ASBESTOS AND LEAD PAINT BUILDING MATERIALS SURVEY FOR:
THE VIVARIUM
MEMORIAL UNIVERSITY OF NEWFOUNDLAND

Prepared for:

Memorial University of Newfoundland

St. John's, NL

Pinchin LeBlanc Environmental Ltd
Project No. 02-02-00900

March 20, 2013

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SAINT JOHN, NB • DARTMOUTH, NS • LABRADOR CITY, NL • CORNER BROOK, NL

EXECUTIVE SUMMARY

Pinchin LeBlanc Environmental Limited (Pinchin) was retained by Memorial University of Newfoundland to perform asbestos and lead paint surveys in selected buildings on the Memorial University of Newfoundland's St. John's, NL campus. A total of twenty-seven (27) buildings were surveyed for asbestos containing materials (ACM) and lead based paints (LBP). This report will provide the findings for the following location;

BUILDING DESCRIPTION: VIVARIUM

BUILDING ADDRESS: MEMORIAL UNIVERSITY OF NL, ST. JOHN'S CAMPUS, NL

A summary of the findings for the Vivarium (hereafter referred to as "Site Building") is provided. For specific recommendations regarding any hazardous materials listed the reader will refer to Sections 3 and 4 of this report:

1. Friable asbestos containing building materials were identified in the Site Building, specifically parging cement.
2. Non-friable asbestos-containing building materials with the potential to become friable during renovation and demolition activities were identified in the Site Building, specifically drywall joint compound.
3. Non-friable asbestos-containing building materials were identified in the Site Building, specifically vinyl floor tiles.
4. Paints containing greater than 600 mg/kg of lead were identified in the Site Building, specifically brown paint.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

TABLE OF CONTENTS

1.0 INTRODUCTION

Pinchin LeBlanc Environmental Limited (Pinchin) was retained by Memorial University of Newfoundland to perform asbestos and lead paint surveys in selected buildings on the Memorial University of Newfoundland's St. John's, NL campus. A total of twenty-seven (27) buildings were surveyed for asbestos containing materials (ACM) and lead based paints (LBP). This report will provide the findings for the following location;

BUILDING DESCRIPTION: VIVARIUM

BUILDING ADDRESS: MEMORIAL UNIVERSITY OF NL, ST. JOHN'S CAMPUS, NL

The report presents a detailed investigation of condition, quantity, location, access, and type of ACM and LBP present in the building. The Overview Report, provided under separate cover, provides detailed information regarding the survey methodology, sampling procedure, evaluation criteria, suspect materials and regulatory information.

Provincial regulations and guidelines distinguish between friable[1] and non-friable[2] materials. The asbestos building materials survey performed by Pinchin included a search for both friable and common non-friable ACM.

For reporting purposes, the survey will be divided into sections. The report is presented in this manner to accommodate ease in reading and to allow access to report information for specific areas or materials within the building. The report also addresses specific systems and products likely present in the building. The sections of the report are as follows:

2.0 Survey Information

3.0 ACM Survey Findings

4.0 LBP Survey Findings

5.0 Recommendations

1 The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Friable ACM has a much greater potential to release airborne asbestos fibres when disturbed. The most common friable ACM used in the past are sprayed or trowelled materials (for fireproofing or thermal insulation), texture plaster (decorative or acoustic), and mechanical insulations.

2 Common non-friable ACM include vinyl floor tiles, ceiling tiles, gasket materials, asbestos cement pipe or board (transite), and asbestos textiles. Although a product may be considered non-friable when new, if the product releases fine dust due to deterioration or during removal, the free dust is considered friable. For example, most lay-in or glued on acoustic ceiling tiles release significant dust during removal of large quantities of these tiles.

2.0 SURVEY INFORMATION

The survey was conducted on between August 8th and 9th, 2012. The survey, collection of representative bulk samples, and recording of information was performed by Mr. Trent Hardy of Pinchin. All accessible areas of the building were inspected for the presence of asbestos containing materials (ACM) and lead based paints (LBP).

A total of fourteen (14) representative bulk samples were collected for analysis for asbestos content and eight (8) bulk samples were collected for analysis of lead content.

3.0 ACM SURVEY FINDINGS

The ACM found during this survey are detailed in the location & data excel document provided to the client. The excel document serves as the clients active asbestos management plan. Quantities of materials identified, locations and friable or non-friable are also present in this excel file. Laboratory certificates for asbestos samples collected are presented in Appendix I and lead samples are presented in Appendix II. Sample location drawings are provided in Appendix III. A photographic record of the samples collected during the survey of the building is presented in Appendix IV. The following is summary of the findings for this building.

3.1 Sprayed or Trowelled Fireproofing and Thermal Insulation

No spray or trowelled fireproofing or thermal insulation was observed in the Site Building at the time of the survey.

3.2 Mechanical Insulation

Insulating cement, also referred to as "parging cement", present on pipe elbows for rain water leads was sampled in room V2 and contains 10% chrysotile asbestos (reference sample 02-02-900-S002). For locations and conditions of this material at the time of the building survey refer to location & data excel document.

Parging cement present on the re-circulating line was sampled from room V15 and contains 10% chrysotile asbestos (reference sample 02-02-900-S003). For locations and conditions of this material at the time of the building survey refer to location & data excel document.

Parging cement present on the tank was sampled from room V15 and contains 10% chrysotile asbestos (reference sample 02-02-900-S004). For locations and conditions of this material at the time of the building survey refer to location & data excel document.

Parging cement present on the boiler exhaust sampled from room V15 of the boiler exhaust and contains 10% chrysotile asbestos (reference sample 02-02-900-S004). For locations and

conditions of this material at the time of the building survey refer to location & data excel document.

Parging cement present cement on elbows and fittings of the HVAC lines was sampled from room V2 of the parging. Analysis of the sample did not identify the presence of asbestos (reference sample 02-02-900-S001).

3.3 Acoustic Ceiling Tiles

Two (2) samples were collected of acoustic ceiling tiles observed in the Site Building. A summary of the acoustic ceiling tiles samples collected is observed as follows:

- One (1) sample of the 2'x 4' acoustic ceiling tile distinguished with a pinhole and fleck pattern was sampled from room V28. Analysis of this sample did not identify the presence of asbestos (reference sample 02-02-900-S008).
- One (1) sample of the 2'x 4' acoustic ceiling tile distinguished with a pinhole and fissure pattern was analyzed from room V28. Analysis of this sample did not identify the presence of asbestos (reference sample 02-02-900-S009).

3.4 Drywall, Plaster, and Texture Finishes

Drywall was used as a wall and ceiling finish throughout the building. Until the early to mid-1980s, drywall joint compound may have contained chrysotile asbestos. Drywall joint compound is considered a non-friable material. Most buildings of this type undergo constant renovation, including the removal and replacement of drywall partitions. Therefore extensive sampling of drywall compound is necessary to come to a reasonable conclusion regarding the extent of asbestos. Furthermore, any attempt to distinguish and delineate all asbestos-containing drywall compounds from new non-asbestos drywall compound is often unachievable. Therefore, drywall joint compound was sampled at walls, which were believed to be original to try to define the presence of asbestos content in the original drywall compound.

Four (4) samples of drywall joint compound were collected in the Site Building. Results from three (3) of the four (4) samples indicate 3% chrysotile asbestos (reference samples, 02-02-900-S007, S012, S013, and S014).

Plaster was not observed in use as a wall and/or ceiling finish in the Site Building. It should be noted that plaster can at times be difficult to distinguish from other wall and ceiling finishes such as drywall and concrete. Should plaster be encountered during any demolition or renovation activities, it should be sampled for analysis for asbestos content.

3.5 Vinyl Flooring Materials

3.5.1 Vinyl Floor Tiles

Three (3) types of vinyl floor tiles were observed in the Site Building. Results from one (1) of the three (3) samples identified to the presence of asbestos. A list of the three (3) visually different vinyl floor tiles is provided below:

3.5.1.1 Asbestos Containing Vinyl Floor Tiles

- One (1) sample of the 12"x12" vinyl floor tile identified as brown with black streaks was collected from room V-30 and contains 3% chrysotile asbestos (reference sample 02-02-900-S010). Analysis of the tar mastic adhesive associated with it did not identify the presence of asbestos. For locations and conditions of this material at the time of the building survey refer to location & data excel document.

3.5.1.2 Non-Asbestos Containing Vinyl Floor Tiles

- One (1) sample of the 12"x12" vinyl floor tile identified as white with black streak was collected from room V28. Analysis of this sample and associated tar mastic adhesive did not identify the presence of asbestos (reference sample 02-02-900-S006).
- One (1) sample of the 12"x12" vinyl floor tile identified as white with abundant brown fleck was collected from room V32. Analysis of this sample and associated tar mastic adhesive did not identify the presence of asbestos (reference sample 02-02-900-S011).

3.6 Asbestos Cement Products

No suspected asbestos cement products were observed in the Site Building at the time of the survey.

3.7 Vermiculite Insulation

No vermiculite containing products were observed. Visual observations were made above the ceiling and through any hatches.

4.0 LBP SURVEY FINDINGS

Analytical results indicate that one (1) of the samples collected of painted surfaces would be considered a risk to worker exposure during construction or renovation activities (with lead concentrations exceeding 0.06%). The brown paint as observed in room V6, V6A, and V6B (reference sample 02-02-900-L007) contains 0.064%, and the same paint colours located elsewhere, should be managed as lead-containing.

Results indicate that were detected, all other paint samples containing less than 0.06% lead.

All paints observed inside the Site Building were observed in GOOD condition.

5.0 RECOMMENDATIONS

Asbestos containing materials have been identified in the Site Building. Listed below are a series of general recommendations for the Site Building. Recommendations provided in the Overview Report may also be reviewed and applied to this building.

Friable ACMs

Friable asbestos containing materials identified inside the Site Building include, parging cement on elbows and fittings, the boiler exhaust, and tank insulation.

1. Type III (high risk) asbestos abatement procedures should be carried out for the scheduled removal of greater than 1ft^2 of friable asbestos containing materials. Alternatively, Type II (moderate risk) glove bag abatement procedures may be applied where practical;
2. Type II (moderate risk) asbestos abatement procedures should be carried out for the scheduled repair or enclosure of friable ACMs or for the removal of less than 1ft^2 of material;

Potentially Friable Materials

Non-friable materials with the potential to become friable during renovation or demolition activities were identified in the Site Building, specifically drywall joint compound.

1. Under the NL guidance documents for moderate and low risk asbestos abatement procedures, quantities of plaster within an enclosure exceeding 100 ft^2 should be removed using Type III (high risk) asbestos abatement procedures. Quantities less than 100 ft^2 but exceeding 10ft^2 should be removed using Type II (moderate risk) asbestos abatement procedures, while quantities less than 10 ft^2 should be removed using Type I (low risk) asbestos abatement procedures.

Non-Friable Materials

Non-friable asbestos containing materials identified inside the Site Building include: plaster, vinyl floor tiles.

1. Type I (low risk) asbestos abatement procedures should be carried out for the scheduled disturbance of any non-friable materials provided the materials can be removed intact, and without the use of powered hand tools.

2. Should the use of powered hand tools, or excessive breakage of the materials become necessary, Type II (moderate risk) asbestos abatement procedures should be adopted.

Lead Based Paints

Do not grind, sand, torch or cut lead materials without using proper procedures, as material poses a health hazard if disturbed by these methods.

Any painted surfaces visually matching the identified paint colors should be managed as lead containing and necessary precautions (i.e.: worker protection) should be employed prior to the disturbance to these materials.

Should there be any questions pertaining to the contents of this report, please do not hesitate to contact the undersigned at our office.

Pinchin LeBlanc Environmental Limited

Prepared by;

Trent Hardy; P.Geo
Project Geoscientist

APPENDIX I

ASBESTOS ANALYTICAL REPORT

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code 200664-0

Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns, NL A1B 4C3

Attn: Dawn Benteau
Paul Staeben

Project: 02-02-00900

Lab Order ID: 1302539
Analysis ID: 1302539PLM
Date Received: 2/15/2013
Date Reported: 2/18/2013

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
02-02-900-S001 / *1302539PLM_1*	parging cement on HVAC lines	None Detected	10% Fiber Glass	90% Other	Gray, Non Fibrous, Homogeneous / Crushed
02-02-900-S002 / *1302539PLM_2*	parging cement on RWL	10% Chrysotile		90% Other	Gray, Non Fibrous, Homogeneous / Crushed
02-02-900-S003 / *1302539PLM_3*	parging cement on pre-circulating line	10% Chrysotile		90% Other	Gray, Non Fibrous, Homogeneous / Crushed
02-02-900-S004 / *1302539PLM_4*	tank insulation	10% Chrysotile		90% Other	Gray, Non Fibrous, Homogeneous / Crushed
02-02-900-S005 / *1302539PLM_5*	parging cement & jacket on boiler exhaust; *unable to separate jacket*	10% Chrysotile		90% Other	Gray, Non Fibrous, Homogeneous / Crushed
02-02-900-S006 - A / *1302539PLM_6*	12"x12" vinyl floor tiles, white with black streaks; *tile*	None Detected		100% Other	White, Non Fibrous, Homogeneous / Dissolved
02-02-900-S006 - B / *1302539PLM_15*	12"x12" vinyl floor tiles, white with black streaks; *mastic*	None Detected		100% Other	Black, Non Fibrous, Homogeneous / Dissolved
02-02-900-S007 / *1302539PLM_7*	Drywall joint compound	3% Chrysotile		97% Other	White, Non Fibrous, Homogeneous / Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Bart Huber (17)
Analyst

Nathaniel Durham, MS or Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code 200664-0

Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns, NL A1B 4C3

Attn: Dawn Benteau
Paul Staeben

Project: 02-02-00900

Lab Order ID: 1302539
Analysis ID: 1302539PLM
Date Received: 2/15/2013
Date Reported: 2/18/2013

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes / Treatment
02-02-900-S008 / *1302539PLM_8*	2"x4" acoustic ceiling tile, pinhole & fissure	None Detected	40% Cellulose 40% Fiber Glass	20% Other	White Non Fibrous Homogeneous Teased
02-02-900-S009 / *1302539PLM_9*	2"x4" acoustic ceiling tile, pinhole & fissure	None Detected	40% Cellulose 40% Fiber Glass	20% Other	White Non Fibrous Homogeneous Teased
02-02-900-S010 - A / *1302539PLM_10*	12"x12" vinyl floor tiles, brown with black streaks *tile*	3% Chrysotile		97% Other	Green Non Fibrous Homogeneous Dissolved
02-02-900-S010 - B / *1302539PLM_16*	12"x12" vinyl floor tiles, brown with black streaks *mastic*	None Detected		100% Other	Yellow Non Fibrous Homogeneous Dissolved
02-02-900-S011 - A / *1302539PLM_11*	12"x12" vinyl floor tiles, white with abundant brown flecks *tile*	None Detected		100% Other	White Non Fibrous Homogeneous Dissolved
02-02-900-S011 - B / *1302539PLM_17*	12"x12" vinyl floor tiles, white with abundant brown flecks *mastic*	None Detected		100% Other	Black Non Fibrous Homogeneous Dissolved
02-02-900-S012 / *1302539PLM_12*	Drywall joint compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous Crushed
02-02-900-S013 / *1302539PLM_13*	Drywall joint compound	None Detected		100% Other	White Non Fibrous Homogeneous Crushed

Bart Huber (17)
Analyst

Nathaniel Durham, MS or Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020

NVLAP Lab Code 200664-0

Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns, NL A1B 4C3

Attn: Dawn Benteau
Paul Staeben

Project: 02-02-00900

Lab Order ID: 1302539
Analysis ID: 1302539PLM
Date Received: 2/15/2013
Date Reported: 2/18/2013

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	*Lab Notes*				Treatment
02-02-900-S014	Drywall joint compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
1302539PLM_14					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommended that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Bart Huber (17)
Analyst

Nathaniel Durham, MS or Approved Signatory

APPENDIX II

LEAD PAINT ANALYTICAL REPORT

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3rd Ed. Method No. 3050B/Method No. 7420

AIHA LAP, LLC ACCREDITED LABORATORY

Customer: Pinchin LeBlanc Environmental
27 Austin St
2nd Flr
St Johns NL A1B 4C3

Attn: Dawn Benteau

Lab Order ID: 1302544
Analysis ID: 1302544_PBP
Date Received: 2/15/2013
Date Reported: 2/19/2013

Project: 02-02-00900

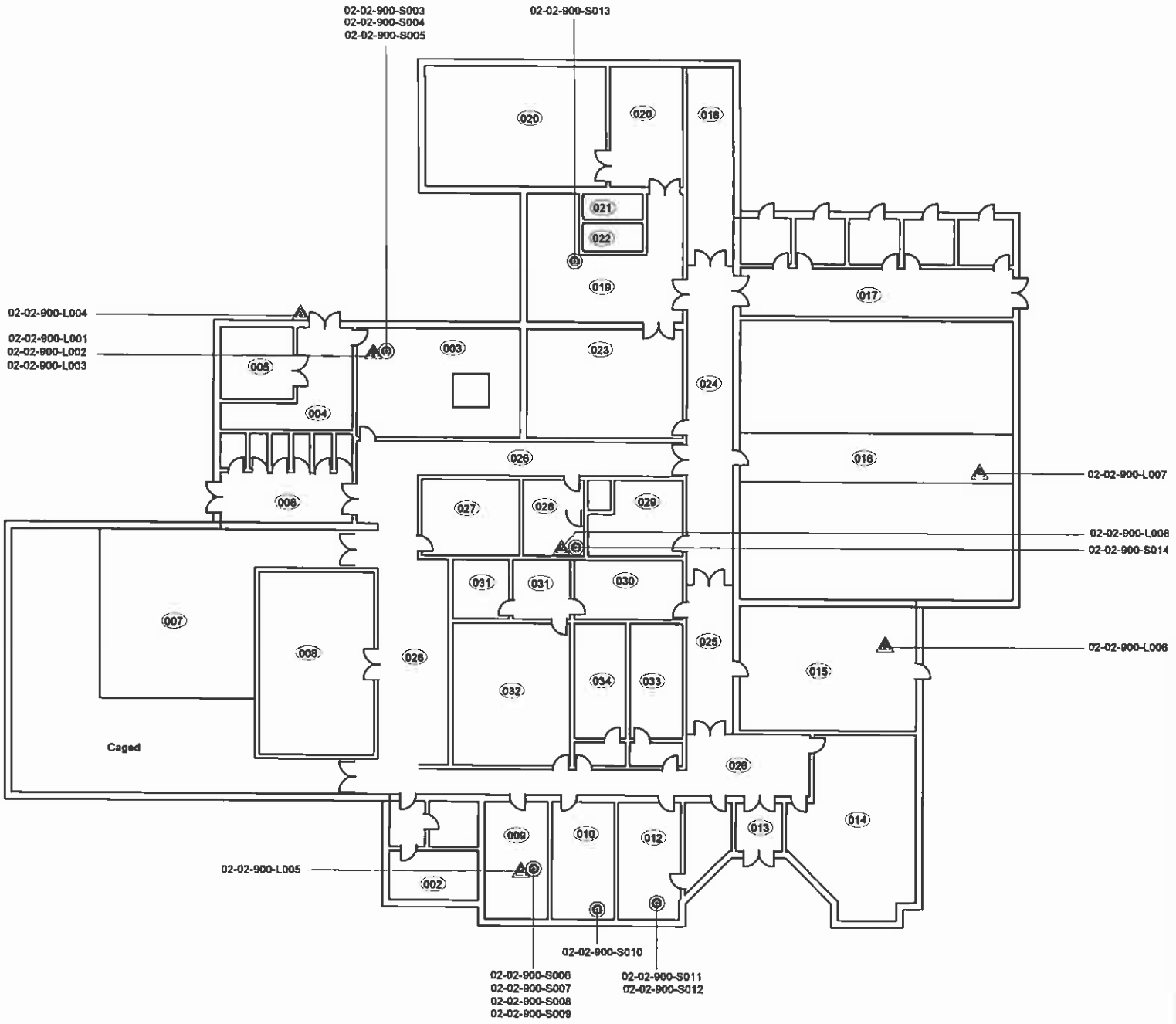
Sample ID *Lab Sample ID*	Description *Lab Notes*	Mass *(g)*	Analytical Sensitivity *(% by weight)*	Concentration *(% by weight)*
02-02-900-L001 1302544PBP_1	Red	0.0586	0.002%	**0.009%**
02-02-900-L002 1302544PBP_2	Cream	0.0937	0.001%	**< 0.004%**
02-02-900-L003 1302544PBP_3	Green	0.0681	0.002%	**0.041%**
02-02-900-L004 1302544PBP_4	Blue	0.0885	0.002%	**< 0.005%**
02-02-900-L005 1302544PBP_5	Pink	0.0412	0.003%	**0.031%**
02-02-900-L006 1302544PBP_6	White	0.0505	0.003%	**0.032%**
02-02-900-L007 1302544PBP_7	Brown	0.0538	0.003%	**0.064%**
02-02-900-L008 1302544PBP_8	Yellow	0.0723	0.002%	**< 0.006%**

Robert Duke (8)
Analyst

Laboratory Director

APPENDIX III

SITE DRAWINGS



PINCHIN LEBLANC ENVIRONMENTAL

LEGEND:

XXX PINCHIN LOCATION NUMBER

ASBESTOS SAMPLE ID NUMBER

LEAD SAMPLE ID NUMBER

CLIENT:

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

PROJECT:

ASBESTOS AND LEAD PAINT BUILDING MATERIALS SURVEY

SITE ADDRESS:

VIVARIUM,
ST. JOHN'S CAMPUS,
NEWFOUNDLAND AND LABRADOR

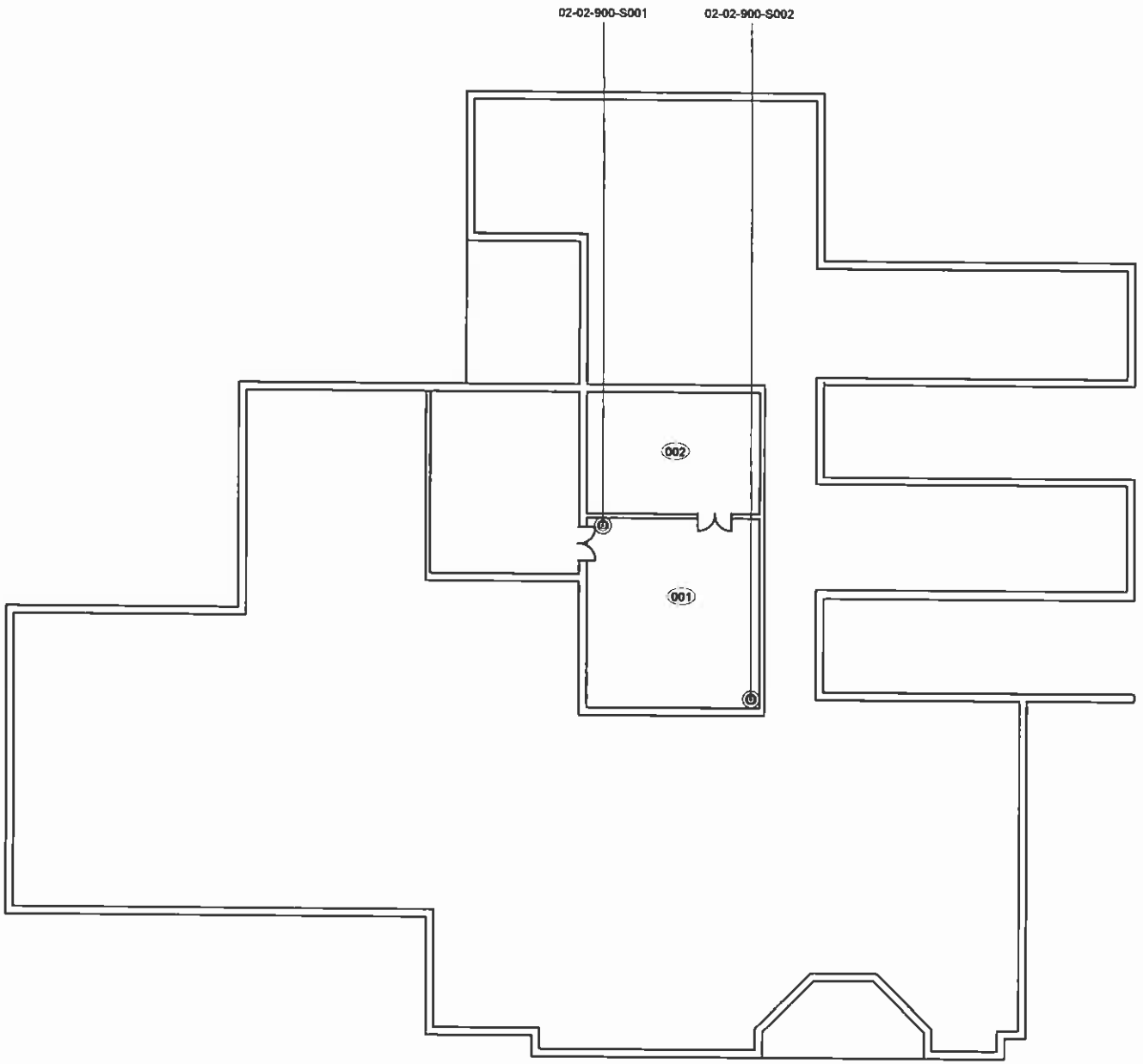
DRAWING NAME:

SAMPLE LOCATIONS
LEVEL 1

REFERENCE:

PLEL SITE SURVEY

DATE:	PROJECT #:
MARCH 2013	02 - 02 - 00900
SCALE: N.T.S.	FIGURE #: 1
DRAWN BY: A. ANISCIKLI	
CHECKED BY: P. STAEBEN	



PINCHIN LEBLANC ENVIRONMENTAL

LEGEND:

XXX PINCHIN LOCATION NUMBER

ASBESTOS SAMPLE ID NUMBER

CLIENT:

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

PROJECT:

ASBESTOS AND LEAD PAINT BUILDING MATERIALS SURVEY

SITE ADDRESS:

VIVARIUM,
ST. JOHN'S CAMPUS,
NEWFOUNDLAND AND LABRADOR

DRAWING NAME:

SAMPLE LOCATIONS
PENTHOUSE

REFERENCE:

PLEL SITE SURVEY

DATE:	PROJECT #:
MARCH 2013	02 - 02 - 00900
SCALE: N.T.S.	FIGURE #: 2
DRAWN BY: A. ANISCIKLI	
CHECKED BY: P. STAEBEN	

APPENDIX IV

SAMPLE LOG

ASBESTOS BULK SAMPLING FORM

Sample #:	S001	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	001, room V2	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

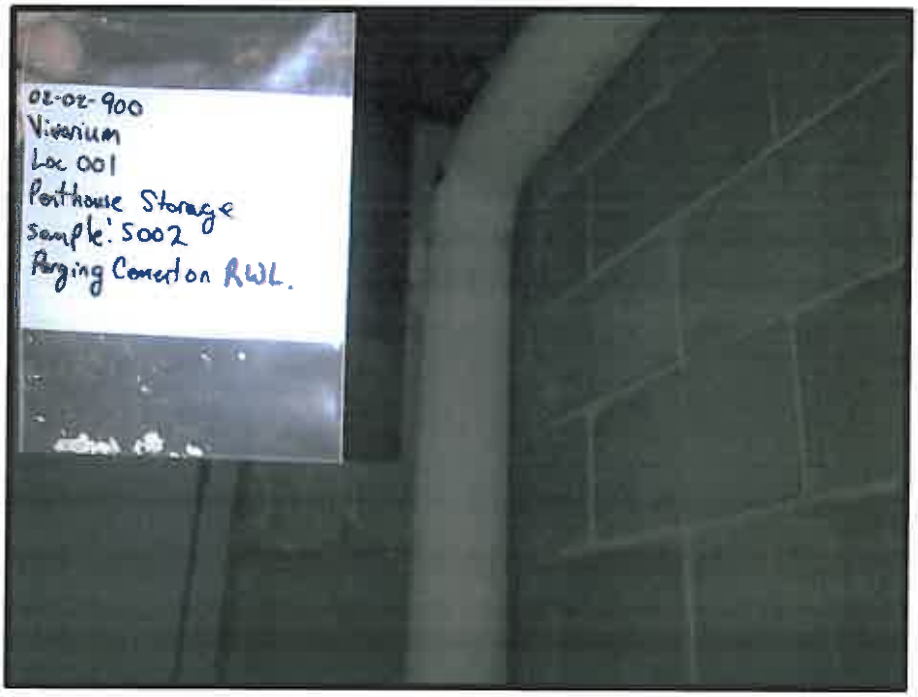
Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐ 12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
X Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		X Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: Parging on HVAC Lines	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	

ASBESTOS BULK SAMPLING FORM

Sample #:	S002	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	001, room V2	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
X Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		X Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: Parging on rain water leads	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases:	
☐ Paper Wrap		☐ Deck F. P. ing	Colour:	



ASBESTOS BULK SAMPLING FORM

Sample #:	S003	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	003, boiler room	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

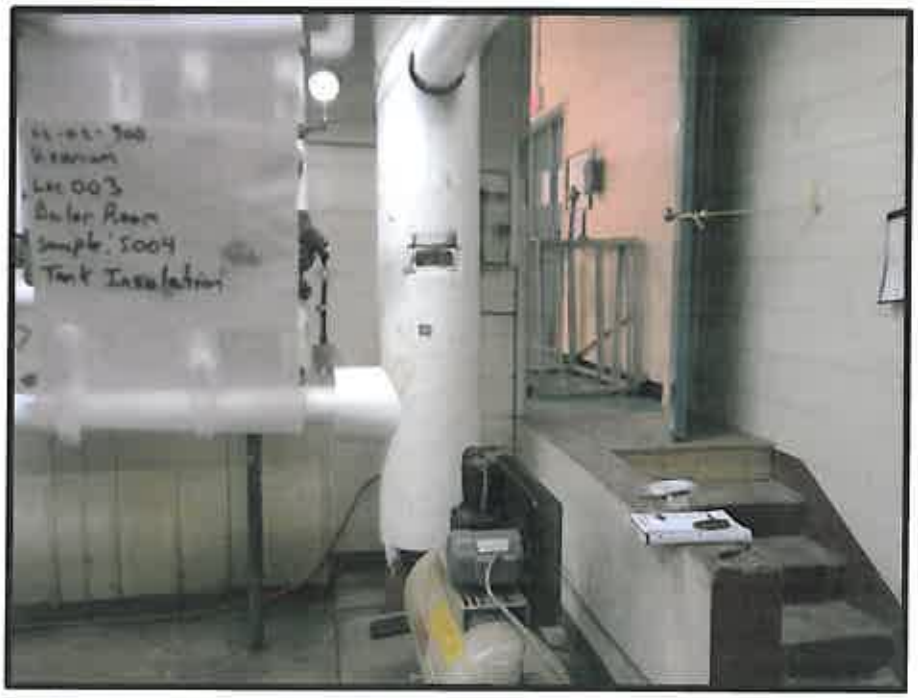
Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐ 12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
X Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		X Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: Parging on boiler waterlines	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	

ASBESTOS BULK SAMPLING FORM

Sample #:	S004	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	003, boiler room	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐ 12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
X Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: _____	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	

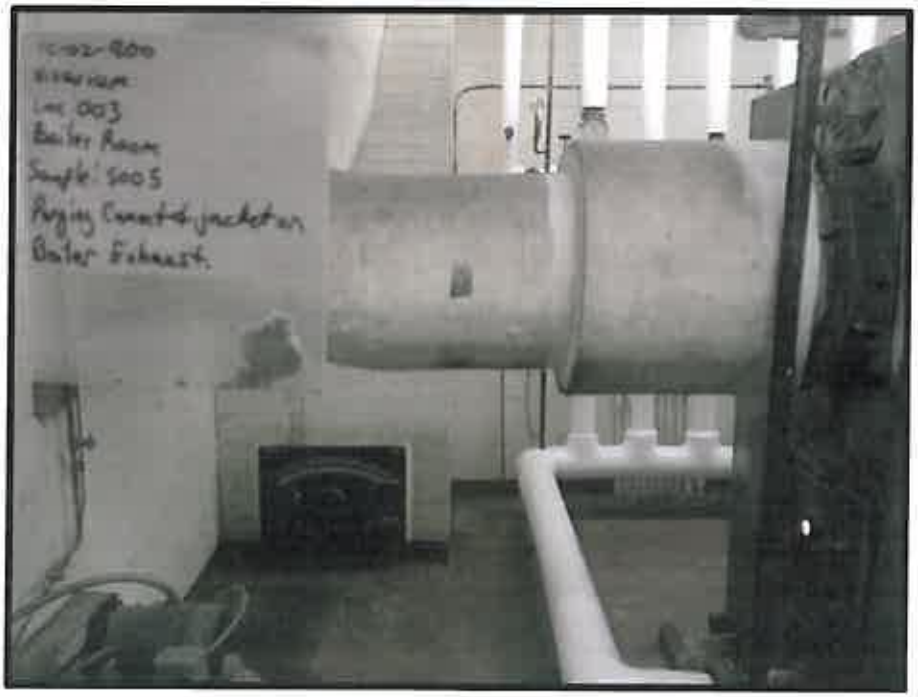


ASBESTOS BULK SAMPLING FORM

Sample #:	S005	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	003, boiler room	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
X Insulation	☐12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: Boiler exhaust	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	

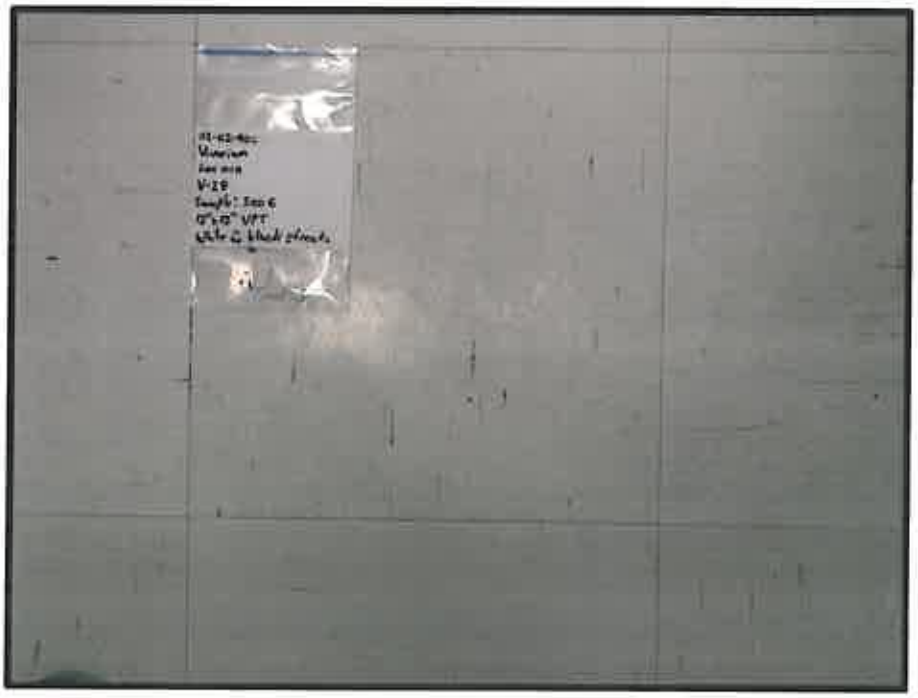


ASBESTOS BULK SAMPLING FORM

Sample #:	S006	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	010, room V28	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	X12'x12' Tile	☐ Textured	☐ Shingle	X Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: _____	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: White with black streaks	

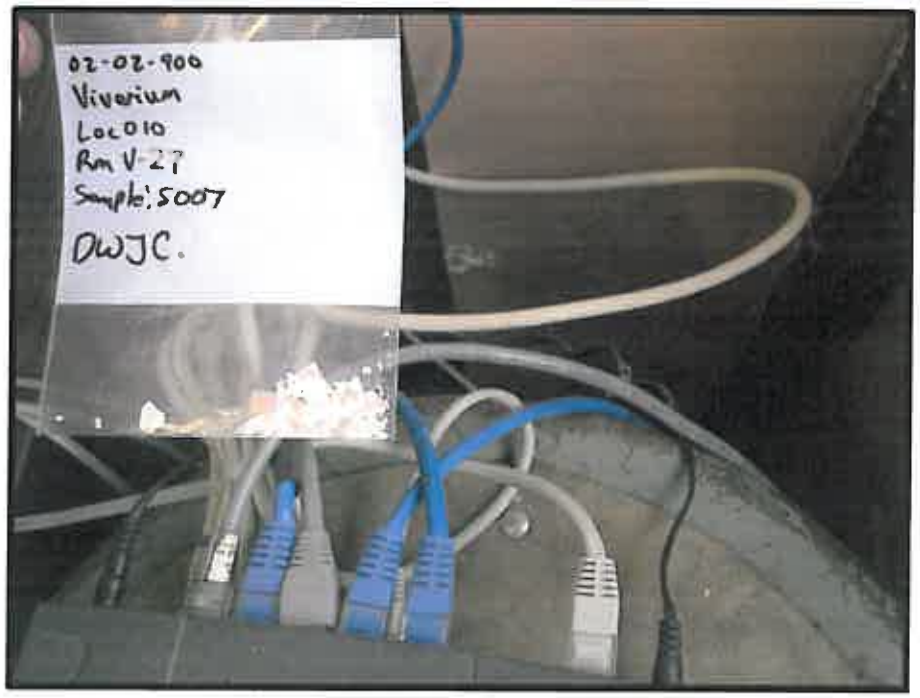


ASBESTOS BULK SAMPLING FORM

Sample #:	S007	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	010, room V27	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐ 12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	X Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	☐ Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
☐ Tank Insulation	☐ Transite Panel	☐ Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: _____	
☐ Insulation	X DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	



ASBESTOS BULK SAMPLING FORM

Sample #:	S008	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	010, room V28	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐ 12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	X Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
☐ Tank Insulation	☐ Transite Panel	X Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: 2' x 4' pinhole fissure	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____	

ASBESTOS BULK SAMPLING FORM

Sample #:	S009	**Date Sampled:**	February 11, 2013
Building :	Vivarium	**Sampler:**	Trent Hardy
Location:	010, room V28	**Analysis:**	SAI - PLM
MUN Project #:	02-02-900	**Work Order #:**	

Bulk Sampling Parameters

Pipe/Tank	Flooring	Ceiling	Roofing	Location
☐ Insulation	☐12'x12' Tile	☐ Textured	☐ Shingle	☐ Floor
☐ Elbow	☐ 9'x9'Tile	☐ Stucco	☐ Rolled	☐ Wall Orientation
☐ Fitting	☐ Vinyl Sheet	☐ Popcorn	☐ Felt	X Ceiling
☐ Transite Pipe	☐ Mastic	☐ DWJC	☐ Tar	☐ Above Ceiling
☐ Gasket	**Wall**	☐ Plaster		☐ Other
☐ Tank Insulation	☐ Transite Panel	X Acoustic Tile (Dropped)		
☐ Pipe Wrap	☐ Textured Wall	☐ Acoustic Tile (Glued-on)		
HVAC	☐ Plaster	☐ Mastic	Miscellaneous: 2' x 4' pinhole fissure	
☐ Insulation	☐ DWJC	**Structural**		
☐ Tape		☐ Steel F. P. ing	No. of Phases: _____	
☐ Paper Wrap		☐ Deck F. P. ing	Colour: _____