

**APPENDIX A**  
**ASBESTOS AIR MONITORING, TESTING, REPORTING & CONTRACT SUPPORT,**  
**NORTHWEST ATLANTIC FISHERIES CENTRE, FRONT ENTRANCE, ST. JOHN'S, NL**



## **Public Works & Government Services Canada**

**Asbestos Air Monitoring, Testing, Reporting & Contract Support  
Northwest Atlantic Fisheries Centre, Front Entrance,  
St. John's, Newfoundland & Labrador**

### **Final Report**

Date: February 28, 2013  
Ref. N°: 16282

**LVM** | MARITIME TESTING

**Public Works & Government Services Canada**

**Asbestos Air Monitoring, Testing, Reporting & Contract Support  
Northwest Atlantic Fisheries Centre, Front Entrance  
St. John's, Newfoundland & Labrador**

Final Report | 16282

Prepared by:



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**Ashley Zottarelli, P.Eng.**  
Project Manager

Approved by :



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**Kim Strong, M.Sc.**  
Indoor Environments

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## Property and Confidentiality

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Test results mentioned herein are only valid for the samples stated in this report.

LVM / Maritime Testing's subcontractors who may have accomplished work either on site or in laboratory are duly qualified as stated in our Quality Manual's procurement procedure. Should you require any further information, please contact your Project Manager."

REVISION AND PUBLICATION REGISTER		
Revision N°	Date	Modification And/Or Publication Details
00	2013-02-11	Draft Report Submission
01	2013-02-13	Final Report Submission
02	2013-02-28	Final Report Resubmission

## 1 SUMMARY OF WORK

Asbestos air monitoring, testing, reporting and contract support were provided by LVM Maritime Testing (LVM) to Public Works and Government Services Canada (PWGSC) during construction work at the Northwest Atlantic Fisheries Centre (NAFC) in St. John's, NL, which involved asbestos abatement work (removal of drywall from the ceiling) in the front entrance.

LVM reviewed the applicable provincial regulations (Newfoundland and Labrador Regulations 111/98), the PWGSC departmental policy and code of practice (DP 057 – Asbestos Management).

Background air monitoring was conducted on January 2, 2013.

On January 14, 2013, the abatement contractor was onsite to set up the enclosure and prep the site. Once the enclosure was erected, LVM inspected it to ensure it complied with regulation requirements. Any deficiencies were reported to PWGSC Department Representative. This was conducted on January 15, 2013.

Air monitoring during the abatement of ceiling drywall was conducted. Inspection reports were submitted following abatement monitoring detailing the asbestos abatement, air sampling and analytical information. Asbestos air monitoring was conducted for a total of one (1) day on January 15, 2013.

On January 15, 2013, during the removal of ceiling drywall, transite paneling and sprayed-on insulation were observed in the ceiling cavity. These materials were sampled, as directed by PWGSC. The materials were sampled in order to determine how the ceiling cavity should be cleaned following abatement. The enclosure was left in place and work was not conducted on the site for a total of seven (7) working days, while waiting for bulk sample results and for the contractor to return to the site. Laboratory results were received on January 22, 2013, indicating that the transite paneling contains 5-10% chrysotile asbestos. Asbestos was not detected in the sprayed-on insulation.

On January 24, 2013, the abatement contractor returned to the site to conduct final cleaning.

On January 25, 2013, LVM conducted clearance testing in the work area following final cleaning, prior to the removal of enclosures. On January 30, 2013, LVM returned to the site following receipt of clearance testing results and the removal of the enclosure to conduct final clearance testing. Results were <0.01 f/mL.

During the course of the work, the applicable provincial regulations (Newfoundland and Labrador Regulations 111/98) and the PWGSC departmental policy and code of practice (DP 057 – Asbestos Management) were followed.

In addition, the Asbestos Abatement – Maximum Precautions removal specifications provided by PWGSC for other asbestos abatement jobs at the NAFC were followed for this abatement project.

Approximate locations of air samples and asbestos containing materials removal are provided on the site sketch in Appendix 1.

## **2 ABATEMENT CRITERIA**

Abatement was conducted by the abatement contractor (EnviroBate) following the applicable provincial regulations (Newfoundland and Labrador Regulations 111/98) and the PWGSC departmental policy and code of practice (DP 057 – Asbestos Management). LVM reported any deficiencies to the PWGSC Department Representative.

As per Maximum Precautions specifications provided for previous abatement monitoring jobs at the NAFC, the asbestos air monitoring criteria used for air testing was <0.01 f/mL for final clearance testing, and <0.05 f/mL for air monitoring during abatement activities.

## **3 METHODOLOGY**

In conjunction with construction activities, asbestos abatement work, which included the removal of ceiling materials, was conducted on January 15, 2013 in the front entrance.

Prior to any asbestos abatement activities, a background air sample was collected where abatement activities were anticipated to occur in the front entrance. The background air sample was collected using an Allegro high volume pump set at 17 litres/minute and fitted with 25 mm diameter 0.8 um pore size MCE filter on January 2, 2013.

Once background air testing was complete, the contractors set up the enclosure on January 14, 2013. Upon the erection of the enclosure, LVM conducted an inspection to ensure compliance with the applicable regulation requirements. This was conducted on January 15, 2013.

Air testing was conducted during asbestos abatement activities in various locations directly outside the work area (inside the decontamination chamber, and directly outside the enclosure). Testing was conducted with SKC low volume air sampling pumps set at 3.0 litres/minute and fitted with 25 mm diameter 0.8 um pore size MCE filter. Two (2) pumps were used for monitoring during abatement. Two (2) samples were collected during the asbestos abatement work. The samples were collected during the working day on January 15, 2013.

As described above in Section 1, on January 15, 2013, during the removal of ceiling drywall, transite paneling and sprayed-on insulation were observed in the ceiling cavity. These materials were sampled, as directed by PWGSC. The materials were sampled in order to determine how the ceiling cavity should be cleaned following abatement. The enclosure was left in place and work was not conducted. Laboratory results were received on January 22, 2013, indicating that the transite paneling contains 5-10% chrysotile asbestos. Asbestos was not detected in the sprayed-on insulation. As directed by PWGSC, the abatement contractor left these materials in place.

On January 24, 2013, the abatement contractor returned to the site to conduct final cleaning.

Following final cleaning, LVM collected samples for clearance testing inside the work area. This was conducted on January 25, 2013. Following the receipt of clearance test results, the enclosure was removed by the abatement contractor, and final confirmatory air sampling was conducted to ensure fibre levels returned to background levels. Final confirmatory air sampling was conducted on January 30, 2013.

All air samples collected were delivered to Pinchin LeBlanc Environmental Laboratory (Pinchin) in St. John's (an appropriately accredited laboratory) for analysis by the NIOSH 7400 method that uses phase contrast microscopy (PCM). All results are summarized in Appendix 2. Laboratory certificates of analysis are provided in Appendix 3.

Typically 10% of samples would be collected for QA/QC purposes. One QA/QC sample was submitted for analysis.

## **4 OBSERVATIONS & RECOMMENDATIONS**

This section describes observations made during the abatement activities. The observations and analytical results were provided to PWGSC throughout the project in Inspection Reports, which are attached in Appendix 4.

Prior to constructing the enclosure, background testing was first conducted. Background samples were collected on January 2, 2013. Air quality results showed fibers in air were detected at a concentration of <0.02 f/mL, which is lower than the <0.05 f/mL air monitoring criteria for during abatement activities.

During asbestos abatement work on January 15, 2013, ceiling materials (including drywall) were removed as directed. The work area was isolated from areas outside the work area using polyethylene sheeting. Ventilation diffusers were covered and items were either removed from the room or covered in polyethylene sheeting. Flooring and walls inside the enclosure was



covered in polyethylene sheeting. Sufficient negative air pressure was measured (-0.04" WC) between the enclosure and the atrium area.

Abatement workers wore disposable Tyvek suits and half-faced respirators with P-100 filters. A shower and clean room were present in the enclosure chamber system for decontamination purposes. Areas were wetted prior to removing the asbestos containing materials. Waste was placed in proper asbestos bags, which were stored inside of the enclosure during the abatement work and then removed from the site.

During abatement, air monitoring was conducted directly outside of the enclosure using SKC low volume air sampling pumps. Results were <0.02 f/mL, below the air monitoring during abatement criterion of <0.05 f/mL.

When the ceiling cavity was exposed, the abatement contractor observed sprayed-on insulation and transite paneling within the ceiling cavity and extending out into the building overhang. Under PWGSC direction, LVM collected samples of the sprayed-on insulation and the transite paneling to determine if these materials were asbestos containing. Asbestos content analysis was conducted by Maxxam Analytics. The sprayed-on insulation (labelled as S1) was found to not contain asbestos but the transite panelling (identified as S2) was found to have an asbestos content of 5-10% chrysotile asbestos. The asbestos containing transite paneling was left in place because it was not located within the immediate work area and did not prevent the abatement contractor from cleaning the ceiling cavity. Laboratory certificates of analysis are provided in Appendix 3.

On January 24, 2013, the abatement contractor conducted final clean-up, but did not wait for LVM to conduct air quality testing. Once waste was removed, the area was cleaned with a HEPA vacuum and 'glued'. The 'glue' procedure involves spraying a mist of adhesive to drop airborne dust and fibres out of the air.

On January 25, 2013, following an appropriate settling time which allows the sprayed glue time to settle out of the air, enclosure clearance testing was conducted. The lab results for the air samples collected as clearance was reported as <0.01 fibres/mL. Following the receipt of the lab result, the contractor dismantled the enclosure and final confirmatory air testing was conducted. Final confirmatory air testing was conducted on January 30, 2013. Lab results for final confirmatory air testing is <0.01 fibres/mL. These results satisfy the clearance criterion of <0.01 f/mL.

## 5 REPORT USE & CONDITIONS

This report was prepared for the exclusive use of Public Works & Government Services Canada. It is based on data and information obtained during asbestos air monitoring, testing, reporting and contract support conducted by LVM Maritime Testing and is based upon the condition of the property on the dates of the abatement work.

Environmental conditions are dynamic in nature and changing circumstances in the environment can alter radically the information contained herein.

Prepared by:



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**Ashley Zottarelli, P.Eng.**  
Project Manager

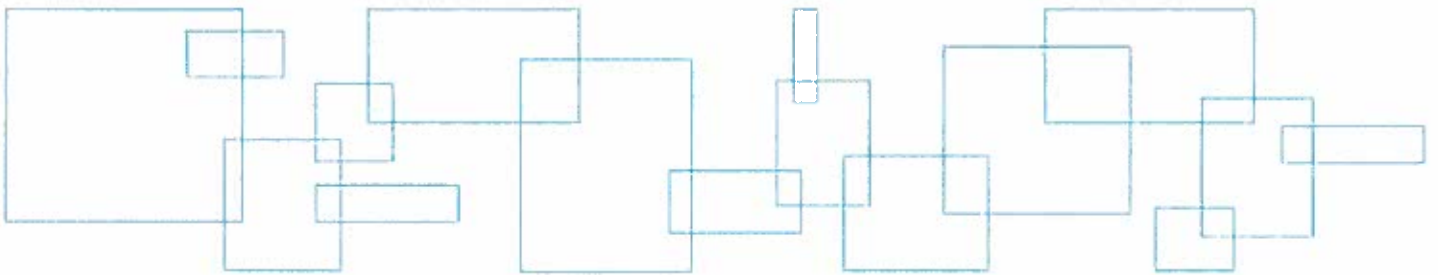
Approved by :



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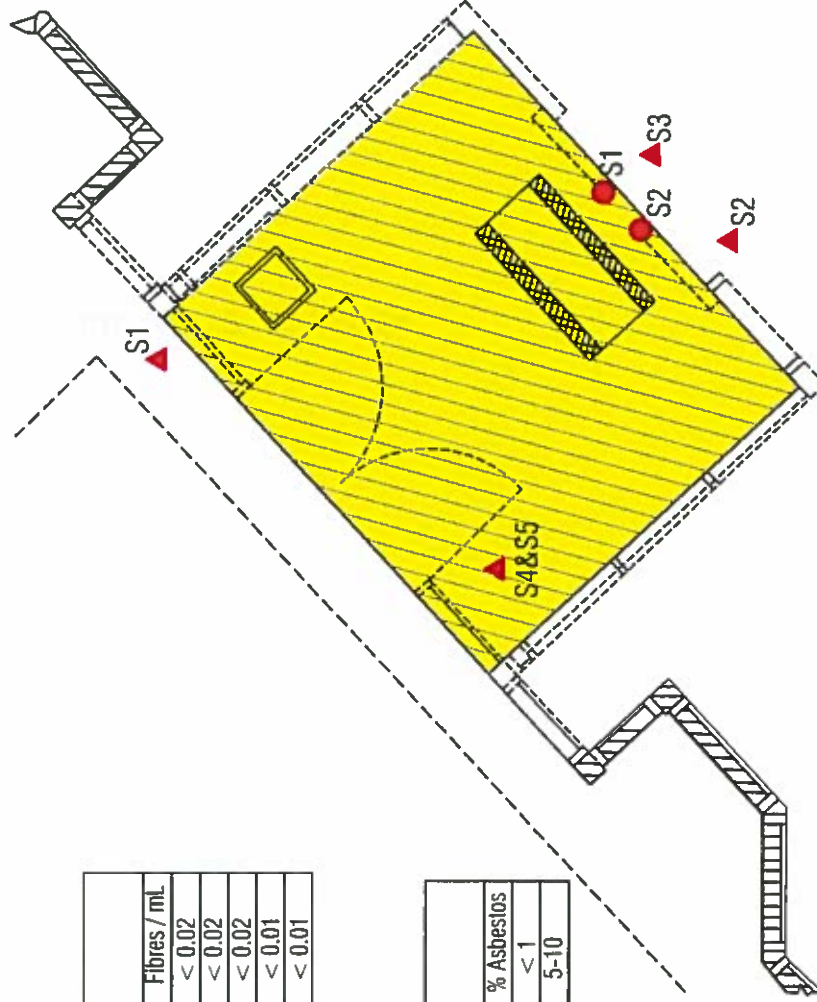
**Kim Strong, M.Sc.**  
Indoor Environments

## Appendix 1 Site Sketch



Air Sampling		
ID	Type	Fibres / mL
▲ S1	Background	< 0.02
▲ S2	During Abatement	< 0.02
▲ S3	During Abatement	< 0.02
▲ S4	Enclosure Clearance	< 0.01
▲ S5	Final Clearance	< 0.01

Bulk Sampling		
ID	Type	% Asbestos
● S1	Sprayed - on Insulation	< 1
● S2	Transite	5-10



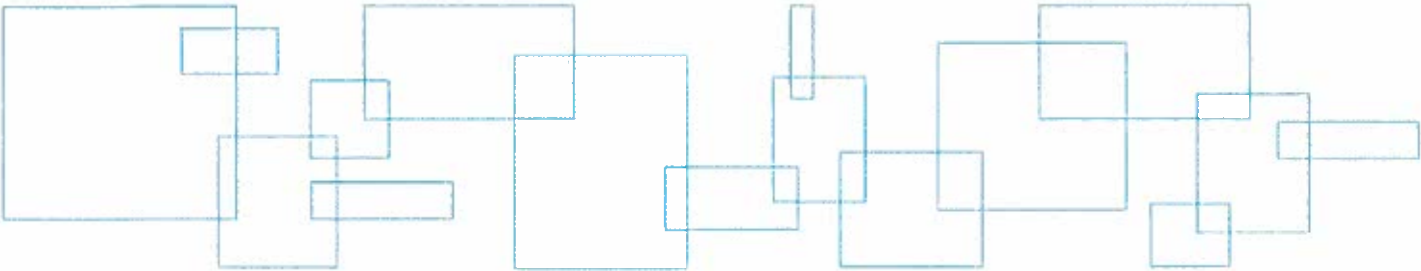
# LEGEND:

- ▲ S1 - Air Sampling Location
- - Asbestos Containing Drywall Removal
- S1 - Bulk Sampling Location

Ref: Site Plan of NAFC Front Entrance, St. John's, NL, Provided by Client, February 2013.

LVM   MARITIME TESTING		Site Sketch Showing Approximate Bulk Samples & Air Sampling Locations NAFC Front Entrance, St. John's, NL			FIGURE 1	
DATE: February 2013	SCALE: NTS	DRAWN BY: JJ	CKD BY: AZ	JOB No. 16282		

**Appendix 2   Summary Table**

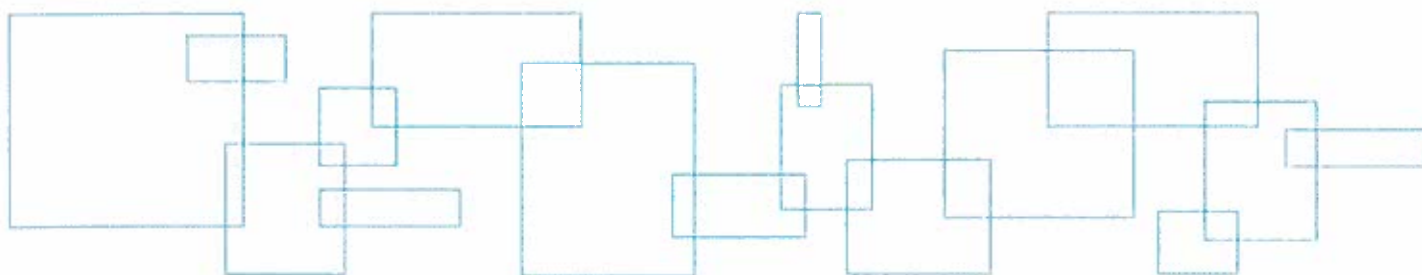


**TABLE 1: ASBESTOS AIR TESTING RESULTS**  
**Client: Public Works & Government Services Canada**  
**Site Location: NAFC, St. John's, NL**  
**LVM Project No.: 16282**



Sample Description				Result
Sample Date	Sample Type	Sample ID	Sample Location	fibres/mL
Jan. 2, 2013	Background	S1	Work area	<0.02
Jan. 15, 2013	During abatement	S2	Decon	<0.02
Jan. 15, 2013	During abatement	S3	Atrium outside decon	<0.02
Jan. 25, 2013	Enclosure clearance	S4	Work area	<0.01
Jan. 30, 2013	Final clearance	S5	Work area	<0.01
Jan. 30, 2013	Final clearance	QA/QC-1	Work area	<0.01

## Appendix 3 Laboratory Certificates





January 3, 2013

LVM Maritime Testing  
97 Troop Avenue  
Dartmouth, NS  
B3B 2A7

Attn: Kerry Moules

**Re: Air Sample Analysis Phase Contrast Microscopy**

This letter is to provide you with the result of the counting of one (1) filter cassette submitted on January 2, 2013.

The sample was analyzed by the Phase Contrast Microscopy (PCM) Method, using the "A" set of counting rules and following the National Institute of Occupational Safety and Health (NIOSH) Method 7400 dated August 15, 1994. Phase Contrast Microscopy is an optical technique for viewing small particles rather than a method for measuring specific properties of a substance. It is a technique based entirely on the shape of the particle rather than a method for measuring specific properties of a substance. It is not inherently specific for asbestos. Consequently, all particles satisfying a 3:1 length to width ratio are counted as fibres.

A segment of the filter was mounted, treated chemically to make the filter membrane transparent, and examined using a special microscope reticle and counting procedure with phase contrast illumination at 400 to 500 times magnification. Particles are observed for shape and size. Results are presented as the number of fibres per milliliter of air (f/milliliter). This result is calculated by the following formula:

$$\text{Fibres/milliliter} = \frac{\text{total number of fibres on the filter}}{\text{total volume of air sampled (in milliliter)}}$$

Your results are presented based on the above formula and the Quantitation Limit (Q.L.) for Sampling Volume. The reliable Quantitation limit of this method, determined from in-house quality control data, is based on a minimum fibre density of about 40 fibres in 100 fields (assuming a graticule area of 0.0077 mm/sq.). If calculated value is less than Q.L. then the result is reported as <Q.L. (numerical value for Q.L.). If the calculated value is greater than Q.L., then the result is reported as the calculated value.

The results of the samples are presented on the following page.





**PHASE CONTRAST MICROSCOPY (PCM)**  
**PINCHIN LEBLANC ENVIRONMENTAL LTD.**  
**ST. JOHN'S, NL**

**PROJECT NAME:**

LVM Maritime Testing

**REPORT DATE:** January 3, 2013

**PREPARED FOR:**

Kerry Moules

**PAGE:** 1 of 1

Date Sampled	Location	Sample #	Volume (l)	Reported Result (f/ml)
January 2, 2013	Front Entrance - Background	S1	1785	<0.02

\* TLV (Threshold Limit Value) Concentration for a normal 8-hour workday and 40-hour workweek, to which nearly all workers may be repeatedly, exposed, day after day, without adverse effects. Chrysotile Asbestos TLV = 0.1 fibres/ml. Amosite Asbestos TLV = 0.1 fibres/ml. Crocidolite Asbestos TLV = 0.1 fibres/ml.

Analyst: Angela Stagg



January 15, 2013

LVM Maritime Testing  
97 Troop Avenue  
Dartmouth, NS  
B3B 2A7

Attn: Kerry Moules

**Re: Air Sample Analysis Phase Contrast Microscopy**

This letter is to provide you with the results of the counting of two (2) filter cassettes submitted on January 15, 2013.


The samples were analyzed by the Phase Contrast Microscopy (PCM) Method, using the "A" set of counting rules and following the National Institute of Occupational Safety and Health (NIOSH) Method 7400 dated August 15, 1994. Phase Contrast Microscopy is an optical technique for viewing small particles rather than a method for measuring specific properties of a substance. It is a technique based entirely on the shape of the particle rather than a method for measuring specific properties of a substance. It is not inherently specific for asbestos. Consequently, all particles satisfying a 3:1 length to width ratio are counted as fibres.

A segment of the filter was mounted, treated chemically to make the filter membrane transparent, and examined using a special microscope reticle and counting procedure with phase contrast illumination at 400 to 500 times magnification. Particles are observed for shape and size. Results are presented as the number of fibres per milliliter of air (f/milliliter). This result is calculated by the following formula:

$$\text{Fibres/milliliter} = \frac{\text{total number of fibres on the filter}}{\text{total volume of air sampled (in milliliter)}}$$

Your results are presented based on the above formula and the Quantitation Limit (Q.L.) for Sampling Volume. The reliable Quantitation limit of this method, determined from in-house quality control data, is based on a minimum fibre density of about 40 fibres in 100 fields (assuming a graticule area of 0.0077 mm/sq.). If calculated value is less than Q.L. then the result is reported as <Q.L. (numerical value for Q.L.). If the calculated value is greater than Q.L., then the result is reported as the calculated value.

The results of the samples are presented on the following page.

		<b>PHASE CONTRAST MICROSCOPY (PCM)</b> <b>PINCHIN LEBLANC ENVIRONMENTAL LTD.</b> <b>ST. JOHN'S, NL</b>		
<b>PROJECT NAME:</b> LVM Maritime Testing		<b>REPORT DATE:</b> January 15, 2013		
<b>PREPARED FOR:</b> Kerry Moules		<b>PAGE:</b> 1 of 1		
Date Sampled	Location	Sample #	Volume (l)	Reported Result (f/ml)
January 15, 2013	Front Entrance	S2	1080	<0.02
January 15, 2013	Front Entrance	S3	1080	<0.02
<p>* TLV (Threshold Limit Value) Concentration for a normal 8-hour workday and 40-hour workweek, to which nearly all workers may be repeatedly, exposed, day after day, without adverse effects. Chrysotile Asbestos TLV = 0.1 fibres/ml. Amosite Asbestos TLV = 0.1 fibres/ml. Crocidolite Asbestos TLV = 0.1 fibres/ml.</p>				

Analyst *S. S. S.*

January 25, 2013

LVM Maritime Testing  
97 Troop Avenue  
Dartmouth, NS  
B3B 2A7

Attn: Ashley Zottarelli

**Re: Air Sample Analysis Phase Contrast Microscopy**

This letter is to provide you with the results of the counting of one (1) filter cassette submitted on January 25, 2013.

The sample was analyzed by the Phase Contrast Microscopy (PCM) Method, using the "A" set of counting rules and following the National Institute of Occupational Safety and Health (NIOSH) Method 7400 dated August 15, 1994. Phase Contrast Microscopy is an optical technique for viewing small particles rather than a method for measuring specific properties of a substance. It is a technique based entirely on the shape of the particle rather than a method for measuring specific properties of a substance. It is not inherently specific for asbestos. Consequently, all particles satisfying a 3:1 length to width ratio are counted as fibres.

A segment of the filter was mounted, treated chemically to make the filter membrane transparent, and examined using a special microscope reticle and counting procedure with phase contrast illumination at 400 to 500 times magnification. Particles are observed for shape and size. Results are presented as the number of fibres per milliliter of air (f/milliliter). This result is calculated by the following formula:

$$\text{Fibres/milliliter} = \frac{\text{total number of fibres on the filter}}{\text{total volume of air sampled (in milliliter)}}$$

Your results are presented based on the above formula and the Quantitation Limit (Q.L.) for Sampling Volume. The reliable Quantitation limit of this method, determined from in-house quality control data, is based on a minimum fibre density of about 40 fibres in 100 fields (assuming a graticule area of 0.0077 mm/sq.). If calculated value is less than Q.L. then the result is reported as <Q.L. (numerical value for Q.L.). If the calculated value is greater than Q.L., then the result is reported as the calculated value.

The results of the samples are presented on the following page.



PHASE CONTRAST MICROSCOPY (PCM)  
PINCHIN LEBLANC ENVIRONMENTAL LTD.  
ST. JOHN'S, NL

PROJECT NAME: LVM Maritime Testing REPORT DATE: January 25, 2013  
PREPARED FOR: Ashley Zottarelli PAGE: 1 of 1

Date Sampled	Location	Sample #	Volume (l)	Reported Result (f/ml)
January 25, 2013	Clearance- Front Entrance	S4	2040	<0.01

\* TLV (Threshold Limit Value) Concentration for a normal 8-hour workday and 40-hour workweek, to which nearly all workers may be repeatedly, exposed, day after day, without adverse effects. Chrysotile Asbestos TLV = 0.1 fibres/ml. Amosite Asbestos TLV = 0.1 fibres/ml. Crocidolite Asbestos TLV = 0.1 fibres/ml.

Analyst: 

February 1, 2013

LVM Maritime Testing  
97 Troop Avenue  
Dartmouth, NS  
B3B 2A7

Attn: Kerry Moules

**Re: Air Sample Analysis Phase Contrast Microscopy**

This letter is to provide you with the results of the counting of two (2) filter cassettes submitted on January 31, 2013.


The samples were analyzed by the Phase Contrast Microscopy (PCM) Method, using the "A" set of counting rules and following the National Institute of Occupational Safety and Health (NIOSH) Method 7400 dated August 15, 1994. Phase Contrast Microscopy is an optical technique for viewing small particles rather than a method for measuring specific properties of a substance. It is a technique based entirely on the shape of the particle rather than a method for measuring specific properties of a substance. It is not inherently specific for asbestos. Consequently, all particles satisfying a 3:1 length to width ratio are counted as fibres.

A segment of the filter was mounted, treated chemically to make the filter membrane transparent, and examined using a special microscope reticle and counting procedure with phase contrast illumination at 400 to 500 times magnification. Particles are observed for shape and size. Results are presented as the number of fibres per milliliter of air (f/milliliter). This result is calculated by the following formula:

$$\text{Fibres/milliliter} = \frac{\text{total number of fibres on the filter}}{\text{total volume of air sampled (in milliliter)}}$$

Your results are presented based on the above formula and the Quantitation Limit (Q.L.) for Sampling Volume. The reliable Quantitation limit of this method, determined from in-house quality control data, is based on a minimum fibre density of about 40 fibres in 100 fields (assuming a graticule area of 0.0077 mm/sq.). If calculated value is less than Q.L. then the result is reported as <Q.L. (numerical value for Q.L.). If the calculated value is greater than Q.L., then the result is reported as the calculated value.

The results of the samples are presented on the following page.



**PINCHIN  
LEBLANC  
ENVIRONMENTAL**

**PHASE CONTRAST MICROSCOPY (PCM)**  
**PINCHIN LEBLANC ENVIRONMENTAL LTD.**  
**ST. JOHN'S, NL**

**PROJECT NAME:** LVM Maritime Testing

**REPORT DATE:** February 1, 2013

**PREPARED FOR:** Kerry Moules

**PAGE:** 1 of 1

Date Sampled	Location	Sample #	Volume (l)	Reported Result (f/ml)
January 30, 2013	Clearance	S5	2040	<0.01
January 30, 2013	Clearance	QA/QC-1	1870	<0.01

\* TLV (Threshold Limit Value) Concentration for a normal 8-hour workday and 40-hour workweek, to which nearly all workers may be repeatedly, exposed, day after day, without adverse effects. Chrysotile Asbestos TLV = 0.1 fibres/ml. Amosite Asbestos TLV = 0.1 fibres/ml. Crocidolite Asbestos TLV = 0.1 fibres/ml.

Analyst *S. Murphy*

Your P.O. #: CALL UP #46  
Your Project #: R.001716.137  
Site Location: FRONT ENTRANCE  
Your C.O.C. #: B 085848

**Attention: Melissa O'Reilly-Nash**

Public Works & Government Services Canada  
St. John's  
PO Box 4600  
10 Barter's Hill  
St. John's, NL  
A1C 5T2

**Report Date: 2013/01/22**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B306883**

**Received: 2013/01/16, 09:35**

Sample Matrix: Soil  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Asbestos (1)	1	N/A	2013/01/18	SYD SOP-00174	Based on NIOSH9002
Asbestos (1)	1	N/A	2013/01/21	SYD SOP-00174	Based on NIOSH9002

**Remarks:**

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sydney

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Mari Kenny, Project Manager  
Email: MKenny@maxxam.ca  
Phone# (902) 420-0203 Ext 291

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Page 1 of 3



Maxxam Job #: B306883  
Report Date: 2013/01/22

Public Works & Government Services Canada  
Client Project #: R.001716.137  
Site Location: FRONT ENTRANCE  
Your P.O. #: CALL UP #46  
Sampler Initials: KM

### RESULTS OF ANALYSES OF SOIL

Maxxam ID		QG1392		QG1393		
Sampling Date		2013/01/15		2013/01/15		
COC Number		B 085848		B 085848		
	Units	S1	QC Batch	S2	RDL	QC Batch

Inorganics						
Asbestos	%	ND	3098480	(5-10)	1.0	3100302
Chrysotile Asbestos	%	ND	3098480	(5-10)	1.0	3100302
Amosite Asbestos	%	ND	3098480	ND	1.0	3100302
Crocidolite Asbestos	%	ND	3098480	ND	1.0	3100302
Tremolite Asbestos	%	ND	3098480	ND	1.0	3100302
Cellulose	%	(>90)	3098480	ND	1.0	3100302
Mineral Wool	%	ND	3098480	ND	1.0	3100302
Glass Fibres	%	ND	3098480	ND	1.0	3100302
Hair	%	ND	3098480	ND	1.0	3100302
Miscellaneous Fibres	%	ND	3098480	ND	1.0	3100302

ND = Not detected  
RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch



Maxxam Job #: B306883  
Report Date: 2013/01/22

Public Works & Government Services Canada  
Client Project #: R.001716.137  
Site Location: FRONT ENTRANCE  
Your P.O. #: CALL UP #46  
Sampler Initials: KM

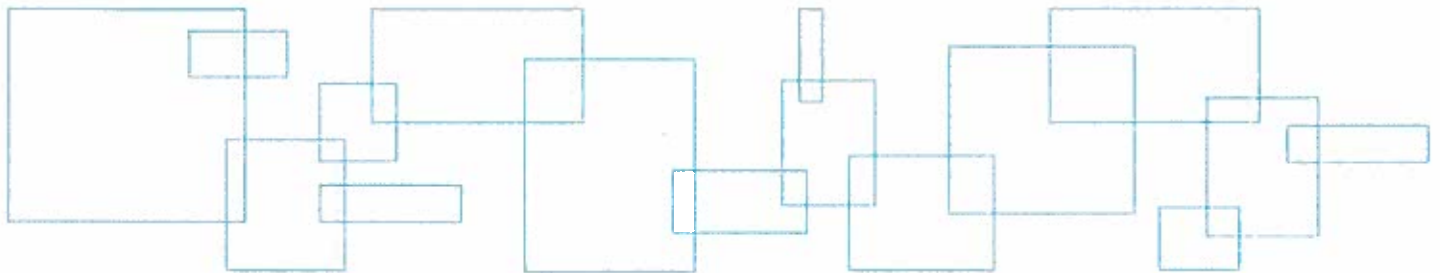
Package 1	24.9°C
-----------	--------

Each temperature is the average of up to three cooler temperatures taken at receipt

**GENERAL COMMENTS**

**Results relate only to the items tested.**

## Appendix 4 Inspection Reports



<b>LVM</b>   MARITIME TESTING		<b>INSPECTION REPORT</b>		97 Troop Ave., Dartmouth, NS B3B 2A7 Tel: (902) 468-6486 Fax: (902) 468-4919	
To: NAFC, 80 East White Hills Rd, St John's, NL		Project: Asbestos removal of ceiling materials		Project No.: 16282	
Attn: Melissa O'Reilly-Nash, PWGSC		Inspector: Kerry Moules			
<b>WORK IN PROGRESS:</b> ACM REMOVAL: NAFC Front Entrance - Background sampling Work Procedure: Not yet underway Location: NAFC Front Entrance					
1. AIR MONITORING	<input checked="" type="checkbox"/>	4. NEGATIVE AIR	<input type="checkbox"/>	7. WASTE HANDLING	<input type="checkbox"/>
2. SITE ISOLATION	<input type="checkbox"/>	5. WORKER PROTECTION	<input type="checkbox"/>	8. CLEAN-UP	<input type="checkbox"/>
3. FACILITIES/EQUIPMENT	<input type="checkbox"/>	6. DUST SUPPRESSION	<input type="checkbox"/>	9. OTHER	<input type="checkbox"/>
SAMPLE NO.	PUMP NO.	DATE	VOLUME (L.)	DESCRIPTION OF SAMPLE	RESULTS (Fibers/mL)
Pre-abatement, S1	High vol.	Jan. 2	1785	Background – Front Entrance	<0.02

- Air monitoring. One background sample was collected from the work area. No fibers were detected. Results are <0.02 f/mL, which is below the air monitoring criteria of <0.05 f/mL.
- Site isolation. The site was not enclosed at time of background sampling.
- Facilities/equipment. Ceiling materials are to be removed. No asbestos abatement work completed, as enclosure was not set up.
- Negative air. Not applicable at the background sampling stage, as no abatement work has been completed.
- Worker protection. Not applicable at the background sampling stage, as no abatement work has been completed.
- Dust suppression. Not applicable at the background sampling stage, as no abatement work has been completed.
- Waste handling. Not applicable at the background sampling stage, as no abatement work has been completed.
- Cleanup. Not applicable at the background sampling stage, as no abatement work has been completed.
- Progress. Background sample collection complete. Removal of asbestos containing materials not started, enclosure set up in progress.

Signed:

*Kerry Moules*

Date: Jan. 2

Report No.: 1

# INSPECTION REPORT

 97 Troop Ave., Dartmouth, NS B3B 2A7  
 Tel: (902) 468-6486 Fax: (902) 468-4919

To: NAFC, 80 East White Hills Rd, St John's, NL	Project: Asbestos removal of ceiling materials	Project No.: 16282
Attn: Melissa O'Reilly-Nash, PWGSC	Inspector: Kerry Moules	

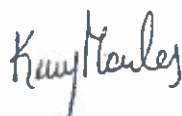
**WORK IN PROGRESS:**

 ACM REMOVAL: NAFC Front Entrance – Ceiling removal  
 Work Procedure: Maximum precautions  
 Location: NAFC Front Entrance

1. AIR MONITORING	<input checked="" type="checkbox"/>	4. NEGATIVE AIR	<input checked="" type="checkbox"/>	7. WASTE HANDLING	<input checked="" type="checkbox"/>
2. SITE ISOLATION	<input checked="" type="checkbox"/>	5. WORKER PROTECTION	<input checked="" type="checkbox"/>	8. CLEAN-UP	<input checked="" type="checkbox"/>
3. FACILITIES/EQUIPMENT	<input checked="" type="checkbox"/>	6. DUST SUPPRESSION	<input checked="" type="checkbox"/>	9. OTHER	<input checked="" type="checkbox"/>
SAMPLE NO.	PUMP NO.	DATE	VOLUME (L.)	DESCRIPTION OF SAMPLE	RESULTS (Fibers/mL)
Decon – during abatement, S2	Low vol.	Jan. 15	1080	Outside abatement area	<0.02
Outside work area – during abatement, S3	Low vol.	Jan. 15	1080	Outside abatement area	<0.02

- Air monitoring. Air monitoring was conducting during abatement work outside of the work area. All results were <0.02 f/mL. The results were lower than the stop work limit of 0.05f/mL.
- Site isolation. Polyethylene sheeting used to isolate the area. Floors, walls, doors and ventilation units were covered in polyethylene sheeting.
- Facilities/equipment. Drywall removed using hand tools. HEPA vacuum on site.
- Negative air. One negative air units in use and significant negative pressure was measured (-0.04" WC)
- Worker protection. Workers wearing Tyvek suits and half-faced respirators with P-100 filters. Functioning shower set up for decontamination in decontamination chamber.
- Dust suppression. Areas wetted prior to removal.
- Waste handling. Waste placed in proper asbestos bags to be removed from site.
- Cleanup. Areas HEPA vacuumed after removal of stucco ceiling. Barriers not removed as work not completed.
- Progress. Ceiling removal started. Work stopped when sprayed-on fireproofing and hardboard paneling were identified in the ceiling cavity. A bulk sample was collected of each material. Currently waiting on asbestos content results from Maxxam Analytics.

Signed:



Date: Jan. 15

Report No.: 2

**INSPECTION REPORT**

 97 Troop Ave., Dartmouth, NS B3B 2A7  
 Tel: (902) 468-6486 Fax: (902) 468-4919

To: NAFC, 80 East White Hills Rd, St John's, NL	Project: Asbestos removal of ceiling materials	Project No.: 16282
Attn: Melissa O'Reilly-Nash, PWGSC	Inspector: Kerry Moules	

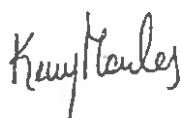
**WORK IN PROGRESS:**

 ACM REMOVAL: NAFC Front Entrance – Ceiling removal  
 Work Procedure: Maximum precautions  
 Location: NAFC Front Entrance

1. AIR MONITORING	<input checked="" type="checkbox"/>	4. NEGATIVE AIR	<input checked="" type="checkbox"/>	7. WASTE HANDLING	<input checked="" type="checkbox"/>
2. SITE ISOLATION	<input checked="" type="checkbox"/>	5. WORKER PROTECTION	<input checked="" type="checkbox"/>	8. CLEAN-UP	<input checked="" type="checkbox"/>
3. FACILITIES/EQUIPMENT	<input checked="" type="checkbox"/>	6. DUST SUPPRESSION	<input checked="" type="checkbox"/>	9. OTHER	<input checked="" type="checkbox"/>
SAMPLE NO.	PUMP NO.	DATE	VOLUME (L.)	DESCRIPTION OF SAMPLE	RESULTS (Fibers/mL)
Post abatement, S4	High vol.	Jan. 25	2040	Enclosure clearance	<0.01

- Air monitoring. An air clearance sample was collected from the enclosure following abatement and clean-up activities. The result was <0.01f/mL.
- Site isolation. Polyethylene sheeting used to isolate the area. Floors, walls, doors and ventilation units were covered in polyethylene sheeting.
- Facilities/equipment. HEPA vacuum on site.
- Negative air. One negative air unit in use and significant negative pressure was measured (-0.04" WC)
- Worker protection. Workers wearing Tyvek suits and half-faced respirators with P-100 filters. Functioning shower set up for decontamination in decontamination chamber.
- Dust suppression. Areas wetted prior to removal.
- Waste handling. Waste placed in proper asbestos bags to be removed from site.
- Cleanup. Areas HEPA vacuumed after removal of ceiling, wetted and glued. Barriers not removed as work not completed.
- Progress. Ceiling removal and cleanup complete. Enclosure may be removed.

Signed:



Date: Jan. 25

Report No.: 3

# INSPECTION REPORT

 97 Troop Ave., Dartmouth, NS B3B 2A7  
 Tel: (902) 468-6486 Fax: (902) 468-4919

To: NAFC, 80 East White Hills Rd, St John's, NL	Project: Asbestos removal of ceiling materials	Project No.: 16282
Attn: Melissa O'Reilly-Nash, PWGSC	Inspector: Kerry Moules	

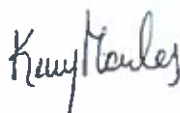
**WORK IN PROGRESS:**

ACM REMOVAL: NAFC Front Entrance – Ceiling removal  
 Work Procedure: Maximum precautions  
 Location: NAFC Front Entrance

1. AIR MONITORING	<input checked="" type="checkbox"/>	4. NEGATIVE AIR	<input type="checkbox"/>	7. WASTE HANDLING	<input type="checkbox"/>
2. SITE ISOLATION	<input type="checkbox"/>	5. WORKER PROTECTION	<input type="checkbox"/>	8. CLEAN-UP	<input type="checkbox"/>
3. FACILITIES/EQUIPMENT	<input type="checkbox"/>	6. DUST SUPPRESSION	<input type="checkbox"/>	9. OTHER	<input type="checkbox"/>
SAMPLE NO.	PUMP NO.	DATE	VOLUME (L.)	DESCRIPTION OF SAMPLE	RESULTS (Fibers/mL)
Post abatement, S5	High vol.	Jan. 30	2040	Final Clearance	<0.01
QA/QC-1	High vol.	Jan. 30	1870	Final Clearance	<0.01

1. Air monitoring. The final clearance sample in the front entrance following re-instatement indicated fibre levels were below the clearance criteria of 0.01 f/mL.

Signed:



Date: Jan. 30

Report No.: 4