ENVIRONMENTAL MANAGEMENT, INC.
Consulting, Engineering & Training

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CONSULTING & ENGINEERING
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May 31, 2018

SEARHC
3100 Channel Drive, Suite 300
Juneau, Alaska 99801
Attn: Steve Merkel

stevenm@searhc.org

RE: Wrangell Medical Center

Subj: Limited Asbestos Survey

This letter summarizes the findings associated with the limited asbestos survey conducted by Environmental Management, Inc. (EMI) in the Wrangell Medical Center (WMC), 310 Bennett Street, Wrangell, Alaska. The survey was performed on May 22 and 23, 2018, by Andy Coulson, an accredited Building Inspectors certified in accordance with the Asbestos Hazard Emergency Response Act (AHERA).

The purpose of this survey was to investigate building materials for the presence of asbestos for planning future operations and maintenance requirements. The investigation was performed by first conducting a walkthrough of the building, escorted by Jim Holder, WMC. Among other items, Jim pointed out the three phases of construction of the building:

1) original construction,
2) long term care section, and
3) new modular addition.

Bulk samples of suspect materials were then collected and submitted to a laboratory approved under the National Voluntary Laboratory Accreditation Program.

A total of 108 bulk samples were collected. The samples were submitted to NVL Laboratories (NVL) in Seattle, Washington for analysis via polarized light microscopy. Suspect materials found to contain asbestos at concentrations of 1% or greater and therefore considered Asbestos Containing Materials (ACM)were:

- The roofing material of the original Wrangell Health Center Building (samples 17909-007, 17909-062, 17909-063, 17909-064; photo 1).
- The tar paper skirts around HVAC penetrations in the attic of the new, modular addition to the building (sample 17909-066, photo 2).
- Grey sealant on one of the ducts in the air handler room (sample 17909-003, photo 3). Other ducts were covered in orange insulation, if grey sealant is encountered on them it should be considered ACM.
- A pale green caulk from the interior of the window of patient room 2 (sample 17909-088); other pale green window caulks should also be considered ACM.

- Black mastic was observed in several locations beneath floor tiles and beneath the green carpet in the basement; it is represented in several samples (17909-028, 17909-029, 17909-034, 17909-037, 17909-042; photo 4). It was not observed outside of the residential care addition, but if black mastic is encountered elsewhere in the building it should be considered ACM.
- Six different patterns of floor tiles were observed; three of which contained asbestos (17909-028, 17909-029, 17909-037; photos 5-7). Non-ACM floor tiles (Photos 8-10) may still be associated with the black mastic described above (For example, sample 17909-042). Because the colors and patterns of ACM and Non-ACM floor tiles are similar, and the differences do not show up well in photographs, all floor tiles should be considered ACM unless verified with specific samples to show they are not ACM.
- A single cement standpipe was observed on the east side exterior of the building near the southeast corner. This cement contained asbestos (sample 17909-100, photo 11).
- Some joint compound samples from the gypsum wallboard systems of the original and long-term care portions of the building (samples 17909-025, 17909-073, 17909-080, 17909-087) contained asbestos. Based on these results, the gypsum wallboard systems of the original and long-term care portions of the building should be considered ACM unless specific testing demonstrates otherwise. Samples from the GWS dividers in the attic (17909-009), and from the new modular addition to the building (17909-044 and 17909-051) did not contain asbestos.
- Black sink undercoatings (17909-058, 17909-060, 17909-070, 17909-078). White and green undercoatings were also observed on one sink each, samples of these undercoatings did not contain asbestos.

In addition to the sampled materials, Thermal System Insulation that is presumed to contain asbestos was observed in the boiler room (Photo 12), air handler room (Photo 13), and in the attic below the old roof (Photo 14). This material consisted of a presumed ACM pipe wrapping as well as a presumed ACM hard insulating material at joints and valves. Some limited sections of the ACM pipe wrapping appear to have been replaced with fiberglass. This material is in fair condition, with a couple nicks in the encapsulating wrap around the TSI, and in several locations the ends of hard insulating pipe joints are exposed (Photo 15). Due to the heterogeneous nature of these TSI materials, they were not sampled. If the TSI is not fiberglass it must be presumed to be ACM. No suspect TSI was observed in the crawlspaces or in the two newer sections of the building.

Because of the building's age several materials should be assumed to be ACM. The metal flue from the boilers in the boiler room should be assumed to contain ACM insulating material. Fire-rated doors, including 2 attic access hatches, should be assumed to contain asbestos. Several flanged pipe joints were observed in the boiler room, these should be assumed to contain an ACM gasket. Elevator brake pads, internal components of boilers, furnaces, and other pieces of building mechanical equipment often contain asbestos and need to be handled accordingly. To avoid damaging the roof, any tar paper, vapor barrier, or other roofing materials under the metal roof were not sampled and should be assumed to possibly be ACM. Flexible duct joints were in good condition and observed to be labeled as Ventglas, which as currently produced is a non-ACM fiberglass product; however, because it is unknown what the composition was when these joints were installed, these and other flexible duct joints should be assumed to be ACM unless further information is obtained to show otherwise.

The following section discusses the samples from the materials that did not contain asbestos. The orange fibrous duct insulation in the attic was sampled and did not contain asbestos. Grey, brown, and blue vinyl baseboards and their associated mastics were sampled; none of the samples contained asbestos. In the basement, two patterns of 12" by 12" glued-in ceiling tiles, and one of 24" by 48", were sampled along with their associated brown mastics; none contained asbestos. 4 patterns of lay-in ceiling tiles, 2 in the oldest portion of the building and 2 in the newest, were sampled and none contained asbestos. Several colors of vinyl sheet flooring were sampled along with associated mastics, none contained asbestos; however, if black mastic is observed it should be considered ACM as discussed above. The mastics underneath several different styles of carpet were sampled, none contained asbestos except for the black mastic under the green carpet in the basement described above; if black mastic is encountered under other carpets it should be considered ACM. The gypsum wall panels used in several parts of the health center were sampled and did not contain asbestos. The red penetration caulk used throughout the building was sampled and did not contain asbestos. Several other miscellaneous caulks from windows, sinks, and the building exterior were sampled and except for the pale green caulk described above none contained asbestos, however a wide variety of these materials were present so caulks should still be assumed to contain asbestos. The exterior building texture, the caulk between the walls and soffit, and the vapor barrier and gypsum wallboard of the soffit were sampled and did not contain asbestos.

This was a limited asbestos survey and therefore does not meet the standards for a thorough survey as required under NESHAPS for building demolition. Any material(s) that will be impacted by work activities that are discovered and are not represented in this assessment effort, or materials outside the area of investigation for this effort, should be tested for the presence of asbestos before being disturbed and disposed. The asbestos sampling followed EPA and OSHA's sampling and building inspection standards as set in 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, 40 CFR 61, and 40 CFR 763 as applicable to an employer or owner of a commercial building. Please contact EMI at (907) 272-9336 if you have any questions.

Sincerely,
ENVIRONMENTAL MANAGEMENT, INC.

Andy Coulson
Environmental Scientist

Attached:
Sample Location Maps
Photo Log
NVL Reports:

1809975	1809962	1809974
1809971	1809979	1809961
1809970	1809976	

17909 W Burrell Medical Center
Sample Locations
May 22-23, 2018
page 1

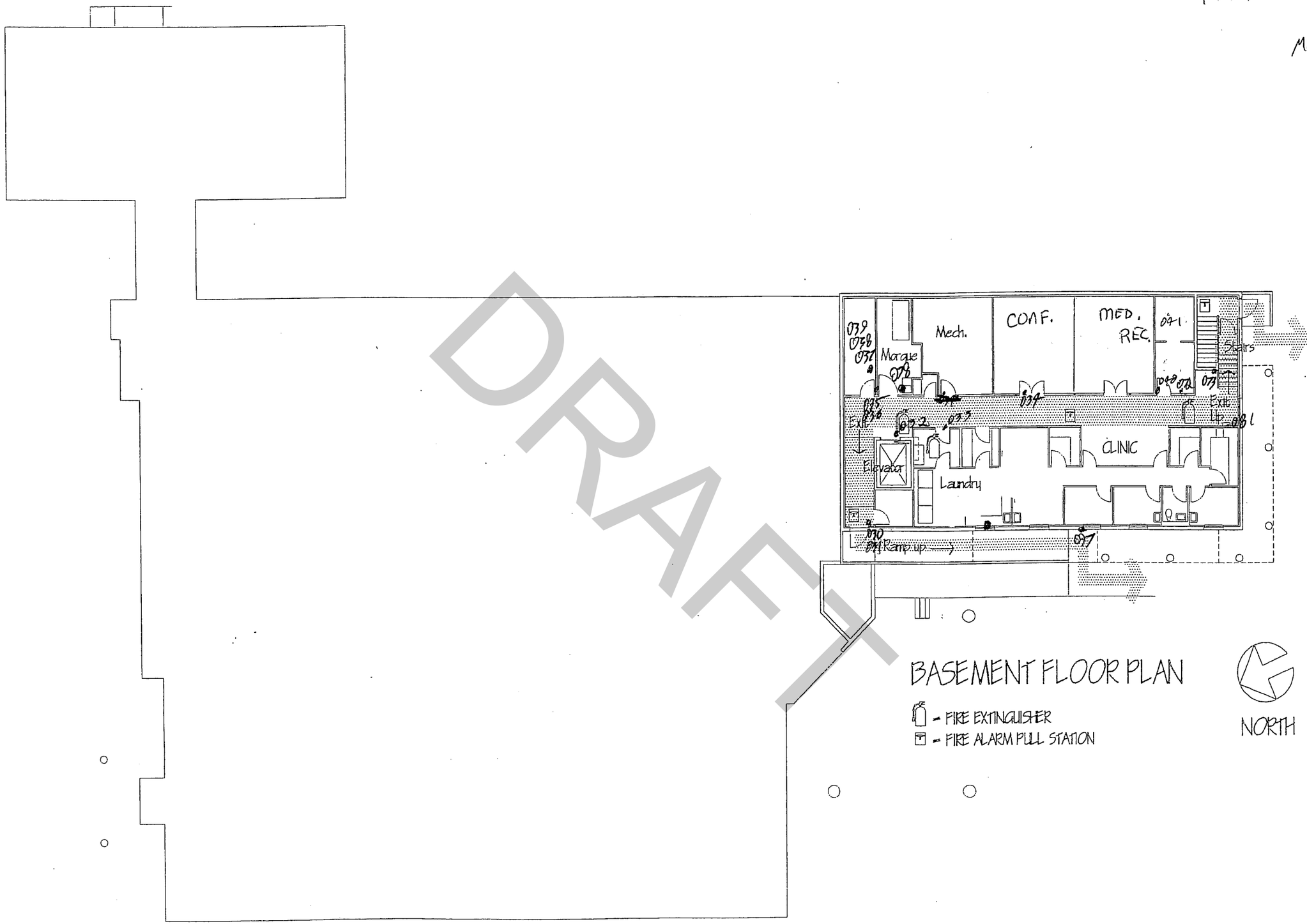
Shop
Trash
Bulk Storage
Load
Office
Mezzanine above
Bulk Storage
UP
LOADING
Vestibule
Kitchen
Room 1
Room 2
Room 3
PATIENT ROOMS
Room 4
Room 5
Room 6
Room 7
D.O.N. Office
Room 8
Room 9
RESIDENT ROOMS
Room 10
Room 11
Room 12
Room 14
Stairs
Exit Down
ACUTE CARE UNIT
LONG TERM CARE UNIT
Nurse Station
Elevator
Storage
F.H.C.
Boiler Room
Central Services
Nursery
Offices
Computer
Admin. Asst.
Admin.
Physical Therapy
Dining / Activity
Deck
Conference
Medical Records
X-ray Reading
Reception
Staff Lounge
SURGERY UNIT
Elect. Room
Operating Room
Delivery Room
Labor
Toilets
D.F.
Waiting
Draw Station
COVERED DROP OFF
CLINIC ENTRY
MEDICAL CLINICS
Radiology
Laboratory
Emergency / Trauma
EMERGENCY DROP OFF

FIRST FLOOR PLAN

- FIRE EXTINGUISHER
- FIRE ALARM PULL STATION

NORTH

17909 Wrangell Medical Center
Sample Locations
May 22-23, 2018
Page 2



BASEMENT FLOOR PLAN

- FIRE EXTINGUISHER
- FIRE ALARM PULL STATION

NORTH

Photo Log

Photo 1: Roofing material of the original building roof is ACM. (May 22, 2018)

Photo 2: Tar paper skirts around penetrations in the new portion of the attic are ACM. (May 23, 2018)

Photo Log

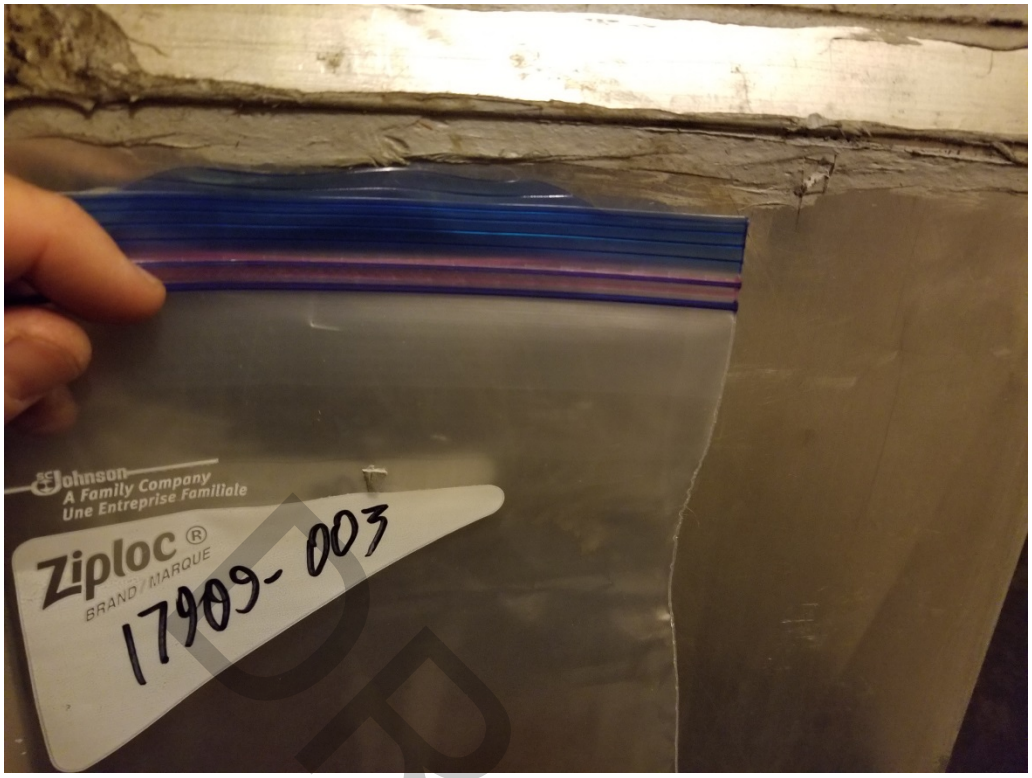


Photo 3: Grey duct sealant is ACM. (May 22, 2018)

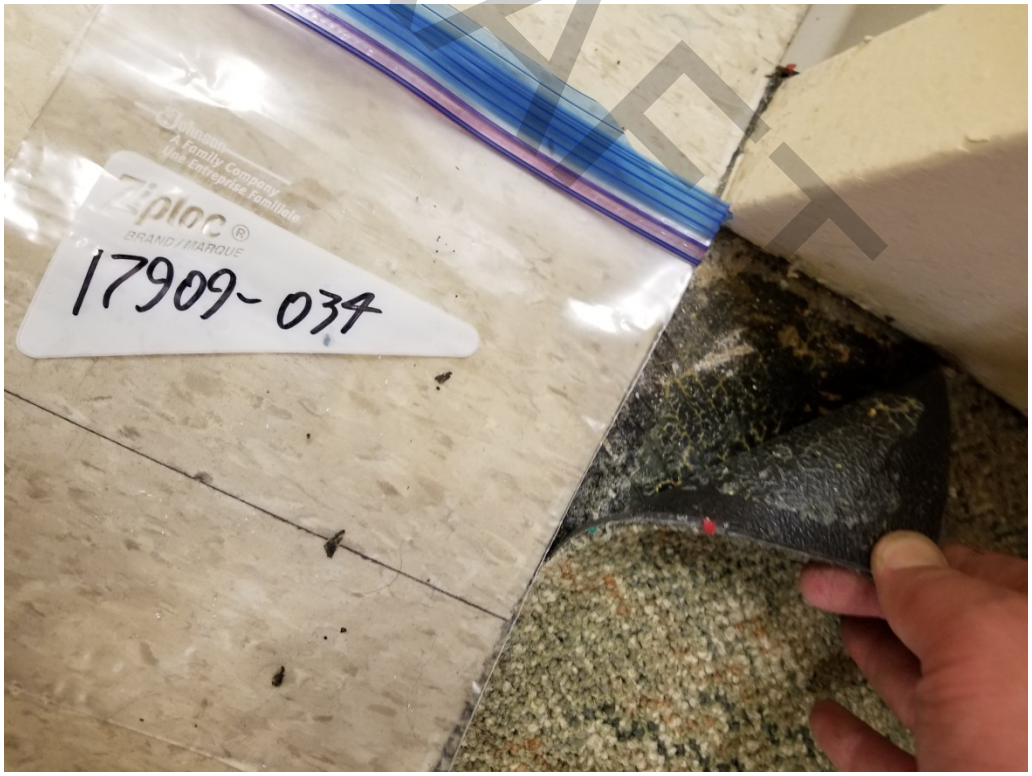


Photo 4: Black mastic beneath found beneath floor tiles and green carpet in the basement. (May 22, 2018)

Photo Log

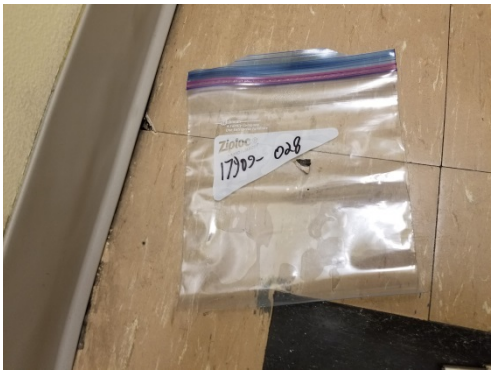


Photo 5: Pink floor tiles in the upper landing of the stairway were ACM, and had a black ACM mastic. Tile appears beige in this photograph; appeared pink when sampled. (May 22, 2018)

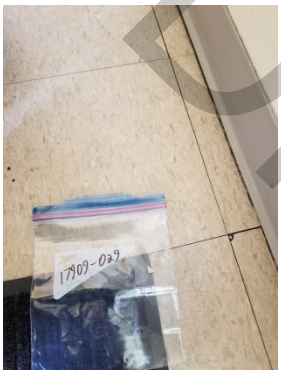


Photo 6: Off-white floor tiles in the stairway were ACM, and had a black mastic with trace amounts of asbestos. (May 22, 2018)

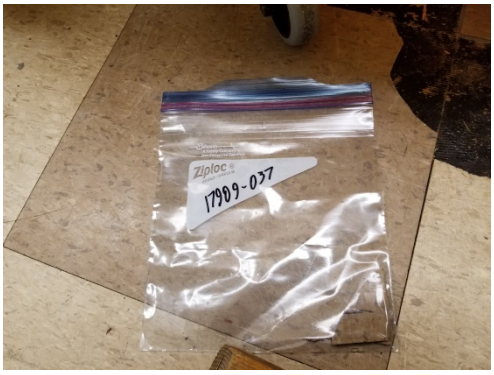


Photo 7: Brown floor tiles in the basement storage room were ACM, and had a black ACM mastic. (May 22, 2018)

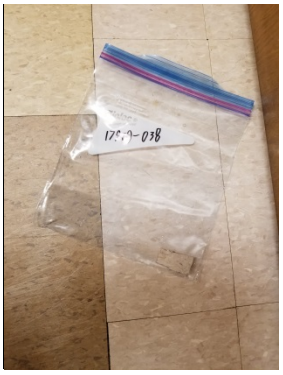


Photo 8: Asbestos was not detected in white floor tiles in the basement storage room, and no black or ACM mastics were detected. (May 22, 2018)

Photo 9: Asbestos was not detected in speckled beige floor tiles in the basement storage room, and no black or ACM mastics were detected. (May 22, 2018)

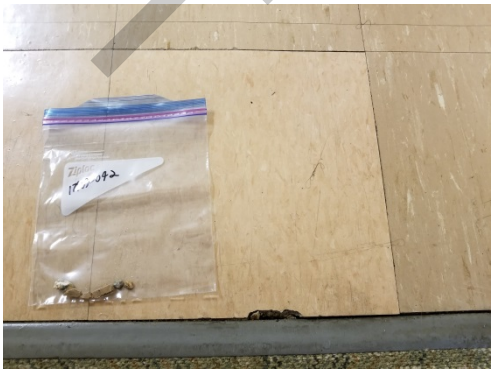


Photo 10: Asbestos was not detected in pink floor tiles in the entrance to the long term care wing, but tiles did have a black ACM mastic. Tile appears grey in photograph, but appeared pink when sampled. (May 22, 2018)

Photo Log

Photo 11: The cement standpipe near the southeast corner of the building is ACM. (May 23, 2018)

Photo 12: Presumed ACM TSI in the boiler room. Flue in back corner is assumed to contain ACM insulation. (May 22, 2018)

Photo Log

Photo 13: Presumed ACM TSI in the air handler room. Orange duct insulation on the right is not ACM. (May 22, 2018)

Photo 14: Presumed ACM TSI in the attic under the roof of the original building. (May 22, 2018)

Photo Log

Photo 15: Exposed ends of presumed ACM TSI hard insulated joints. (May 22, 2018)

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809975.00

Client Project: 17909
Location: WH-01

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-01

Batch #: 1809975.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051827 **Client Sample #: 17909-001**
Location: WH-01

Layer 1 of 1 **Description:** Red soft material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Binder/Filler, Paint	None Detected	ND	**None Detected ND**

Lab ID: 18051828 **Client Sample #: 17909-002**
Location: WH-01

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Calcareous binder, Fine particles, Paint	Cellulose	2%	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Gypsum/Binder, Binder/Filler	Cellulose	3%	**None Detected ND**
	Glass fibers	4%	

Lab ID: 18051829 **Client Sample #: 17909-003**
Location: WH-01

Layer 1 of 1 **Description:** Gray soft material

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Binder/Filler	None Detected	ND	**Chrysotile 4%**

Lab ID: 18051830 **Client Sample #: 17909-004**
Location: WH-01

Layer 1 of 1 **Description:** Orange fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Binder/Filler	Glass fibers	97%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-01

Batch #: 1809975.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051831 **Client Sample #: 17909-005**
Location: WH-01

Layer 1 of 1 **Description:** Orange fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Glass fibers 96%	**None Detected ND**

Lab ID: 18051832 **Client Sample #: 17909-006**
Location: WH-01

Layer 1 of 1 **Description:** Orange fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Glass fibers 98%	**None Detected ND**

Lab ID: 18051833 **Client Sample #: 17909-007**
Location: WH-01

Layer 1 of 1 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder	Cellulose 3%	**Chrysotile 2%**

Lab ID: 18051834 **Client Sample #: 17909-008**
Location: WH-01

Layer 1 of 2 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder	Glass fibers 5%	**None Detected ND**

Layer 2 of 2 **Description:** Brown fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 80%	**None Detected ND**

Lab ID: 18051835 **Client Sample #: 17909-009**
Location: WH-01

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-01

Batch #: 1809975.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2 **Description:** White compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Calcareous binder, Fine particles, Paint	Cellulose	3%	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Binder/Filler	Cellulose	5%	**None Detected ND**

Lab ID: 18051836 **Client Sample #: 17909-010**
Location: WH-01

Layer 1 of 1 **Description:** Yellow mastic on silver foil

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Mastic/Binder, Metal foil	None Detected	ND	**None Detected ND**

Lab ID: 18051837 **Client Sample #: 17909-011**
Location: WH-01

Layer 1 of 2 **Description:** Yellow sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Vinyl/Binder, Synthetic foam	Glass fibers	11%	**None Detected ND**

Layer 2 of 2 **Description:** Yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Mastic/Binder	Cellulose	3%	**None Detected ND**

Lab ID: 18051838 **Client Sample #: 17909-012**
Location: WH-01

Layer 1 of 2 **Description:** Off-white sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Vinyl/Binder	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

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Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-01

Batch #: 1809975.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** Off-white mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose 2%	**None Detected ND**

Lab ID: 18051839 **Client Sample #: 17909-013**
Location: WH-01

Layer 1 of 1 **Description:** White mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Synthetic fibers 2%	**None Detected ND**

Lab ID: 18051840 **Client Sample #: 17909-014**
Location: WH-01

Layer 1 of 2 **Description:** Gray sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Synthetic foam	Glass fibers 6%	**None Detected ND**

Layer 2 of 2 **Description:** Yellow mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose 3%	**None Detected ND**

Lab ID: 18051841 **Client Sample #: 17909-015**
Location: WH-01

Layer 1 of 3 **Description:** Brown sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Mineral grains	Cellulose 2%	**None Detected ND**

Layer 2 of 3 **Description:** Clear adhesive

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Adhesive/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-01

Batch #: 1809975.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3 **Description:** Black sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Mineral grains	Cellulose 3%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809975.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-01

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051827	17909-001		A
2	18051828	17909-002		A
3	18051829	17909-003		A
4	18051830	17909-004		A
5	18051831	17909-005		A
6	18051832	17909-006		A
7	18051833	17909-007		A
8	18051834	17909-008		A
9	18051835	17909-009		A
10	18051836	17909-010		A
11	18051837	17909-011		A
12	18051838	17909-012		A
13	18051839	17909-013		A
14	18051840	17909-014		A
15	18051841	17909-015		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Lauren Wetzel		NVL	5/26/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 1:10 PM
Entered By: Emily Schubert

1809975

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- ☒ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-01

- ❑ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ TEM (NIOSH 7402)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ TEM (AHERA)
- ❑ Other
- ❑ TEM (EPA Level II Modified)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
❑ Call ( ) -
❑ Fax ( ) -
☒ Email acoulson@emi-alaska.com
ghasburgh@emi-alaska.com

Total Number of Samples

	Sample ID	Description	A/R
1	17909-001	Red penetration caulk	
2	17909-002	tape and joint compound	
3	17909-003	grey duct sealant	
4	17909-004	orange duct insulation	
5	17909-005	orange duct insulation	
6	17909-006	Orange duct insulation	
7	17909-007	roofing tar	
8	17909-008	roofing tar paper	
9	17909-009	GWS	
10	17909-010	silver duct wrap	
11	17909-011	Yellow VSF	
12	17909-012	off white VSF	
13	17909-013	Carpet mastic	
14	17909-014	AC Tile patter VSF	
15	17909-015	marble pattern VSF	

Print Name	Signature	Company	Date	Time

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809971.00

Client Project: 17909
Location: WH-02

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-02

Batch #: 1809971.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051792 **Client Sample #: 17909-016**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** White compacted powdery material with vinyl surface			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Vinyl/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Binder/Filler	Cellulose	20%	**None Detected ND**

Lab ID: 18051793 **Client Sample #: 17909-017**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Gray rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White soft mastic with paint and paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Binder/Filler, Paint	Cellulose	8%	**None Detected ND**

Lab ID: 18051794 **Client Sample #: 17909-018**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** White chalky material with paper and vinyl surface			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler, Vinyl/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	5%	

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-02

Batch #: 1809971.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051795 **Client Sample #: 17909-019**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous binder	Cellulose 24%	**None Detected ND**

Lab ID: 18051796 **Client Sample #: 17909-020**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Gray compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Perlite	Cellulose 42%	**None Detected ND**
Glass beads, Paint	Glass fibers 31%	

Lab ID: 18051797 **Client Sample #: 17909-021**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White soft material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Caulking compound, Binder/Filler, Paint	Cellulose 10%	**None Detected ND**

Lab ID: 18051798 **Client Sample #: 17909-022**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous binder	Cellulose 27%	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-02

Batch #: 1809971.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051799 **Client Sample #: 17909-023**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine particles	Cellulose 2%	**None Detected ND**

Lab ID: 18051800 **Client Sample #: 17909-024**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Gray compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Perlite	Cellulose 44%	**None Detected ND**
Glass beads, Paint	Glass fibers 32%	

Lab ID: 18051801 **Client Sample #: 17909-025**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous binder, Paint	Cellulose 14%	**Chrysotile 2%**

Lab ID: 18051802 **Client Sample #: 17909-026**
Location: WH-02
Comments: Sample was dried prior to analysis.
Layer 1 of 2 **Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-02

Batch #: 1809971.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** Beige brittle material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose <1%	**None Detected ND**

Lab ID: 18051803 **Client Sample #: 17909-027**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Black vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine particles	Cellulose <1%	**None Detected ND**

Lab ID: 18051804 **Client Sample #: 17909-028**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Tan tile

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Calcareous particles	None Detected ND	**Chrysotile 2%**

Layer 2 of 2 **Description:** Black asphaltic mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Mastic/Binder	None Detected ND	**Chrysotile 6%**

Lab ID: 18051805 **Client Sample #: 17909-029**
Location: WH-02
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-02

Batch #: 1809971.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2 **Description:** Tan tile

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Calcareous particles	None Detected ND	**Chrysotile 2%**

Layer 2 of 2 **Description:** Trace black asphaltic mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Mastic/Binder	None Detected ND	**Chrysotile <1%**

Lab ID: 18051806 **Client Sample #: 17909-030**
Location: WH-02
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Gray compressed fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Perlite	Cellulose 45%	**None Detected ND**
Glass beads	Glass fibers 31%	

Layer 2 of 2 **Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose 3%	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809971.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-02

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051792	17909-016		A
2	18051793	17909-017		A
3	18051794	17909-018		A
4	18051795	17909-019		A
5	18051796	17909-020		A
6	18051797	17909-021		A
7	18051798	17909-022		A
8	18051799	17909-023		A
9	18051800	17909-024		A
10	18051801	17909-025		A
11	18051802	17909-026		A
12	18051803	17909-027		A
13	18051804	17909-028		A
14	18051805	17909-029		A
15	18051806	17909-030		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Welly Hsieh		NVL	5/25/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 1:02 PM
Entered By: Emily Schubert

1809971

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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- X 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-02

- ❑ PCM Air (NIOSH 7400)
- ❑ TEM (NIOSH 7402)
- ❑ TEM (AHERA)
- ❑ TEM (EPA Level II Modified)
- X PLM (EPA 600/R-93-116)
- X EPA 400 Points (600/R-93-116)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ Asbestos in Sediment (EPA 1900 Points)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ Other

Reporting Instructions
❑ Call ( ) - ❑ Fax ( ) - X Email acoulson@emi-alaska.com
ghasburgh@emi-alaska.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	17909-016	Tape, joint compound	
2	17909-017	gray cove base and mastic	
3	17909-018	gypsum wall panels	
4	17909-019	Tape, joint compound	
5	17909-020	lay in ceiling tile	
6	17909-021	wall panel seam material	
7	17909-022	tape / joint compound	
8	17909-023	cove base mastic	
9	17909-024	lay in ceiling tile	
10	17909-025	tape, joint compound	
11	17909-026	cove base mastics	
12	17909-027	vsf stairway	
13	17909-028	pink floor tile	
14	17909-029	vsf white floor tiles	
15	17909-030	glued ceiling tiles pattern 1	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	22 May 2018	1240
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/24/18	1155 AJB
Analyzed by					
Called by					
Faxed/Email by					

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809970.00

Client Project: 17909
Location: WH-03

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP Lab Code: 102063-0

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p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051777 **Client Sample #: 17909-031**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Brown brittle mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	Cellulose <1%	**None Detected ND**

Lab ID: 18051778 **Client Sample #: 17909-032**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Tan compressed fibrous material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Paint	Cellulose 82%	**None Detected ND**
Layer 2 of 2	**Description:** Brown brittle mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	Talc fibers 2%	**None Detected ND**

Lab ID: 18051779 **Client Sample #: 17909-033**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Tan vinyl		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Vinyl/Binder	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** Off-white/gray soft mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	Cellulose 2%	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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4708 Aurora Ave N, Seattle, WA 98103
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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051780 **Client Sample #: 17909-034**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Cellulose	<1%	**None Detected ND**
Layer 2 of 2	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Mastic/Binder	None Detected	ND	**Chrysotile 4%**

Lab ID: 18051781 **Client Sample #: 17909-035**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** Black rubbery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Rubber/Binder, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Cellulose	<1%	**None Detected ND**
Layer 3 of 3	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 18051782 **Client Sample #: 17909-036**
Location: WH-03
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2 **Description:** Tan brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Paint	Cellulose <1%	**None Detected ND**

Lab ID: 18051783 **Client Sample #: 17909-037**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Tan tile

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Calcareous particles	None Detected ND	**Chrysotile 3%**

Layer 2 of 2 **Description:** Black asphaltic mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Mastic/Binder	None Detected ND	**Chrysotile 4%**

Lab ID: 18051784 **Client Sample #: 17909-038**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Beige vinyl tile

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Calcareous particles	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Trace yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051785 **Client Sample #: 17909-039**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Beige vinyl tile			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Calcareous particles	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	2%	**None Detected ND**

Lab ID: 18051786 **Client Sample #: 17909-040**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White soft mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Paint	None Detected	ND	**None Detected ND**

Lab ID: 18051787 **Client Sample #: 17909-041**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051788 **Client Sample #: 17909-042**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 4	**Description:** Beige vinyl tile			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Calcareous particles	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Fine particles	Cellulose	2%	**None Detected ND**
Layer 3 of 4	**Description:** Gray soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mineral grains, Fine particles	None Detected	ND	**None Detected ND**
Layer 4 of 4	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Mastic/Binder	Cellulose	2%	**Chrysotile 5%**

Lab ID: 18051789 **Client Sample #: 17909-043**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Gray vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder	Glass fibers	7%	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Cellulose	2%	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-03

Batch #: 1809970.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051790 **Client Sample #: 17909-044**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Rubber/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose <1%	**None Detected ND**

Lab ID: 18051791 **Client Sample #: 17909-045**
Location: WH-03
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** White woven fibrous material with mastic and vinyl surface

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Mastic/Binder, Vinyl/Binder	Cellulose 48%	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Binder/Filler	Cellulose 21%	**None Detected ND**
	Glass fibers 3%	

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809970.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-03

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051777	17909-031		A
2	18051778	17909-032		A
3	18051779	17909-033		A
4	18051780	17909-034		A
5	18051781	17909-035		A
6	18051782	17909-036		A
7	18051783	17909-037		A
8	18051784	17909-038		A
9	18051785	17909-039		A
10	18051786	17909-040		A
11	18051787	17909-041		A
12	18051788	17909-042		A
13	18051789	17909-043		A
14	18051790	17909-044		A
15	18051791	17909-045		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Welly Hsieh		NVL	5/25/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 12:54 PM
Entered By: Emily Schubert

1809970

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- ☒ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-03

- ❑ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ TEM (NIOSH 7402)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ TEM (AHERA)
- ❑ Other
- ❑ TEM (EPA Level II Modified)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
❑ Call ( ) - ❑ Fax ( ) - ☒ Email acoulson@emi-alaska.com
ghasburgh@emi-alaska.com

Total Number of Samples ____

	Sample ID	Description	A/R
1	17909-031	brown Mastic	
2	17909-032	glue in ceiling tile pattern 2	
3	17909-033	pink VSP	
4	17909-034	carpet mastic	
5	17909-035	cove base	
6	17909-036	joint compound	
7	17909-037	brown floor tile	
8	17909-038	white floor tile	
9	17909-039	speckled floor tile	
10	17909-040	purple cove base	
11	17909-041	Carpet mastic	
12	17909-042	bright pink floor tile	
13	17909-043	grey VSP	
14	17909-044	grey cove base	
15	17909-045	Wallpaper tape, joint compound	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	22 My 2016	13:17
Relinquish by	Andy Coulson		EMI	22 My 2016	13:55

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by			NVL	5/25/18	1155
Analyzed by					
Called by					
Faxed/Email by					

ADB

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809962.00

Client Project: 17909
Location: WH-04

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP Lab Code: 102063-0

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-04

Batch #: 1809962.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051745 **Client Sample #: 17909-046**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Clear soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Caulking compound	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Caulking compound	None Detected	ND	**None Detected ND**

Lab ID: 18051746 **Client Sample #: 17909-047**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Off-white soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Caulking compound, Fine particles	None Detected	ND	**None Detected ND**

Lab ID: 18051747 **Client Sample #: 17909-048**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Clear/gray soft mastic (on wood)			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Fine particles, Wood flakes	Cellulose	<1%	**None Detected ND**

Lab ID: 18051748 **Client Sample #: 17909-049**
Location: WH-04
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-04

Batch #: 1809962.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** Beige vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Off-white soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Fine particles	Cellulose	3%	**None Detected ND**

Lab ID: 18051749 **Client Sample #: 17909-050**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Beige soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Fine particles	Synthetic fibers	8%	**None Detected ND**

Lab ID: 18051750 **Client Sample #: 17909-051**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Calcareous binder	Cellulose	16%	**None Detected ND**

Lab ID: 18051751 **Client Sample #: 17909-052**
Location: WH-04
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-04

Batch #: 1809962.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** White soft elastic material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Caulking compound	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** White soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Caulking compound, Calcareous particles	None Detected	ND	**None Detected ND**

Lab ID: 18051752 **Client Sample #: 17909-053**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** Tan vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Synthetic foam	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Fine particles, Wood flakes	Cellulose	3%	**None Detected ND**
		Synthetic fibers	2%	
Layer 3 of 3	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose	27%	**None Detected ND**

Lab ID: 18051753 **Client Sample #: 17909-054**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	<1%	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-04

Batch #: 1809962.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051754 **Client Sample #: 17909-055**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Fine particles	Cellulose	4%	**None Detected ND**
Layer 2 of 2	**Description:** Off-white crumbly material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine particles	Cellulose	2%	**None Detected ND**

Lab ID: 18051755 **Client Sample #: 17909-056**
Location: WH-04
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	<1%	**None Detected ND**
Layer 2 of 3	**Description:** Yellow soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Cellulose	<1%	**None Detected ND**
Layer 3 of 3	**Description:** Gray soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine particles, Mineral grains	None Detected	ND	**None Detected ND**

Lab ID: 18051756 **Client Sample #: 17909-057**
Location: WH-04
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-04

Batch #: 1809962.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** White soft flaky material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles	Cellulose 10%	**None Detected ND**

Lab ID: 18051757 **Client Sample #: 17909-058**
Location: WH-04
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	None Detected ND	**Chrysotile 4%**

Lab ID: 18051758 **Client Sample #: 17909-059**
Location: WH-04
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Green flaky material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Mica	None Detected ND	**None Detected ND**

Lab ID: 18051759 **Client Sample #: 17909-060**
Location: WH-04
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose 2%	**Chrysotile 3%**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809962.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-04

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051745	17909-046		A
2	18051746	17909-047		A
3	18051747	17909-048		A
4	18051748	17909-049		A
5	18051749	17909-050		A
6	18051750	17909-051		A
7	18051751	17909-052		A
8	18051752	17909-053		A
9	18051753	17909-054		A
10	18051754	17909-055		A
11	18051755	17909-056		A
12	18051756	17909-057		A
13	18051757	17909-058		A
14	18051758	17909-059		A
15	18051759	17909-060		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Welly Hsieh		NVL	5/25/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 12:09 PM
Entered By: Nicholas Dossegger

1809962

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ☒ 24 Hours
- ❑ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-04

- ❑ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ TEM (NIOSH 7402)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ TEM (AHERA)
- ❑ Other
- ❑ TEM (EPA Level II Modified)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ❑ Call ( ) -
- ❑ Fax ( ) -
- ☒ Email acoulson@emi-alaska.com
  ghasburgh@emi-alaska.com

Total Number of Samples _____

	Sample ID	Description	A/R
1	17909-046	sink caulk	
2	17909-047	sink caulk	
3	17909-048	carpet mastic	
4	17909-049	Peach VST	
5	17909-050	wall panel mastic	
6	17909-051	joint compound	
7	17909-052	sink caulk	
8	17909-053	wood pattern VST	
9	17909-054	carpet mastic	
10	17909-055	Carpet mastic	
11	17909-056	carpet mastic and levelling compound	
12	17909-057	white sink undercoat	
13	17909-058	black sink undercoat	
14	17909-059	green sink undercoat	
15	17909-060	black sink undercoat	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson	Andy Coulson	EMI	22 May 2018	15:55
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/28/18	1155
Analyzed by	Wally Heick			5/31/18	1450
Called by					
Faxed/Email by					

ADB
ABD

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809979.00

Client Project: 17909
Location: WH-05

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051859 **Client Sample #: 17909-061**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Black plastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Plastic	None Detected	ND	**None Detected ND**

Lab ID: 18051860 **Client Sample #: 17909-062**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Fine particles, Wood flakes	Cellulose	2%	**Chrysotile 7%**
Layer 2 of 3	**Description:** Black asphaltic material with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Mastic/Binder, Fine particles	Glass fibers	18%	**None Detected ND**
Layer 3 of 3	**Description:** Black asphaltic fibrous felt			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose	61%	**None Detected ND**

Lab ID: 18051861 **Client Sample #: 17909-063**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Asphalt/Binder, Fine particles	None Detected	ND	**Chrysotile 6%**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3 **Description:** Built-up black asphaltic material with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles, Wood flakes	Glass fibers 32%	**None Detected ND**

Layer 3 of 3 **Description:** Tan fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles	Cellulose 93%	**None Detected ND**

Lab ID: 18051862 **Client Sample #: 17909-064**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose <1%	**Chrysotile 10%**

Lab ID: 18051863 **Client Sample #: 17909-065**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Built-up black asphaltic material and mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Mastic/Binder, Wood flakes	Glass fibers 42%	**None Detected ND**

Layer 2 of 2 **Description:** Tan fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles	Cellulose 89%	**None Detected ND**

Lab ID: 18051864 **Client Sample #: 17909-066**
Location: WH-05
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2 **Description:** White woven fibrous material with vinyl surface

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Vinyl/Binder	Synthetic fibers 52%	**None Detected ND**

Layer 2 of 2 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose <1%	**Chrysotile 8%**

Lab ID: 18051865 **Client Sample #: 17909-067**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Rubber/Binder	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White soft mastic with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Binder/Filler, Paint	Cellulose 14%	**None Detected ND**

Lab ID: 18051866 **Client Sample #: 17909-068**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** Gray soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Caulking compound	Cellulose <1%	**None Detected ND**

Lab ID: 18051867 **Client Sample #: 17909-069**
Location: WH-05
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2 **Description:** Multi-color fibrous material with white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Mastic/Binder	Synthetic fibers 61%	**None Detected ND**

Layer 2 of 2 **Description:** Yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine particles	Synthetic fibers <1%	**None Detected ND**

Lab ID: 18051868 **Client Sample #: 17909-070**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** Black asphaltic material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder, Fine particles	Cellulose <1%	**Chrysotile 3%**

Lab ID: 18051869 **Client Sample #: 17909-071**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** Mutli-color fibrous material with gray soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Synthetic fibers 57%	**None Detected ND**

Layer 2 of 2 **Description:** White soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Synthetic fibers 2%	**None Detected ND**

Lab ID: 18051870 **Client Sample #: 17909-072**
Location: WH-05
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2 **Description:** Gray compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Perlite	Cellulose 41%	**None Detected ND**
Glass beads, Paint	Glass fibers 38%	

Layer 2 of 2 **Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder	Cellulose 2%	**None Detected ND**

Lab ID: 18051871 **Client Sample #: 17909-073**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 2 **Description:** White woven fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint	Cellulose 51%	**None Detected ND**

Layer 2 of 2 **Description:** Off-white compacted powdery material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder	None Detected ND	**Chrysotile 2%**

Lab ID: 18051872 **Client Sample #: 17909-074**
Location: WH-05
Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Caulking compound	None Detected ND	**None Detected ND**

Lab ID: 18051873 **Client Sample #: 17909-075**
Location: WH-05
Comments: Sample was dried prior to analysis.

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-05

Batch #: 1809979.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 3	**Description:** Gray rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** White soft mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Mastic/Binder, Calcareous particles	None Detected	ND	**None Detected ND**
Layer 3 of 3	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Welly Hsieh **Date:** 05/25/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809979.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-05

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051859	17909-061		A
2	18051860	17909-062		A
3	18051861	17909-063		A
4	18051862	17909-064		A
5	18051863	17909-065		A
6	18051864	17909-066		A
7	18051865	17909-067		A
8	18051866	17909-068		A
9	18051867	17909-069		A
10	18051868	17909-070		A
11	18051869	17909-071		A
12	18051870	17909-072		A
13	18051871	17909-073		A
14	18051872	17909-074		A
15	18051873	17909-075		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Welly Hsieh		NVL	5/25/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 1:36 PM
Entered By: Nicholas Dossegger

1809979

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LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ☒ 24 Hours
- ❑ 4 Days
- ❑ 2 Hours
- ❑ 2 Days
- ❑ 5 Days
- ❑ 4 Hours
- ❑ 3 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-05

- ❑ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ TEM (NIOSH 7402)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ TEM (AHERA)
- ❑ Other
- ❑ TEM (EPA Level II Modified)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
❑ Call ( ) - ❑ Fax ( ) - ☒ Email acoulson@emi-alaska.com ghasburgh@emi-alaska.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	17909-061	black plastic sink	
2	17909-062	roof material	
3	17909-063	roof material	
4	17909-064	roof material	
5	17909-065	roof material	
6	17909-066	roof. penetration skirt	
7	17909-067	blue cove base and mastic	
8	17909-068	grey caulk	
9	17909-069	blue carpet and mastic	
10	17909-070	black sink undercoat	
11	17909-071	green carpet and mastic	
12	17909-072	glue in ceiling tiles and mastic	
13	17909-073	tape, joint compound	
14	17909-074	sink, caulk	
15	17909-075	cove base and mastic	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	23 May 2018	10:00
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/25/18	1155 ADB
Analyzed by					
Called by					
Faxed/Email by					

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809976.00

Client Project: 17909
Location: WH-06

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP Lab Code: 102063-0

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-06

Batch #: 1809976.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051842 **Client Sample #: 17909-076**
Location: WH-06

Layer 1 of 4	**Description:** Red fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	97%	**None Detected ND**
Layer 2 of 4	**Description:** Beige mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers	2%	**None Detected ND**
Layer 3 of 4	**Description:** White woven fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler	Synthetic fibers	94%	**None Detected ND**
Layer 4 of 4	**Description:** Yellow mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder	Cellulose	4%	**None Detected ND**

Lab ID: 18051843 **Client Sample #: 17909-077**
Location: WH-06

Layer 1 of 1	**Description:** Clear adhesive			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Adhesive/Binder	Cellulose	3%	**None Detected ND**
		Synthetic fibers	2%	

Lab ID: 18051844 **Client Sample #: 17909-078**
Location: WH-06

Layer 1 of 1	**Description:** Black soft/loose material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler	None Detected	ND	**Chrysotile 2%**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/29/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-06

Batch #: 1809976.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051845 **Client Sample #: 17909-079**
Location: WH-06
Layer 1 of 1 **Description:** Brown sheet vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder	None Detected ND	**None Detected ND**

Lab ID: 18051846 **Client Sample #: 17909-080**
Location: WH-06
Layer 1 of 1 **Description:** White compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Fine particles, Paint	Cellulose 2%	**Chrysotile 2%**

Lab ID: 18051847 **Client Sample #: 17909-081**
Location: WH-06
Layer 1 of 1 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 2%	**None Detected ND**

Lab ID: 18051848 **Client Sample #: 17909-082**
Location: WH-06
Layer 1 of 1 **Description:** Brown soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 5%	**None Detected ND**

Lab ID: 18051849 **Client Sample #: 17909-083**
Location: WH-06
Layer 1 of 1 **Description:** Off-white soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/29/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-06

Batch #: 1809976.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051850 **Client Sample #: 17909-084**
Location: WH-06
Layer 1 of 1 **Description:** Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint, Styrofoam	Cellulose 27%	**None Detected ND**
Glass debris	Glass fibers 24%	

Lab ID: 18051851 **Client Sample #: 17909-085**
Location: WH-06
Layer 1 of 1 **Description:** Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint, Styrofoam	Cellulose 25%	**None Detected ND**
Glass debris	Glass fibers 25%	

Lab ID: 18051852 **Client Sample #: 17909-086**
Location: WH-06
Layer 1 of 1 **Description:** Off-white soft material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 2%	**None Detected ND**

Lab ID: 18051853 **Client Sample #: 17909-087**
Location: WH-06
Layer 1 of 1 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Fine particles, Paint	Cellulose 3%	**Chrysotile 2%**

Lab ID: 18051854 **Client Sample #: 17909-088**
Location: WH-06

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/29/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-06

Batch #: 1809976.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 15
Samples Analyzed: 15
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** Yellow soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	None Detected ND	**Chrysotile 5%**

Lab ID: 18051855 **Client Sample #: 17909-089**
Location: WH-06

Layer 1 of 1 **Description:** Yellow mastic with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Paint	None Detected ND	**None Detected ND**

Lab ID: 18051856 **Client Sample #: 17909-090**
Location: WH-06

Layer 1 of 1 **Description:** Beige sandy textured material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Sand, Binder/Filler	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/29/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809976.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-06

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051842	17909-076		A
2	18051843	17909-077		A
3	18051844	17909-078		A
4	18051845	17909-079		A
5	18051846	17909-080		A
6	18051847	17909-081		A
7	18051848	17909-082		A
8	18051849	17909-083		A
9	18051850	17909-084		A
10	18051851	17909-085		A
11	18051852	17909-086		A
12	18051853	17909-087		A
13	18051854	17909-088		A
14	18051855	17909-089		A
15	18051856	17909-090		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Lauren Wetzel		NVL	5/29/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 1:22 PM
Entered By: Emily Schubert

1809976

NVL INDUSTRIAL HYGIENE SERVICES LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☒ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☐ 4 Days
- ☐ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-06

- ☐ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ☐ PLM Gravimetry (600/R-93-116)
- ☐ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ☐ TEM (NIOSH 7402)
- ☒ EPA 400 Points (600/R-93-116)
- ☐ Asbestos in Vermiculite (EPA 600/R-04/004)
- ☐ TEM (AHERA)
- ☐ Other
- ☐ TEM (EPA Level II Modified)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email acoulson@emi-alaska.com
  ghasburgh@emi-alaska.com

Total Number of Samples 15

	Sample ID	Description	A/R
1	17909-076	carpet adh mastic	
2	17909-077	mastic	
3	17909-078	black sink undercoat	
4	17909-079	wood pattern VCT	
5	17909-080	joint compound	
6	17909-081	caulk	
7	17909-082	stick-on sink liner	
8	17909-083	caulk	
9	17909-084	lay-in ceiling tile	
10	17909-085	lay-in ceiling tile	
11	17909-086	sink caulk	
12	17909-087	joint compound	
13	17909-088	caulk	
14	17909-089	wall panel mastic	
15	17909-090	Exterior wall texture	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	23 May 2018	11:40
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/25/18	1155
Analyzed by					
Called by					
Faxed/Email by					

ADB

1809976

Nicholas Dossegger

From: Coulson, Andy <acoulson@emi-alaska.com>
Sent: Friday, May 25, 2018 14:28
To: Nicholas Dossegger
Subject: RE: Duplicate Sample 17909-089 for WH-06
Attachments: 20180523_113240 (should be 17909-088).jpg; 20180523_113510 (should remain 17909-089).jpg

Hi Nick,
Attached are two pictures, I included which is which in their file names. 20180523_113510 shows the sample that is correctly labeled as 17909-089, and 20180523_113240 shows the sample that should be labeled 17909-088.

Thank you,
Andy

From: Nicholas Dossegger [mailto:Nick.d@nvllabs.com]
Sent: Friday, May 25, 2018 1:13 PM
To: Coulson, Andy
Subject: Duplicate Sample 17909-089 for WH-06

Andy,

We at NVL labs, just finished entering the info for the samples that you submitted. However, we came across two samples labeled the same as "17909-089" for project location WH-06. The samples in question look the same so there is a chance it's a duplicate. The batch will be on hold for the time being. How would you like to proceed?

Thanks & Regards,

Nicholas Dossegger
Client Service Specialist

www.nvllabs.com
ph: 206.547.0100 | fax: 206.634.1936
toll free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North, Seattle, WA 98103

Thanks & Regards,

Nicholas Dossegger

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809974.00

Client Project: 17909
Location: WH-07

Dear Mr. Hashburgh,

Enclosed please find test results for the 14 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-07

Batch #: 1809974.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051813 **Client Sample #: 17909-091**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose	58%	**None Detected ND**

Lab ID: 18051814 **Client Sample #: 17909-092**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** White bumpy compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Calcareous binder, Fine particles, Paint	Cellulose	2%	**None Detected ND**
Layer 2 of 3	**Description:** Off-white brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	None Detected	ND	**None Detected ND**
Layer 3 of 3	**Description:** Brown chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Glass fibers	4%	**None Detected ND**

Lab ID: 18051815 **Client Sample #: 17909-093**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Glass fibers	6%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-07

Batch #: 1809974.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 18051816 **Client Sample #: 17909-094**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Gray soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	3%	**None Detected ND**
Layer 2 of 2	**Description:** Off-white sandy textured material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Sand, Binder/Filler	None Detected	ND	**None Detected ND**

Lab ID: 18051817 **Client Sample #: 17909-095**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Off-white sandy textured material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Sand, Binder/Filler	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Gray sandy/brittle material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Sand, Binder/Filler	None Detected	ND	**None Detected ND**

Lab ID: 18051818 **Client Sample #: 17909-096**
Location: WH-07
Comments: Sample was dried prior to analysis.

Layer 1 of 3	**Description:** Off-white sandy textured material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Sand, Binder/Filler	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-07

Batch #: 1809974.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3 **Description:** Gray sandy/brittle material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Sand, Binder/Filler	Glass fibers	9%	**None Detected ND**

Layer 3 of 3 **Description:** Off-white brittle material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler	Cellulose	2%	**None Detected ND**

Lab ID: 18051819 **Client Sample #: 17909-097**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Sand	None Detected	ND	**None Detected ND**

Lab ID: 18051820 **Client Sample #: 17909-098**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Off-white sandy textured material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Organic debris, Binder/Filler	Cellulose	2%	**None Detected ND**

Lab ID: 18051821 **Client Sample #: 17909-099**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Pink soft material

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-07

Batch #: 1809974.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051822 **Client Sample #: 17909-100**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Gray cementitious material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Cement/Binder	None Detected ND	**Chrysotile 11%**
		Crocidolite 10%

Lab ID: 18051823 **Client Sample #: 17909-101**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Sand	None Detected ND	**None Detected ND**

Lab ID: 18051824 **Client Sample #: 17909-102**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** Pink soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	None Detected ND	**None Detected ND**

Lab ID: 18051825 **Client Sample #: 17909-103**
Location: WH-07
Comments: Sample was dried prior to analysis.
Layer 1 of 1 **Description:** White soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Sand	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-07

Batch #: 1809974.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051826 **Client Sample #: 17909-104**

Location: WH-07

Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** Gray sandy/brittle material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Sand, Binder/Filler, Styrofoam	Cellulose 2%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809974.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-07

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 14 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051813	17909-091		A
2	18051814	17909-092		A
3	18051815	17909-093		A
4	18051816	17909-094		A
5	18051817	17909-095		A
6	18051818	17909-096		A
7	18051819	17909-097		A
8	18051820	17909-098		A
9	18051821	17909-099		A
10	18051822	17909-100		A
11	18051823	17909-101		A
12	18051824	17909-102		A
13	18051825	17909-103		A
14	18051826	17909-104		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Lauren Wetzel		NVL	5/26/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/25/2018
Time: 1:09 PM
Entered By: Nicholas Dossegger

1809974

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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- ❑ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: WH-07

- ❑ PCM Air (NIOSH 7400)
- ❑ TEM (NIOSH 7402)
- ❑ TEM (AHERA)
- ❑ TEM (EPA Level II Modified)
- ☒ PLM (EPA 600/R-93-116)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ Asbestos in Sediment (EPA 1900 Points)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ Other

Reporting Instructions
- ❑ Call ( ) -
- ❑ Fax ( ) -
- ☒ Email acoulson@emi-alaska.com
  ghasburgh@emi-alaska.com

Total Number of Samples 14

	Sample ID	Description	A/R
1	17909-091	Vapor barrier	
2	17909-092	exterior wall board	
3	17909-093	exterior wall board	
4	17909-094	exterior wall material	
5	17909-095	exterior wall texture	
6	17909-096	Sprinkler system exterior caulk	
7	17909-097	exterior white caulk	
8	17909-098	exterior wall texture	
9	17909-099	exterior pink caulk	
10	17909-100	cement pipe	
11	17909-101	exterior white caulk	
12	17909-102	exterior pink caulk	
13	17909-103	exterior white caulk	
14	17909-104	wall cement	
15			

AC 5/22/18

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	22 May 2018	12:55
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/25/18	1155 ADB
Analyzed by					
Called by					
Faxed/Email by					

May 29, 2018

Glenn Hashburgh
Environmental Management Inc. EMI
206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809961.00

Client Project: 17909
Location: WH-08

Dear Mr. Hashburgh,

Enclosed please find test results for the 4 sample(s) submitted to our laboratory for analysis on 5/25/2018.

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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP Lab Code: 102063-0

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-08

Batch #: 1809961.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051741 **Client Sample #: 17909-105**
Location: WH-08
Comments: Sample was dried prior to analysis.

Layer 1 of 1	**Description:** Gray fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Glass debris	Glass fibers 88%	**None Detected ND**

Lab ID: 18051742 **Client Sample #: 17909-106**
Location: WH-08
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Brown/black fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Synthetic fibers 96%	**None Detected ND**
Layer 2 of 2	**Description:** White mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder	Synthetic fibers 3%	**None Detected ND**

Lab ID: 18051743 **Client Sample #: 17909-107**
Location: WH-08
Comments: Sample was dried prior to analysis.

Layer 1 of 2	**Description:** Gray brittle material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Styrofoam	Cellulose 2%	**None Detected ND**
Layer 2 of 2	**Description:** White fibrous material with blue soft material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Glass fibers 92%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI
Address: 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503

Attention: Mr. Glenn Hashburgh
Project Location: WH-08

Batch #: 1809961.00
Client Project #: 17909
Date Received: 5/25/2018
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 18051744 **Client Sample #: 17909-108**

Location: WH-08

Comments: Sample was dried prior to analysis.

Layer 1 of 1 **Description:** Yellow mastic with gray crumbly material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Binder/Filler	Cellulose 3%	**None Detected ND**

Sampled by: Client
Analyzed by: Lauren Wetzel **Date:** 05/26/2018
Reviewed by: Nick Ly **Date:** 05/29/2018

Nick Ly, Technical Director

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

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ASBESTOS LABORATORY SERVICES

Company Environmental Management Inc. EMI
Address 206E Fireweed Lane, Ste. 201
Anchorage, AK 99503
Project Manager Mr. Glenn Hashburgh
Phone (907) 272-9336

NVL Batch Number **1809961.00**
TAT 1 Day **AH** No
Rush TAT
Due Date 5/29/2018 **Time** 11:55 AM
Email ghasburgh@emi-alaska.com
Fax (907) 272-4159

Project Name/Number: 17909 **Project Location:** WH-08

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 4 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	18051741	17909-105		A
2	18051742	17909-106		A
3	18051743	17909-107		A
4	18051744	17909-108		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	5/25/18	1155
Analyzed by	Lauren Wetzel		NVL	5/26/18	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions: 1 courier charge

Date: 5/25/2018
Time: 12:03 PM
Entered By: Nicholas Dossegger

1809961

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ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ☒ 24 Hours
- ❑ 4 Days
- ❑ 2 Hours
- ❑ 2 Days
- ❑ 5 Days
- ❑ 4 Hours
- ❑ 3 Days
- ❑ 10 Days

Please call for TAT less than 24 Hours

Company: Environmental Management, Inc.
Address: 206 E Fireweed Ln, Suite 201
Anchorage, AK 99503
Phone: (907) 272-9336

Project Manager: Glenn Hasburgh
Cell: ( ) -
Email: ghasburgh@emi-alaska.com
Fax: (907) 272 - 4159

Project Name/Number: 17909
Project Location: W/H-08

- ❑ PCM Air (NIOSH 7400)
- ❑ TEM (NIOSH 7402)
- ❑ TEM (AHERA)
- ❑ TEM (EPA Level II Modified)
- ☒ PLM (EPA 600/R-93-116)
- ☒ EPA 400 Points (600/R-93-116)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ Asbestos in Sediment (EPA 1900 Points)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ Other

Reporting Instructions
- ❑ Call ( ) -
- ❑ Fax ( ) -
- ☒ Email acoulson@emi-alaska.com
ghasburgh@emi-alaska.com

Total Number of Samples 4

	Sample ID	Description	A/R
1	17909-105	penetration fill	
2	17909-106	carpet and mastic	
3	17909-107	exterior wall material	
4	17909-108	carpet mastic	
5			
6			
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15			

AC 5/23/16

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson	Andy Coulson	EMI	23 May 2016	13:30
Relinquish by	Andy Coulson		EMI		

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Haley S		NVL	5/25/16	1155
Analyzed by					
Called by					
Faxed/Email by					

AOB