

September 18, 2015



City of Minneapolis
Community Planning and Economic Development
105 Fifth Avenue South – 200
Minneapolis, MN 55401-2534

Attn: Mr. Abdulkadir Jama
Engineer, Residential and Real Estate
P: (612) 673-5033
Abdulkadir.Jama@minneapolis.mn.gov

Re: Supplemental Asbestos/Lead and Regulated Materials Survey Results
4140-4146 Fremont Ave North
Minneapolis, MN 55411
Project No. MP157268

Dear Mr. Jama:

Liesch Associates, Inc. – a Terracon Company (**Liesch**) was retained by City of Minneapolis – Community Planning and Economic Development to conduct a Supplemental Asbestos, Lead and Regulated Materials Survey (the **Survey**) for the two commercial buildings addressed as 4140-4146 Fremont Avenue North, Minneapolis, Minnesota (the **Property**). This report provides the findings of that Survey.

The Survey was conducted on September 9, 2015 by a State of Minnesota certified asbestos inspector Steve Carlson in general accordance with Proposal PMP150272 (REVISED) dated August 18, 2015.

The purpose of the Survey was to conduct a supplemental survey, including collection of samples using limited-destructive methods, to supplement information from the December 19, 2014 hazardous materials survey generated by Parks Environmental Consulting, Inc., and the Lead Risk Assessment report dated April 20, 2015, completed by Vieau Associates, LLC, to identify the presence, quantity and location of asbestos containing materials (**ACM**), lead-based paint (**LBP**) in coatings, polychlorinated biphenyl (**PCB**) in caulking, and inventory mercury containing materials and equipment and other regulated hazardous and/or special waste materials in the building that would need to be abated or removed prior to proposed renovation activities.



Environmental



Facilities



Geotechnical



Materials

Supplemental Asbestos/Lead and Regulated Materials Survey Results

4140-4146 Fremont Ave North ■ Minneapolis, MN

September 18, 2015 ■ Project No. MP157268



The Survey was generally conducted to comply with the Environmental Protection Agency (EPA) National Emission Standard for Hazardous Air Pollutants (NESHAP) regarding renovation activities, barring non-destructive limitations.

After review of the Property and provided documentation, the following samples were collected to supplement existing information:

1.0 Asbestos-Containing Materials

During the Survey, Liesch collected thirty-one (31) bulk samples of suspect ACM from the Property that were separated by the analytical laboratory into seventy-seven (77) individual layers for analysis. Please note that the following information is supplemental to previous surveys of the Building, and that all such sampling information must be considered prior to disturbance of Building materials.

Suspect Homogeneous Material(s) Identified (not addressed by previous reports)	
Exterior and Roof	
Roof flashing	Window glazing compound
Roofing field	White caulk on aluminum window cladding
Mastic on roof edge capstone	Mastic on chimney
4142 Unit	
No additional interior suspect materials identified	
4142 Unit	
12"x12" tan ceramic floor tile, grout, bedding, and gray underlayment	8"x8" red ceramic floor tile, grout and bedding
12"x12" floor tile and yellow flooring (patch)	--
4144 & 4146 Units – Basement and First Floor	
6"x6" red ceramic floor tile, grout and bedding	12"x12" brown ceramic floor tile, grout, bedding
12"x12" gray ceramic floor tile, grout, bedding	1"x1" ceramic floor tile found under 12"x12" brown ceramic floor tile
Vinyl floor tile and black mastic found under 1"x1" ceramic floor tile and 12"x12" brown ceramic floor tile	Gray flooring and tan adhesive found under 12"x12" gray ceramic floor tile
Plaster	Brown felt pipe insulation with tan lining
Aircell pipe insulation	--

Supplemental Asbestos/Lead and Regulated Materials Survey Results

4140-4146 Fremont Ave North ■ Minneapolis, MN

September 18, 2015 ■ Project No. MP157268



Suspect Homogeneous Material(s) Identified (not addressed by previous reports)	
4144 & 4146 Units – Upper Level Apartments	
Plaster	2"x2" tan ceramic floor tile, grout, bedding, and underlayment
White hexagonal ceramic floor tile, grout	4"x4" beige ceramic wall tile, grout, adhesive
Two flooring layers found under 2"x2" tan ceramic floor tile	12"x12" white ceramic floor tile, grout, bedding, and sheetrock underlayment
1"x1" white ceramic floor tile, grout, and bedding	4"x4" white speckled ceramic wall tile, grout, adhesive
1"x1" pink ceramic floor tile, grout, and bedding	Ceiling tile adhesive, brown
12"x12" tan ceramic floor tile, grout, bedding, and sheetrock underlayment	--

Upon analysis of the above materials for asbestos content, the following materials were identified as ACM:

Confirmed Asbestos Containing Materials (additional to existing information)	
Mastic on roof edge capstone (exterior)	Aircell pipe insulation (4144/4146 Basement)
Brown felt pipe insulation with tan lining (4144/4146 Basement) (previously identified as non-ACM)	--

Refer to the attached EMSL Analytical, Inc. report for additional sample analysis information.

2.0 PCBs in Caulk

Liesch collected one (1) composite sample of suspect PCB containing caulk from the buildings that was analyzed by Pace.

- Exterior white caulk on aluminum window cladding – None Detected

Liesch did **not** identify caulking containing PCBs during the Survey.

Refer to the attached Pace Analytical, Inc. report for more information.

3.0 General

The information gained during the Survey will be incorporated into the abatement project design for the Property, in accordance with our proposal.

Supplemental Asbestos/Lead and Regulated Materials Survey Results

4140-4146 Fremont Ave North ■ Minneapolis, MN

September 18, 2015 ■ Project No. MP157268



Liesch's services were conducted in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Liesch makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Liesch does not warrant the services of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of this report.

We appreciate the opportunity to provide these services. Please call us at 763.489.3100 if you have questions regarding this information.

Sincerely,

Liesch Associates, Inc. – A Terracon Company

A handwritten signature in blue ink that reads "Steve Carlson". The signature is fluid and cursive.

Steve Carlson, CHMM
Sr. Environmental Specialist

A handwritten signature in blue ink that reads "Mike Willey". The signature is fluid and cursive.

Mike Willey
Sr. Project Manager

Attachments EMSL Analytical, Inc. report (ACM)
Pace Analytical, Inc. report (PCB)
Liesch Asbestos Inspector Certificate

n:\projects\2015\mp157268\project documents (reports-letters-drafts to clients)\supp asb survey report\2015 09 18 4140-4146 fremont ave n supp surv rpt.docx

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: **Steve Carlson**
Liesch Associates, Inc.
13400 15th Avenue North
Plymouth, MN 55441

Phone: (763) 489-3100
 Fax: (763) 489-3101
 Received: 09/10/15 11:40 AM
 Analysis Date: 9/14/2015
 Collected: 9/9/2015

Project: **MP157268, 4140-4146 Fremont Ave. N.**

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
1-Ceramic Tile 351506130-0001	4144 1st Floor - 6"x6" Red Ceramic Floor Tile, Grout, Bedding	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1-Grout 351506130-0001A	4144 1st Floor - 6"x6" Red Ceramic Floor Tile, Grout, Bedding	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1-Bedding 351506130-0001B	4144 1st Floor - 6"x6" Red Ceramic Floor Tile, Grout, Bedding	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1-Gray Layer 351506130-0001C	4144 1st Floor - 6"x6" Red Ceramic Floor Tile, Grout, Bedding	Gray Fibrous Homogeneous	25% Glass	75% Non-fibrous (other)	None Detected
2-Ceramic Tile 351506130-0002	4144 1st Floor - 12"x12" Brown Ceramic Floor Tile, Grout, Bedding	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2-Grout 351506130-0002A	4144 1st Floor - 12"x12" Brown Ceramic Floor Tile, Grout, Bedding	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2-Bedding 351506130-0002B	4144 1st Floor - 12"x12" Brown Ceramic Floor Tile, Grout, Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
 Miles Deibusso (77)


 Rachel Travis, Laboratory Manager
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
3-Ceramic Tile 351506130-0003	4146 1st Floor - 12"x12" Gray Ceramic Floor Tile, Grout, Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3-Grout 351506130-0003A	4146 1st Floor - 12"x12" Gray Ceramic Floor Tile, Grout, Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3-Bedding 351506130-0003B	4146 1st Floor - 12"x12" Gray Ceramic Floor Tile, Grout, Bedding	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3-Fibrous Layer 351506130-0003C	4146 1st Floor - 12"x12" Gray Ceramic Floor Tile, Grout, Bedding	Gray Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	None Detected
4-Ceramic Tile 351506130-0004	4146 2nd Floor Apt. 203 - 2"x2" Tan Ceramic Floor Tile, Grout, Bedding and Underlayment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
4-Grout 351506130-0004A	4146 2nd Floor Apt. 203 - 2"x2" Tan Ceramic Floor Tile, Grout, Bedding and Underlayment	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: **Steve Carlson**
Liesch Associates, Inc.
13400 15th Avenue North
Plymouth, MN 55441

Phone: (763) 489-3100
 Fax: (763) 489-3101
 Received: 09/10/15 11:40 AM
 Analysis Date: 9/14/2015
 Collected: 9/9/2015

Project: **MP157268, 4140-4146 Fremont Ave. N.**

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
4-Bedding 351506130-0004B	4146 2nd Floor Apt. 203 - 2"x2" Tan Ceramic Floor Tile, Grout, Bedding and Underlayment	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
4-Gray Layer 351506130-0004C	4146 2nd Floor Apt. 203 - 2"x2" Tan Ceramic Floor Tile, Grout, Bedding and Underlayment	Gray Fibrous Homogeneous	25% Glass	75% Non-fibrous (other)	None Detected
5-Ceramic Tile 351506130-0005	4146 2nd Floor Apt. 203 - White Hexagonal Ceramic Floor Tile and Grout	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
5-Grout 351506130-0005A	4146 2nd Floor Apt. 203 - White Hexagonal Ceramic Floor Tile and Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
6-Ceramic Tile 351506130-0006	4146 2nd Floor Apt. 203 - 4"x4" Beige Ceramic Wall Tile, Grout and Adhesive	Beige Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
 Miles Deibusso (77)


 Rachel Travis, Laboratory Manager
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
6-Grout 351506130-0006A	4146 2nd Floor Apt. 203 - 4"x4" Beige Ceramic Wall Tile, Grout and Adhesive	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
6-Adhesive 351506130-0006B	4146 2nd Floor Apt. 203 - 4"x4" Beige Ceramic Wall Tile, Grout and Adhesive	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
7-Floor Tile 351506130-0007	4146 2nd Floor Apt. 203 - Two Flooring Layers Under #4	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
7-Mastic 351506130-0007A	4146 2nd Floor Apt. 203 - Two Flooring Layers Under #4	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
7-Sheet Flooring 351506130-0007B	4146 2nd Floor Apt. 203 - Two Flooring Layers Under #4	Gray Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	None Detected
7-Adhesive 351506130-0007C	4146 2nd Floor Apt. 203 - Two Flooring Layers Under #4	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
8-Ceramic Tile 351506130-0008	4146 2nd Floor Apt. 201 - 12"x12" White Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
8-Grout 351506130-0008A	4146 2nd Floor Apt. 201 - 12"x12" White Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
8-Bedding 351506130-0008B	4146 2nd Floor Apt. 201 - 12"x12" White Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
8-Sheetrock 351506130-0008C	4146 2nd Floor Apt. 201 - 12"x12" White Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	White Fibrous Homogeneous	5% Cellulose 5% Glass	90% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
9-Ceramic Tile 351506130-0009	4146 2nd Floor Apt. 201 - 1"x1" White Ceramic Floor Tile, Grout and Bedding	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
9-Grout 351506130-0009A	4146 2nd Floor Apt. 201 - 1"x1" White Ceramic Floor Tile, Grout and Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
9-Bedding 351506130-0009B	4146 2nd Floor Apt. 201 - 1"x1" White Ceramic Floor Tile, Grout and Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
10-Ceramic Tile 351506130-0010	4146 2nd Floor Apt. 201 - 4"x4" White Speckled Ceramic Wall Tile, Grout and Adhesive	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
10-Grout 351506130-0010A	4146 2nd Floor Apt. 201 - 4"x4" White Speckled Ceramic Wall Tile, Grout and Adhesive	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles Deibusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
10-Adhesive 351506130-0010B	4146 2nd Floor Apt. 201 - 4"x4" White Speckled Ceramic Wall Tile, Grout and Adhesive	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
11 351506130-0011	4142 Roof - Roofing Field	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
12-Ceramic Tile 351506130-0012	4144 2nd Floor Apt. 202 - 1"x1" Pink Ceramic Floor Tile, Grout and Bedding	Pink Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
12-Grout 351506130-0012A	4144 2nd Floor Apt. 202 - 1"x1" Pink Ceramic Floor Tile, Grout and Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
12-Bedding 351506130-0012B	4144 2nd Floor Apt. 202 - 1"x1" Pink Ceramic Floor Tile, Grout and Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
13-Plaster 351506130-0013	4146 2nd Floor Apt. 201 - Ceiling Tile Adhesive, Brown	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
13-Adhesive 351506130-0013A	4146 2nd Floor Apt. 201 - Ceiling Tile Adhesive, Brown	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
13-Ceiling Tile 351506130-0013B	4146 2nd Floor Apt. 201 - Ceiling Tile Adhesive, Brown	Brown Fibrous Homogeneous	100% Cellulose	0% Non-fibrous (other)	None Detected
14-Ceramic Tile 351506130-0014	4144 2nd Floor Apt. 204 - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
14-Grout 351506130-0014A	4144 2nd Floor Apt. 204 - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
14-Bedding 351506130-0014B	4144 2nd Floor Apt. 204 - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
14-Sheetrock <i>351506130-0014C</i>	4144 2nd Floor Apt. 204 - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Sheetrock Underlayment	White Fibrous Homogeneous	10% Glass	90% Non-fibrous (other)	None Detected
15 <i>351506130-0015</i>	4140 Roof - Roof Flashing	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
16 <i>351506130-0016</i>	Exterior - 2nd Floor, West - Window Glazing Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
17-Ceramic Tile <i>351506130-0017</i>	4144 1st Floor - 1"x1" Ceramic Floor Tile Under #2	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
17-Grout <i>351506130-0017A</i>	4144 1st Floor - 1"x1" Ceramic Floor Tile Under #2	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
18-Bedding <i>351506130-0018</i>	4144 1st Floor - Vinyl Floor Tile and Black Mastic Under #2 and #17	Gray Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (other)	None Detected
18-Floor Tile <i>351506130-0018A</i>	4144 1st Floor - Vinyl Floor Tile and Black Mastic Under #2 and #17	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles Deibusso (77)

Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41



EMSL Analytical, Inc.

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>

minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
18-Filler 351506130-0018B	4144 1st Floor - Vinyl Floor Tile and Black Mastic Under #2 and #17	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
18-Mastic 351506130-0018C	4144 1st Floor - Vinyl Floor Tile and Black Mastic Under #2 and #17	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
19-Hard Gray Layer 351506130-0019	4146 1st Floor - Gray Flooring and Tan Adhesive Under #3	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
19-White Layer 351506130-0019A	4146 1st Floor - Gray Flooring and Tan Adhesive Under #3	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
19-fibrous Layer 351506130-0019B	4146 1st Floor - Gray Flooring and Tan Adhesive Under #3	Gray Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	None Detected
19-Adhesive 351506130-0019C	4146 1st Floor - Gray Flooring and Tan Adhesive Under #3	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
20 351506130-0020	4146 2nd Floor Apt. 203 - Plaster	White Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected

Analyst(s)
Miles Deibusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: Steve Carlson Liesch Associates, Inc. 13400 15th Avenue North Plymouth, MN 55441	Phone: (763) 489-3100 Fax: (763) 489-3101 Received: 09/10/15 11:40 AM Analysis Date: 9/14/2015 Collected: 9/9/2015
Project: MP157268, 4140-4146 Fremont Ave. N.	

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
21 351506130-0021	4144 2nd Floor Apt. 202 - Plaster	White Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
22 351506130-0022	4146 1st Floor - Plaster	White Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	None Detected
23 351506130-0023	4146 Roof - Mastic on Capstone	Black Non-Fibrous Homogeneous		94% Non-fibrous (other)	6% Chrysotile
24 351506130-0024	4142 Roof - Mastic on Chimney	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
25-Ceramic Tile 351506130-0025	4142 1st Floor - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Gray Underlayment	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
25-Grout 351506130-0025A	4142 1st Floor - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Gray Underlayment	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order:	351506130
CustomerID:	BALI50
CustomerPO:	
ProjectID:	

Attn: **Steve Carlson**
Liesch Associates, Inc.
13400 15th Avenue North
Plymouth, MN 55441

Phone: (763) 489-3100
 Fax: (763) 489-3101
 Received: 09/10/15 11:40 AM
 Analysis Date: 9/14/2015
 Collected: 9/9/2015

Project: **MP157268, 4140-4146 Fremont Ave. N.**

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
25-Bedding 351506130-0025B	4142 1st Floor - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Gray Underlayment	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
25-Underlayment 351506130-0025C	4142 1st Floor - 12"x12" Tan Ceramic Floor Tile, Grout, Bedding and Gray Underlayment	Gray/White Fibrous Homogeneous	25% Glass	75% Non-fibrous (other)	None Detected
26-Ceramic Tile 351506130-0026	4142 1st Floor - 8"x8" Red Ceramic Floor Tile, Grout, Bedding	Red Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
26-Grout 351506130-0026A	4142 1st Floor - 8"x8" Red Ceramic Floor Tile, Grout, Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
26-Bedding 351506130-0026B	4142 1st Floor - 8"x8" Red Ceramic Floor Tile, Grout, Bedding	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
27-Floor Tile 351506130-0027	4142 1st Floor - 12"x12" Floor Tile and Yellow Flooring Under	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____
 Miles Deibusso (77)


 Rachel Travis, Laboratory Manager
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

**EMSL Analytical, Inc.**

14375 23rd Avenue North, Minneapolis, Mn 55447

Phone/Fax: (763) 449-4922 / (763) 449-4924

<http://www.EMSL.com>minneapolislab@emsl.com

EMSL Order: 351506130

CustomerID: BALI50

CustomerPO:

ProjectID:

Attn: **Steve Carlson**
Liesch Associates, Inc.
13400 15th Avenue North
Plymouth, MN 55441

Phone: (763) 489-3100
 Fax: (763) 489-3101
 Received: 09/10/15 11:40 AM
 Analysis Date: 9/14/2015
 Collected: 9/9/2015

Project: **MP157268, 4140-4146 Fremont Ave. N.**

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
27-Mastic 351506130-0027A	4142 1st Floor - 12"x12" Floor Tile and Yellow Flooring Under	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
27-Gray Layer 351506130-0027B	4142 1st Floor - 12"x12" Floor Tile and Yellow Flooring Under	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
28-Brown Layer 351506130-0028	4144 Basement - Brown Felt Pipe Insulation with Tan Lining	Brown Fibrous Homogeneous	100% Cellulose	0% Non-fibrous (other)	None Detected
28-Tan Layer 351506130-0028A	4144 Basement - Brown Felt Pipe Insulation with Tan Lining	Tan Fibrous Homogeneous	75% Cellulose	0% Non-fibrous (other)	25% Chrysotile
29 351506130-0029	4144 Basement - Aircell Pipe Insulation	White Fibrous Homogeneous	25% Cellulose	0% Non-fibrous (other)	75% Chrysotile
30 351506130-0030	Exterior, East - Window Glazing Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
31 351506130-0031	Exterior, North - White Caulk on Aluminum Window Cladding	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

Miles DeBusso (77)


Rachel Travis, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Minneapolis, Mn NVLAP Lab Code 200019-0

Initial report from 09/15/2015 09:38:41

Terracon

Chain of Custody Record

13400 15th Avenue North, Minneapolis, MN 55441
763-489-3100 Fax: 763-489-3101

Field Coordinator:

Steve Carlson

Page 1 of 2

Client Name:

City of Minneapolis

Project Name:

4140-4146 Fremont Ave. N.

Project #

MP 157 268

Task #

Sampler's Signature:

Steve Carlson

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

PLM EPA 600/R-93/116 (<1%)

Point Count (Less than 1%)

400 (<0.25%) 1000 (<0.1%)

Other:

Sample #	Date	Location	Description	Volume	Comments
1	9/9/15	4144 1st Floor	6"x6" red ceramic floor tile, grout, bedding		
2			12"x12" brown ceramic floor tile, grout, bedding		
3		4146 1st Floor	12"x12" grey ceramic floor tile, grout, bedding		
4		4146 2nd Floor Apt. 203	2"x2" tan ceramic floor tile, grout, bedding, and under lay ment		
5			white hexagonal ceramic floor tile and grout		
6			4"x4" beige ceramic wall tile, grout, and adhesive		
7			Two flooring layers under #4		
8		4146 2nd Floor Apt. 201	12"x12" white ceramic floor tile, grout, bedding, and sheetrock under lay ment		
9			1"x1" white ceramic floor tile, grout, and bedding		
10			4"x4" white speckled ceramic wall tile, grout, and adhesive		
11		4142 Roof	Roofing field		
12		4144 2nd Floor Apt. 202	1"x1" pink ceramic floor tile, grout, bedding		
13		4146 2nd Floor Apt. 201	ceiling tile adhesive, brown		analyse all layers
14		4144 2nd Floor Apt. 204	12"x12" tan ceramic floor tile, grout, bedding, and sheetrock under lay ment		
15		4140 Roof	Roof flashing		
16		Exterior - 2nd floor, west	Window glazing compound		
17		4144 1st Floor	1"x1" ceramic floor tile under #2		
18			vinyl floor tile and black mastic under #2 and #17		

Relinquished by (Signature):

Steve Carlson

Date:

9/10/15

Time:

Received by (Signature):

M Claypool

Date:

9/14/15

Time:

11:40

Remarks:

Relinquished by (Signature):

Date:

Time:

Received by (Signature):

Date:

Time:

Terracon

13400 15th Avenue North, Minneapolis, MN 55441
763-489-3100 Fax: 763-489-3101

Chain of Custody Record

Field Coordinator:

Page 2 of 2

Client Name:

Project Name:

Project #

MP/57268

Task #

Samplers Signature:

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

PLM EPA 600/R-93/116 (<1%)

Point Count (Less than 1%)
 400 (<0.25%) 1000 (<0.1%)

Other:

Sample #	Date	Location	Description	Volume	Comments
19	9/9/15	4146 1st floor	Gray flooring and tan adhesive under #3		
20		4146 2nd floor Apt. 203	plaster		
21		4144 2nd floor Apt. 202			
22		4146 1st floor			
23		4146 Roof	mastic on capstone		
24		4142 Roof	mastic on chimney		
25		4142 1st floor	12"x12" tan ceramic floor tile, grout, bedding, and gray underlayment		
26			8"x8" red ceramic floor tile, grout, bedding		
27			12"x12" floor tile and yellow flooring under		
28		4144 Basement	Brown felt pipe insulation with tan lining		
29			Aircell pipe insulation		
30		Exterior, east	window glazing compound		
31		Exterior, north	white caulk on aluminum window cladding		

Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Date:	Time:	Remarks:
			McKaypool WJ	9/10/15	11:40	
Relinquished by (Signature):	Date:	Time:	Received by (Signature):	Date:	Time:	

September 17, 2015

Steve Carlson
Liesch Associates, Inc.
13400 15th Avenue North
Plymouth, MN 55441

RE: Project: MP157268 4140-4146 Fremont Ave
Pace Project No.: 10321558

Dear Steve Carlson:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Amanda Albrecht
amanda.albrecht@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10321558001	PCB-1	Solid	09/09/15 00:00	09/10/15 15:55

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10321558001	PCB-1	EPA 8082A	LT	11	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Method: EPA 8082A

Description: 8082A GCS PCB Soxtherm

Client: TERRACON-Minneapolis/Plymouth

Date: September 17, 2015

General Information:

1 sample was analyzed for EPA 8082A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3541 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: OEXT/30781

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Sample: PCB-1 **Lab ID: 10321558001** Collected: 09/09/15 00:00 Received: 09/10/15 15:55 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB Soxtherm		Analytical Method: EPA 8082A Preparation Method: EPA 3541							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.19	0.0058	1	09/15/15 08:09	09/16/15 12:11	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.19	0.014	1	09/15/15 08:09	09/16/15 12:11	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.19	0.0058	1	09/15/15 08:09	09/16/15 12:11	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.19	0.0048	1	09/15/15 08:09	09/16/15 12:11	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.19	0.015	1	09/15/15 08:09	09/16/15 12:11	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.19	0.011	1	09/15/15 08:09	09/16/15 12:11	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.19	0.0068	1	09/15/15 08:09	09/16/15 12:11	11096-82-5	
PCB-1262 (Aroclor 1262)	ND	mg/kg	0.19	0.0039	1	09/15/15 08:09	09/16/15 12:11	37324-23-5	
PCB-1268 (Aroclor 1268)	ND	mg/kg	0.19	0.0039	1	09/15/15 08:09	09/16/15 12:11	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	30-150		1	09/15/15 08:09	09/16/15 12:11	877-09-8	
Decachlorobiphenyl (S)	73	%	30-150		1	09/15/15 08:09	09/16/15 12:11	2051-24-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: MP157268 4140-4146 Fremont Ave

Project No.: 10321558

QC Batch: OEXT/30781

Analysis Method: EPA 8082A

QC Batch Method: EPA 3541

Analysis Description: 8082A GCS PCB

Associated Lab Samples: 10321558001

METHOD BLANK: 2077307

Matrix: Solid

Associated Lab Samples: 10321558001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1262 (Aroclor 1262)	mg/kg	ND	0.20	09/16/15 11:23	
PCB-1268 (Aroclor 1268)	mg/kg	ND	0.20	09/16/15 11:23	
Decachlorobiphenyl (S)	%	87	30-150	09/16/15 11:23	
Tetrachloro-m-xylene (S)	%	81	30-150	09/16/15 11:23	

LABORATORY CONTROL SAMPLE & LCSD: 2077308

2077309

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	4	3.6	3.6	89	91	48-128	2	20	
PCB-1260 (Aroclor 1260)	mg/kg	4	3.6	3.7	89	92	58-125	3	20	
Decachlorobiphenyl (S)	%				100	100	30-150			
Tetrachloro-m-xylene (S)	%				93	92	30-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: GCSV/16700

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MP157268 4140-4146 Fremont Ave

Pace Project No.: 10321558

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10321558001	PCB-1	EPA 3541	OEXT/30781	EPA 8082A	GCSV/16700

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Sample Condition Upon Receipt

Client Name: City of Mpls Project #: _____

WO#: 10321558



10321558

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____
 Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer B88A9130516413 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: _____
 Cooler Temp Read (°C): 20.6 Cooler Temp Corrected (°C): 20.5 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 0.3 Date and Initials of Person Examining Contents: DM 9/10/15

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>No time on Sample or COC</u>
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____

Project Manager Review: ANA

Date: 9/10/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).



A Terracon COMPANY

Terracon



Steven D. Carlson
Director, Env. Health Div.



**ASBESTOS
INSPECTOR**

Certified by:
State of Minnesota
Department of Health

Expires: 02/27/2016

Steven D Carlson
4431 Crawford Rd
Minnetonka, MN 55343

No. A12967

Issued: 03/04/2015