March 12, 2019



Amber Al Haddad City & Borough of Wrangell PO Box 531 Wrangell, AK 99929

#### RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1904552.00

Client Project: Public Safety Building Location: Zimoria Hwy Wrangell, Alaska

Dear Ms. Al Haddad,

Enclosed please find test results for the 4 sample(s) submitted to our laboratory for analysis on 3/8/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227) 4708 Aurora Avenue North | Seattle, WA 98103-6516



## **Bulk Asbestos Fibers Analysis**

By Polarized Light Microscopy

Client:	City & Borough of Wrangell
Address:	PO Box 531
	Wrangell, AK 99929

#### Attention: Ms. Amber Al Haddad

Project Location: Zimoria Hwy Wrangell, Alaska

Batch #: 1904552.00 Client Project #: Public Safety Building Date Received: 3/8/2019 Samples Received: 4 Samples Analyzed: 4 Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Location: Zimoria Hwy Wrangell, Alaska Layer 1 of 2 Description: White chalky material with paper Non-Fibrous Materials: Other Fibrous Materials:% Asbestos Type: % Gypsum/Binder, Fine grains, Fine particles Cellulose 25% None Detected ND Glass fibers 3% Layer 2 of 2 Description: Pink fibrous material Non-Fibrous Materials: Other Fibrous Materials:% Asbestos Type: % Binder/Filler, Fine particles, Glass debris Glass fibers 97% None Detected ND Lab ID: 19023634 Client Sample #: 002-Back Interior Location: Zimoria Hwy Wrangell, Alaska Layer 1 of 3 Description: White compacted powdery material with paper Non-Fibrous Materials: Other Fibrous Materials:% Asbestos Type: % Non-Fibrous Materials: Other Fibrous Materials:% None Detected ND
Layer 1 of 2       Description: White chalky material with paper       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Gypsum/Binder, Fine grains, Fine particles       Cellulose 25%       None Detected ND         Glass fibers 3%       Glass fibers 3%       Image: Cellulose 25%       None Detected ND         Layer 2 of 2       Description: Pink fibrous material       Asbestos Type: %       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Binder/Filler, Fine particles, Glass debris       Glass fibers 97%       None Detected ND         Lab ID: 19023634       Client Sample #: 002-Back Interior       None Detected ND         Location: Zimoria Hwy Wrangell, Alaska       Layer 1 of 3       Description: White compacted powdery material with paper       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Layer 1 of 3       Description: White compacted powdery material with paper       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Non-Fibrous binder, Calcareous particles       Cellulose 10%       None Detected ND
Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Gypsum/Binder, Fine grains, Fine particles       Cellulose 25%       None Detected ND         Glass fibers 3%       Glass fibers 3%       Image: Cellulose 25%       None Detected ND         Layer 2 of 2       Description: Pink fibrous material       Mon-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %       None Detected ND         Lab ID: 19023634       Client Sample #: 002-Back Interior       None Detected ND         Location: Zimoria Hwy Wrangell, Alaska       Image: Cellulose 10%       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Layer 1 of 3       Description: White compacted powdery material with paper       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         None Detected ND       None Detected ND       None Detected ND
Gypsum/Binder, Fine grains, Fine particlesCellulose 25%None Detected NDGlass fibers 3%Glass fibers 3%Layer 2 of 2Description: Pink fibrous materialAsbestos Type: %Non-Fibrous Materials:None-Fibrous Materials:Asbestos Type: %None Detected NDBinder/Filler, Fine particles, Glass debrisGlass fibers 97%None Detected NDLab ID: 19023634Client Sample #: 002-Back InteriorKerteriorKerteriorLocation: Zimoria Hwy Wrangell, AlaskaUnder Fibrous Materials:Asbestos Type: %Layer 1 of 3Description: White compacted powdery materialOther Fibrous Materials:Asbestos Type: %Non-Fibrous Materials:Other Fibrous Materials:Asbestos Type: %Calcareous binder, Calcareous particlesCellulose 10%None Detected ND
Layer 2 of 2Description: Pink fibrous materialGlass fibers 3%Non-Fibrous Materials:Non-Fibrous Materials:Asbestos Type: %Binder/Filler, Fine particles, Glass debrisGlass fibers 97%None Detected NDLab ID: 19023634Client Sample #: 002-Back InteriorKone Detected NDLocation: Zimoria Hwy Wrangell, AlaskaVangell, AlaskaAsbestos Type: %Layer 1 of 3Description: White compacted powdery materials:Other Fibrous Materials:Asbestos Type: %Non-Fibrous Materials:Other Fibrous Materials:Asbestos Type: %Calcareous binder, Calcareous particlesCellulose 10%None Detected ND
Layer 2 of 2Description: Pink fibrous materialAsbestos Type: %Non-Fibrous Materials:Other Fibrous Materials:%Asbestos Type: %Binder/Filler, Fine particles, Glass debrisGlass fibers 97%None Detected NDLab ID: 19023634Client Sample #: 002-Back InteriorClient Sample #: 002-Back InteriorAsbestos Type: %Location: ZimoriaHwy Wrangell, AlaskaSecription: White compacted powdery material with paperAsbestos Type: %Layer 1 of 3Description: White compacted powdery materials:Other Fibrous Materials:%Asbestos Type: %Calcareous binder, Calcareous particlesCellulose 10%None Detected ND
Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Binder/Filler, Fine particles, Glass debris       Glass fibers 97%       None Detected ND         Lab ID: 19023634       Client Sample #: 002-Back Interior       Client Sample #: 002-Back Interior         Location: Zimoria Hwy Wrangell, Alaska       Joscription: White compacted powdery material with paper       Value         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Calcareous binder, Calcareous particles       Cellulose 10%       None Detected ND
Binder/Filler, Fine particles, Glass debris       Glass fibers       97%       None Detected ND         Lab ID: 19023634       Client Sample #: 002-Back Interior       Location: Zimoria       Layer 1       Lager 1       Description: White compacted powdery material with paper         Layer 1 of 3       Description: White compacted powdery materials:       Other Fibrous Materials:       Asbestos Type: %         Calcareous binder, Calcareous particles       Cellulose       10%       None Detected ND
Lab ID: 19023634       Client Sample #: 002-Back Interior         Location: Zimoria Hwy Wrangell, Alaska       Layer 1 of 3         Description: White compacted powdery material with paper       Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Calcareous binder, Calcareous particles       Cellulose 10%       None Detected ND
Location: Zimoria Hwy Wrangell, Alaska Layer 1 of 3 Description: White compacted powdery material with paper Non-Fibrous Materials: Calcareous binder, Calcareous particles Cellulose 10% None Detected ND
Layer 1 of 3       Description: White compacted powdery material with paper       Asbestos Type: %         Non-Fibrous Materials:       Other Fibrous Materials:%       Asbestos Type: %         Calcareous binder, Calcareous particles       Cellulose 10%       None Detected ND
Non-Fibrous Materials:Other Fibrous Materials:%Asbestos Type: %Calcareous binder, Calcareous particlesCellulose 10%None Detected ND
Calcareous binder, Calcareous particles Cellulose 10% None Detected ND
Layer 2 of 3 Description: White chalky material with paper
Non-Fibrous Materials: Other Fibrous Materials: <b>Asbestos Type: %</b>
Gypsum/Binder, Fine grains, Fine particles Cellulose 23% None Detected ND
Glass fibers 4%
Layer 3 of 3 Description: Pink fibrous material
Non-Fibrous Materials: Other Fibrous Materials: <b>Asbestos Type: %</b>
Binder/Filler, Fine particles, Glass debrisGlass fibers97%None Detected ND

 Lab ID: 19023635
 Client Sample #: 003-Front Exterior

Location: Zimoria Hwy Wrangell, Alaska

Sampled by: Client		1012 101
Analyzed by: Tiffany Cummings	Date: 03/11/2019	
Reviewed by: Matt Macfarlane	Date: 03/12/2019	Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



# **Bulk Asbestos Fibers Analysis**

By Polarized Light Microscopy

Client: City & Borough of Wrangell Address: PO Box 531 Wrangell, AK 99929

#### Attention: Ms. Amber Al Haddad

Project Location: Zimoria Hwy Wrangell, Alaska

Batch #: 1904552.00 Client Project #: Public Safety Building Date Received: 3/8/2019 Samples Received: 4 Samples Analyzed: 4 Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 4	Description: Brown woody material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Paint, Fine particles	Wood fibers 80%	None Detected ND
Layer 2 of 4	Description: Black asphaltic fibrous felt		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose 70%	None Detected ND
Layer 3 of 4	Description: Tan crumbly material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 15%	None Detected ND
Layer 4 of 4	Description: Brown woody material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Fine particles	Wood fibers 77%	None Detected ND
Lab ID: 19023	Client Sample #: 004-Back Exteri	or	
Location: Zimo	ria Hwy Wrangell, Alaska		
Layer 1 of 4	Description: Brown woody material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Paint, Fine particles	Wood fibers 77%	None Detected ND
Layer 2 of 4	Description: Black asphaltic fibrous felt		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Asphalt/Binder, Fine particles	Cellulose 75%	None Detected ND
Layer 3 of 4	Description: Tan crumbly material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	Asbestos Type: %
	Binder/Filler, Fine particles	Cellulose 15%	None Detected ND

 Sampled by: Client
 Date: 03/11/2019
 Utto

 Analyzed by: Tiffany Cummings
 Date: 03/11/2019
 Matt Macfarlane, Asbestos Lab Supervisor

 Reviewed by: Matt Macfarlane
 Date: 03/12/2019
 Matt Macfarlane, Asbestos Lab Supervisor

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## **Bulk Asbestos Fibers Analysis**

By Polarized Light Microscopy

Client: City & Borough of Wrangell Address: PO Box 531 Wrangell, AK 99929 Batch #: 1904552.00 Client Project #: Public Safety Building Date Received: 3/8/2019 Samples Received: 4 Samples Analyzed: 4 Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Attention: Ms. Amber Al Haddad

Project Location: Zimoria Hwy Wrangell, Alaska

Layer 4 of 4 Description: Brown woody material Non-Fibrous Materials: Binder/Filler, Fine particles

Other Fibrous Materials:% Wood fibers 75% Asbestos Type: % None Detected ND

Sampled by: Client Analyzed by: Tiffany Cummings Reviewed by: Matt Macfarlane

Date: 03/11/2019 Date: 03/12/2019

Matt Macfarlane, Asbestos Lab Supervisor

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### ASBESTOS LABORATORY SERVICES



Company City & Borough of Wrangell	NVL Batch Number 1904552.00
Address PO Box 531	TAT 2 Hrs AH No.
Wrangell, AK 99929	Rush TAT
Project Manager Ms. Amber Al Haddad	Due Date 3/11/2019 Time 12:30 PM
Phone (907) 874-3904	Email aal-haddad@wrangell.com
<b>Cell</b> (907) 305-1150	Fax ()

Project Nam	e/Number:	Public Safety Building	Project Location: Zimoria Hwy Wrangell, Alaska
Subcategory	PLM Bulk		
Item Code	ASB-02	EPA 600/R-	-93-116 Asbestos by PLM <bulk></bulk>

### Total Number of Samples \_\_\_\_4\_\_\_

#### Rush Samples \_\_\_\_\_

_	Lab ID	Sample ID	Description	A/R
1	19023633	001-Front Interior		Α
2	19023634	002-Back Interior		Α
3	19023635	003-Front Exterior		Α
4	19023636	004-Back Exterior		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	3/8/19	1025
Analyzed by	Tiffany Cummings		NVL	3/11/19	
Results Called by					
Faxed Emailed					
Special Received payment/turnaround change at 1030 on 3/11/19. Instructions:					