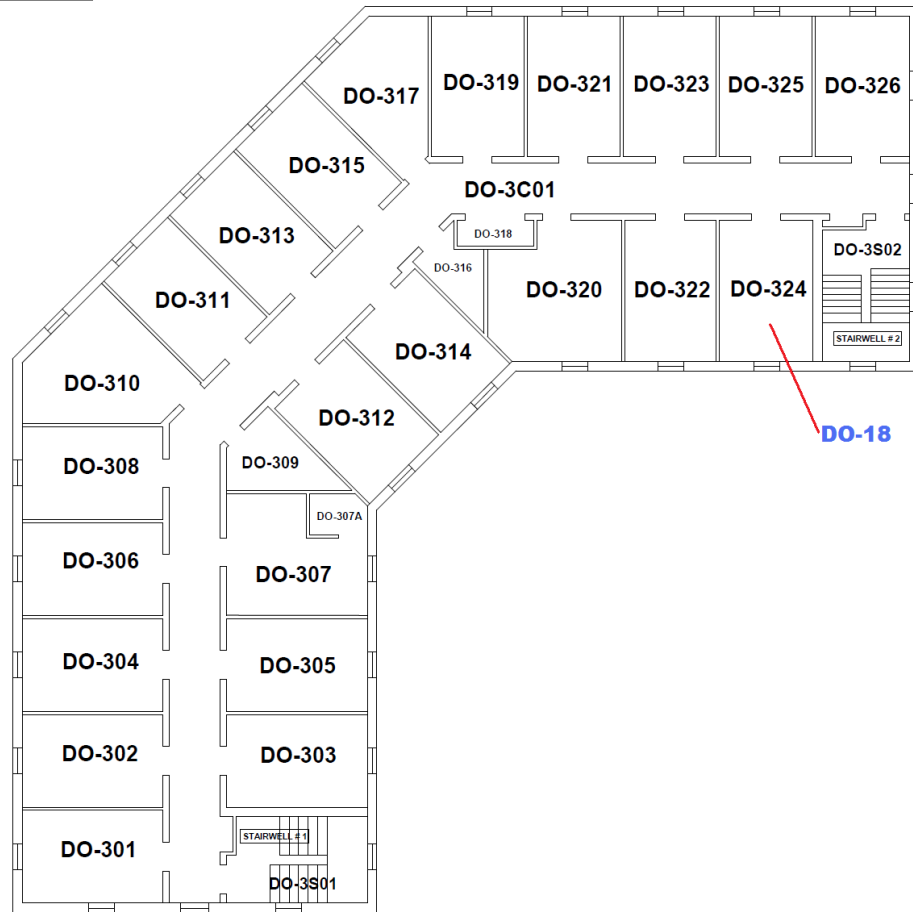
DOYLE HOUSE BUILDING
LEVEL - 1



DOYLE HOUSE BUILDING
LEVEL - 2



DOYLE HOUSE BUILDING
LEVEL - 3



DOYLE HOUSE BUILDING
LEVEL - 4

