



# Asbestos Materials Survey

Vessel Name: CCGS Griffon

Vessel No.: 328110

Prepared for:

Canadian Coast Guard  
Marine Engineering Services  
520 Exmouth Street  
Sarnia, Ontario N7T 8B1

September 15, 2016

Gesfor Project No. Q04-26021-1

### ***EXECUTIVE SUMMARY***

Le Groupe Gesfor Poirier, Pincin inc. (Pinchin) was retained by the Department of Fisheries and Oceans to perform asbestos surveys for asbestos-containing materials within selected Canadian Coast Guard Services (CCGS) vessels throughout Canada. To accomplish the task of surveying vessels on a national scale, Pinchin utilized the Pinchin Group of companies. This report will provide the findings for the following vessel;

**VESSEL NAME:** CCGS Griffon  
**VESSEL NO.:** 328110  
**VESSEL DESC.:** Light Icebreaker – Major Navais Tender

No friable asbestos-containing materials were identified within the vessel during the survey.

No non-friable asbestos-containing materials were identified within the vessel during the survey.

The ambient air samples revealed that the levels of airborne fibres were below the TLV for asbestos exposure.

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## 1.0 INTRODUCTION

Le Groupe Gesfor Poirier, Pinchin inc. (Pinchin) was retained by the Department of Fisheries and Oceans to perform asbestos surveys for asbestos-containing materials (ACMs) within selected Canadian Coast Guard Services (CCGS) vessels throughout Canada. To accomplish the task of surveying vessels on a national scale, Pinchin utilized the Pinchin Group of companies. This report will provide the findings for the following vessel:

**VESSEL NAME:** CCGS Griffon

**VESSEL NO.:** 328110

**VESSEL DESC.:** Light Icebreaker – Major Navais Tender

The 2011 survey included both friable<sup>1</sup> and non-friable<sup>2</sup> ACM as well as suspect ACM. Both Federal and Provincial regulations and guidelines distinguish between friable and non-friable materials. All provincial regulations regarding asbestos materials distinguish between friable and non-friable materials when assigning appropriate work practices.

The most common friable ACM used in the past are surfacing materials (usually sprayed fireproofing, texture, decorative or acoustic plaster) and thermal insulations. Asbestos-containing manufactured materials include deck covering materials, deckhead and bulkhead panels, gasket materials, asbestos cement pipe or board, and asbestos textiles. Depending on the formulation these may be friable or non-friable. Note that though a product may be considered non-friable when new, if the product releases fine dust due to deterioration or during removal, the free dust is considered friable. For example, lay-in acoustic ceiling tiles may release significant dust at the time of major removal.

The present assessment consisted of ambient air testing in order to confirm the absence of respirable asbestos fibres and of potential hidden asbestos-containing materials. The fieldwork was performed by Mr. Éric Mongrain on August 30, 2016.

- 
- 1 The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Friable ACM has a much greater potential to release airborne asbestos fibres when disturbed. The most common friable ACM used in the past are sprayed or trowelled materials (for fireproofing or thermal insulation), texture plaster (decorative or acoustic), and mechanical insulations.
  - 2 Common non-friable ACM include vinyl floor tiles, ceiling tiles, gasket materials, asbestos cement pipe or board (transite), and asbestos textiles. Although a product may be considered non-friable when new, if the product releases fine dust due to deterioration or during removal, the free dust is considered friable. For example, most lay-in or glued on acoustic ceiling tiles release significant dust during removal of large quantities of these tiles.

## **2.0 SURVEY AND ASSESSMENT CRITERIA (2011)**

### **2.1 Survey Information**

The vessel was located in Prescott, ON and therefore the regional Pinchin Group office conducting the fieldwork was Pinchin Environmental Ltd. (Pinchin). The fieldwork was performed by Mr. Cory Warmington on June 8th, 2011.

### **2.2 Survey Methodology**

The collection of information was done on a room-by-room basis and the approximate quantities of the ACM were noted where appropriate. In order to determine the location of the ACM and develop recommendations of the work required, the surveyor entered each room, cabin, or space where practical. Representative views were made above accessible suspended ceiling systems. Access above and within solid bulkheads and deckheads was made through existing hatches or panels. Where required, intrusive inspections were made within cavities particularly in areas where mechanical equipment was suspected to be present. The intrusive investigations involved the removal of existing bulkhead panels or deckhead panels to assess the conditions within. The survey did not include demolition of floors, ceilings or walls or other demolition to check on conditions behind.

The surveyor assigned a unique location number to each area or individual room surveyed. Where a room name was available, it was recorded along with the assigned location number (Location XXX). The information from the field data collection sheets, was entered into the Pinchin Group's *Hazardous Materials Inventory System* computer database. The computer generated print-outs are included as Appendix II of this report.

### **2.3 Survey Scope**

#### **2.3.1 Friable Materials**

The survey included the following asbestos and non-asbestos materials:

- ◆ Sprayed Materials including:
  - fireproofing
  - thermal insulation (not including mechanical)
  - texture finishes (for acoustic or decorative purposes)

(NOTE: Although usually installed by spray application the materials above may also have been installed by roller or trowel).

- ◆ Mechanical Insulation on:
  - boiler and breeching;
  - generators and exhausts;
  - ventilation trunking;
  - piping;
  - tanks and equipment.
- ◆ Deckhead Tiles (suspended ceiling tiles)
  - Suspended ceiling tiles are included, as they may become friable on handling.

### 2.3.2 Non-Friable Materials

The survey also included the identification for the following non-friable materials:

- ◆ Deckhead and bulkhead panels;
- ◆ Textiles;
- ◆ Asbestos cement boards;
- ◆ Firestop material;
- ◆ Vinyl floor tiles and vinyl sheet flooring;
- ◆ Drywall joint compound;
- ◆ Plaster (walls and ceilings);
- ◆ Other (gaskets and door packings).

Some of these products (i.e. asbestos cement boards) were visually identified as asbestos containing. For the remaining materials, due to the inconsistent use of asbestos, any materials which were not sampled or visually confirmed as non-asbestos are identified in this report as suspect material (SM).

No identification was made of asbestos products used in the vessel operations (i.e. kitchens or manufacturing operations), or curricula (i.e. laboratories or trade shops). No testing of dust within supply or return ducts was performed.

### 2.3.3 Sampling Strategy

Asbestos samples were collected in accordance with the National Institute for Occupational Safety and Health (NIOSH) method 9002. The collection of samples was performed in sufficient frequency to obtain a general pattern of asbestos use within the vessel. It is known that inconsistencies within construction or later repair or refit may result in deviation from the general pattern however without sampling of every wall, foot of pipe, pipe fitting, HVAC unit, ductwork, etc., it is not possible to individually characterize every asbestos material present. Therefore the surveyor relies on visual identification of similar materials with asbestos content based on representative bulk samples. While our experience is that this methodology is reliable and practical, it should be noted that the possibility remains that visually similar materials may have different asbestos content.

All areas not assessed in the previous 2011 survey were assessed in the present survey and no asbestos containing materials were found within these areas.

### 2.3.4 Analytical Methods

During the survey, materials suspected of containing asbestos were identified visually, based on the surveyor's knowledge of the historic use of asbestos-containing products. Where these materials had not been previously sampled, visual identifications were supported by collection and analysis of a limited number of bulk samples. For this confirmation a total of sixteen (16) samples were collected and analyzed at the International Asbestos Testing Laboratories (IATL).

The bulk samples are analyzed using a combination of dispersion staining and polarized light microscopy. The analytical method follows the Ontario Ministry of Labour Code for the Determination of Asbestos from Bulk Samples, August 1985 and U.S. EPA Method 600/R-93/116 dated July 1993. IATL is certified under the National Voluntary Laboratory Accreditation Program (NVLAP) to perform asbestos analysis of bulk samples (Laboratory Number 1165). The analytical certificates are presented in Appendix I.

Materials which when analysed are reported as containing <0.5% of asbestos are considered to be non-asbestos under Provincial Regulations.

### 2.3.5 Field Data Collection

In each of the inspection locations the surveyor completed a field data collection sheet. On the field data sheet, the absence or presence of asbestos-containing materials was recorded in the following components.

- |                       |                        |
|-----------------------|------------------------|
| • Floor (decks)       | • Structure            |
| • Ceiling (deckheads) | • Duct                 |
| • Wall (bulkheads)    | • Mechanical Equipment |
| • Piping              | • Other                |



The computer generated field data sheets found in Appendix II provide an easy reference for maintenance workers in the event of work in a particular room or area. The information, as presented on these sheets, lists all materials present as either asbestos-containing or not. The sheets list both the “condition” and “accessibility” of the asbestos material. These terms are defined in Appendix III.

The quantities shown are approximations, based on visual examination. Quantities were not provided on a consistent or reliable basis. For the quantities shown no measured take-off was performed and these quantities should not be utilized for cost estimating or budgeting purposes. Furthermore, (particularly for pipe insulation) it must also be realized that without removing all deckhead panels, bulkhead panels, etc. that not all asbestos materials present in the vessel were visually inspected or noted.

Appendix II also provides the “Guide to Survey Sheets” along with summaries of the numerical or alphabetical codes used.

#### **2.3.6 Limitations of Survey**

A number of limitations are described throughout this report. The intent of the limitations is to clearly identify to the user of this report that some limitations exist as to the possible thoroughness of a survey. Some of these limitations have been specifically identified above.

As per industry standards the field observations, measurements, and analysis are considered sufficient in detail and scope to form a reasonable basis for an asbestos hazard assessment of this property. Pinchin warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted asbestos inventory methods, for the site referenced in this report.

These evaluation methods have been developed to provide the client with information regarding apparent indications of existing or potentially hazardous conditions relating to the property and are necessarily limited to the conditions observed and information available at the time of the site visit and research. There is a distinct possibility that conditions may exist which could not be reasonably identified within the scope of the assessment or which were not apparent during the site visit. Pinchin believes that the information collected during the survey period concerning the property is reliable. However, Pinchin cannot warrant or guarantee that the information provided is absolutely complete or accurate beyond the current asbestos consulting industry standards. No other warranties are implied or expressed.

### **3.0 DISCUSSION OF ASBESTOS-CONTAINING MATERIALS**

A summary of the findings for the ACM survey are discussed below under the following headings:

- 4.1 Sprayed or Trowelled Fireproofing or Thermal Insulation
- 4.2 Texture Finishes (for acoustic or decorative purposes)

- 4.3 Piping Insulation
- 4.4 Ventilation Trunking Insulation
- 4.5 High Temperature Machinery Insulation
- 4.6 Bulkheads and Deckheads
- 5.1 Deck Covering Material (i.e. Flooring products)
- 5.2 Asbestos Cement Product
- 5.3 Other Asbestos-Containing Materials
- 5.4 Suspect Asbestos-Containing Materials

The sample numbers, designated by SXXXX, referenced below refer to the bulk analysis reports presented in Appendix I.

The location numbers (Location XXX) are cross-referenced to the Location Table found in Appendix II-B and referred to on the Survey Data Sheets in Appendix II. The information below provides a summary of information contained in the Survey Data Sheets. Refer to Appendix II for detailed information on the observations made at each of the survey locations including estimated quantities, locations and conditions of identified ACM.

#### **4.0 FRIABLE ASBESTOS-CONTAINING MATERIALS**

##### **4.1 Sprayed or Trowelled Fireproofing or Thermal Insulation**

Insulation of bulkheads and structural components present in the Cargo Hold and Carpenter's Shop, Lower Deck (Locations 005 and 006, respectively) consist of fibrous fireproofing. Representative sampling of the material was conducted at various areas and none of the sample results indicated the presence of asbestos (Samples S001A-G).

##### **4.2 Texture Finishes**

No textured finish surfaces were observed in the vessel.

##### **4.3 Piping Insulation**

Insulation on pipe fittings located in the Carpenter's Shop, Main Deck (Location 006) consists of white thermal insulation. Representative sampling of the material was conducted within this location and none of the sample results indicated the presence of asbestos (Samples S002A-C).

Straight sections of piping within the vessel were observed to be insulated with fibreglass, "Armaflex", or not insulated.

#### **4.4 Ventilation Trunking Insulation**

Ducting in the vessel was observed to either have no insulated or was insulated with fibreglass.

#### **4.5 High Temperature Machinery Insulation**

##### **4.5.1 Main Propulsion**

The engines, located in the Main Engine Room, Lower Deck (Location 008), are not insulated. The main propulsion exhausts (uptakes) are insulated with non-asbestos fibreglass.

##### **4.5.2 Generators**

The main generator, located in the Main Engine Room, Lower Deck (Location 008), is not insulated. The generator exhausts are insulated with non-asbestos fibreglass insulation.

##### **4.5.3 Emergency Generator**

The emergency generator exhaust located in the Emergency Generator Room, Boat Deck (Location 029) is not insulated. The exhaust for the emergency generator is insulated with non-asbestos fibreglass.

##### **4.5.4 Other**

A hot water tank is located in the Upper Motor Room, Upper Level (Location 011) and is insulated with non-asbestos fibreglass.

#### **4.6 Bulkheads and Deckheads**

Typical insulation of bulkheads and deckheads, with the exception of the sprayed materials discussed in Section 4.1 of this report, consist of non-asbestos fibreglass insulation.

### **5.0 NON-FRIABLE ASBESTOS-CONTAINING MATERIALS**

#### **5.1 Deck Covering Materials**

##### **5.1.1 Vinyl Sheet Flooring**

Vinyl sheet flooring, white and beige in colour located in the Crew's Mess, Upper Deck (Location 016) was sampled and does not contain asbestos (Samples S003A-C).

Cork flooring, located in the Engineer's Office, Boat Deck (Location 033) was sampled and does not contain asbestos (Samples S004A-C).

##### **5.1.2 Vinyl Floor Tiles**

No vinyl floor tiles were observed on the vessel.

## **5.2 Asbestos Cement Products**

No asbestos cement products were observed on the vessel.

## **5.3 Other Asbestos-Containing Materials**

No other ACM were observed on the vessel.

## **5.4 Suspect Asbestos-Containing Materials**

In addition to the ACM described in the sections above, a number of other materials may be present in the vessel that can potentially contain asbestos. These materials are grouped under the heading of Suspect Asbestos-Containing Materials (the need for demolition/dismantling equipment and the lack of access limit our ability to determine the asbestos content).

Materials which are not accessible and/or cannot be sampled without demolition, dismantling or causing irreparable damage include: components or wiring within motors, lights, high voltage wiring, mechanical packing and gaskets, and materials located inside electrical fixtures, light fixtures, switch gear or transformers.

## **6.0 AMBIENT AIR TESTS (2016)**

### **6.1 Survey Information**

For 2016, as the vessel was now located in Quebec City, Quebec, the regional Pinchin Group office conducting the fieldwork was Le Groupe Gesfor Poirier Pinchin inc. (Gesfor). The fieldwork was performed by Mr. Éric Mongrain on August 30<sup>th</sup>, 2016.

### **6.2 Sampling Strategy**

Ambient air samples for inhalable particulate were collected using a pump adjusted to 16 L/min of air, equipped with a 25-mm cassette with a 0.8-micron filter. Sampling was done over a period of 1 hour (60 minutes) for each sample according to method 243-1 of the Institut de recherche Robert-Sauvé en santé et sécurité du travail (IRSST). The assessor, Mr. Jimmy B. Ward, is subject to the quality control of the IRSST as required for this analysis method.

Air sample locations were identified by the Client in the call for tender documents.

### **6.3 Results**

Analysis of the samples revealed concentrations of respirable fibres below 0.04 fibre/cm<sup>3</sup> at the following locations:

- Crews Mess (sample. 2016-323422);
- Galley (sample. 2016-323427);

- Chief Cook Cabin (sample 2016-323425)
- Ship Office (sample 2016-323426)
- Officers Mess (sample 2016-323423)
- Carpenters Shop (sample 2016-323449)
- Engine Control Room (sample 2016-323421)
- Engine Room Workshop (sample 2016-323418)
- Chief Officers Cabin (sample 2016-323424)
- Outdoor reference (sample 2016-323420)

Analysis results of the present assessment are representative of a typical occupation load for the assessed building (vessel).

The asbestos analytical certificate for air samples is included in Appendix IV. The certificate of instrument Calibration used in the air sampling is also included in Appendix IV.

The MOH&S regulations state that the Threshold Limit Values (TLV) for asbestos exposure is 0.1 fibers/cm<sup>3</sup>.

All of the ambient air samples present a density of less than 0.04 fibers / cm<sup>3</sup> which is lower than the TVL for asbestos.

#### **6.4 Conclusion**

At the time of the survey, the levels of all airborne fibres, including the asbestos fibres, present within the targeted areas are conforming to the legislation.

#### **6.5 Recommendation**

No recommendation is given as all the air samples results are conforming to the legislation.

#### **6.6 Limitations of Survey**

The analysis results of the ambient air samples are valid only for the time and conditions during sampling, and cannot be used to reliably predict conditions at another time. Gesfor guarantees that the information gathered during the survey with regard to this property is exact according to the current standards defined in the asbestos industry, without guaranteeing that they are complete or precise. No other guarantee is expressed or implied.

## **7.0 ASBESTOS MANAGEMENT PLAN**

No Asbestos Management Plan is required for the CCGS Griffon as no asbestos is found within the vessel.

## **8.0 CONCLUSION**

ACMs were not found to be present on the surveyed vessel according to the 2011 asbestos survey. In the 2016 reassessment, the ambient air samples revealed that the levels of airborne fibres were below the TLV for asbestos exposure.

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## **APPENDIX I**

### **Results Of Bulk Sample Analysis for Asbestos**



## Pinchin Environmental Asbestos Laboratory Certificate of Analysis

**Project Name:** Pinchin LeBlanc Environmental Ltd.  
CCGS Griffon, 401 King Street West, Prescott, ON  
**Project No.:** 68417  
**Prepared For:** Cory Warmington  
**Lab Reference No.:** b81508  
**Analyst(s):** K. Bertuzzi

**Date Received:** June 15, 2011  
**Date Analyzed:** June 22, 2011  
**# Samples submitted:** 16  
**# Phases analyzed:** 19

### Method of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. The percentage range category reported reflects the level of uncertainty of the method for estimating quantities of asbestos in bulk samples. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with all provincial regulatory requirements (NIOSH 9002, I.R.S.S.T. 244-2). Multiple phases within a sample are analyzed separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario	0.5%	Manitoba	0.1% friable 1% non-friable
Quebec	0.1%	Saskatchewan	Unstated, likely 1.0%
Alberta, British Columbia, NWT, Yukon, Nunavut	1%	Atlantic Provinces	1%

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

Pinchin Environmental Ltd. is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0 and 200795-0) for selected test methods for the identification of asbestos in bulk samples and meets all requirements of ISO/IEC 17025:2005 and relevant requirements of ISO 9002:1994. This report relates only to the items tested.

**NOTE:** This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. Supporting laboratory documentation is available upon request.





## Pinchin Environmental Asbestos Laboratory Certificate of Analysis

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CCGS Griffon, 401 King Street West, Prescott, ON  
Project No.: 68417  
Prepared For: Cory Warmington  
Lab Reference No.: b81508  
Date Analyzed: June 22, 2011

### BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001A Fibrous Sprayed Fireproofing - Cargo Hold, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%
0001B Fibrous Sprayed Fireproofing - Cargo Hold, Lower Deck	Homogeneous, grey, soft, cementitious material.	None Detected	Cellulose 10-25% Glass Fibres 5-10% Vermiculite 5-10% Other Non-Fibrous 50-75%
Comments:	Mineral wool is present on the surface of this sample.		
0001C Fibrous Sprayed Fireproofing - Cargo Hold, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%
0001D Fibrous Sprayed Fireproofing - Cargo Hold, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%
0001E Fibrous Sprayed Fireproofing - Carpenter's Shop, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%
0001F Fibrous Sprayed Fireproofing - Carpenter's Shop, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%

ANALYST



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CCGS Griffon, 401 King Street West, Prescott, ON  
Project No.: 68417  
Prepared For: Cory Warmington  
Lab Reference No.: b81508  
Date Analyzed: June 22, 2011

### BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0001G Fibrous Sprayed Fireproofing - Carpenter's Shop, Lower Deck	Homogeneous, grey, fibrous material.	None Detected	Mineral Wool 50-75% Non-Fibrous Material 25-50%
0002A White Insulation - Pipe Fitting, Hot Water Heating, Carpenter's Shop	Homogeneous, white, fibrous material.	None Detected	Ceramic Fibres > 75% Non-Fibrous Material 0.5-5%
0002B White Insulation - Pipe Fitting, Hot Water Heating, Carpenter's Shop	Homogeneous, white, fibrous material.	None Detected	Ceramic Fibres > 75% Non-Fibrous Material 0.5-5%
0002C White Insulation - Pipe Fitting, Hot Water Heating, Carpenter's Shop	Homogeneous, white, fibrous material.	None Detected	Ceramic Fibres > 75% Non-Fibrous Material 0.5-5%
0003A VSF; White & Beige - Crew's Mess, Upper Deck	2 Phases: a) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
	b) Non-homogeneous, beige and black, consolidated material on the back of vinyl sheet	None Detected	Tar and other non- fibrous > 75%

ANALYST



## Pinchin Environmental Asbestos Laboratory Certificate of Analysis

Project Name: Pinchin LeBlanc Environmental Ltd.  
CCGS Griffon, 401 King Street West, Prescott, ON  
Project No.: 68417  
Prepared For: Cory Warmington  
Lab Reference No.: b81508  
Date Analyzed: June 22, 2011

### BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
0003B VSF; White & Beige - Crew's Mess, Upper Deck	2 Phases: a) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
	b) Non-homogeneous, beige and black, consolidated material on the back of vinyl sheet	None Detected	Tar and other non- fibrous > 75%
0003C VSF; White & Beige - Crew's Mess, Upper Deck	2 Phases: a) Homogeneous, beige, consolidated material on the back of vinyl sheet flooring.	None Detected	Non-Fibrous Material > 75%
	b) Non-homogeneous, beige and black, consolidated material on the back of vinyl sheet	None Detected	Tar and other non- fibrous > 75%
0004A Cork Flooring - Engineer's Office, Boat Deck	Homogeneous, beige, consolidated, material.	None Detected	Cork > 75%
0004B Cork Flooring - Engineer's Office, Boat Deck	Homogeneous, beige, consolidated, material.	None Detected	Cork > 75%
0004C Cork Flooring - Engineer's Office, Boat Deck	Homogeneous, beige, consolidated, material.	None Detected	Cork > 75%

ANALYST

**APPENDIX II**  
**Survey Data**

**APPENDIX II-A**  
**Guide to Survey Sheets**

## GUIDE TO THE ASBESTOS SURVEY SHEETS ASBESTOS MATERIALS SURVEY

The following Appendices contain printouts from Hazardous Materials Inventory System (HMIS) computer database. The appendices include information that the majority of our clients find useful.

Each Appendix is discussed below:

<b>Appendix II-B Locations Report</b>	The Locations Report provides a list of all functional areas (rooms) of the vessel where the surveyor recorded information. The information recorded includes the, unique Location Number, location by floor or room number, name of the areas (if available), whether the room was accessible, the square foot area of the room (optional), the date of the survey, surveyor's name and notes specific to the location
<b>Appendix II-B Asbestos Samples Report</b>	The Asbestos Samples Report provides information on the materials, where they were sampled, and the results of the samples collected and analyzed during the survey. If the sample contains two distinct layers the results are reported separately. The sample numbers are referenced on the Asbestos Only Report.
<b>Appendix II-C Asbestos Only Report</b>	The Asbestos Only Report, is one of a multitude of customized reports available via the HMIS database. The Asbestos Only Report provides information regarding materials that have been determined to contain asbestos, either through sample analysis or based on the observations and knowledge of the surveyor.
<b>Appendix II-D All Data Report</b>	The All Data Report, provides information regarding all materials that have been surveyed, either through sample analysis or based on the observations and knowledge of the surveyor. This report provides both asbestos-containing as well as non-asbestos materials.

**APPENDIX II-B**  
**Location and Sample Table**

## Location List

Building#	Building Name	Loc #	Floor	Room Prefix	Room Number	Room Suffix	Room Name	No Access	Square Feet	Survey Date	Surveyor
328110	CCGS Griffon	1	Lower Deck				Winch room compartment		1000	2011-06-08	Cory Warmington
328110	CCGS Griffon	2	Main Deck				MG Compartment		200	2011-06-08	Cory Warmington
328110	CCGS Griffon	3	Main Deck				Buoy Repair Shop		60	2011-06-08	Cory Warmington
328110	CCGS Griffon	4	Main Deck				Bosun Storage		100	2011-06-08	Cory Warmington
328110	CCGS Griffon	5	Lower Deck				Cargo Hold		1000	2011-06-08	Cory Warmington
328110	CCGS Griffon	6	Lower Deck				Carpenter's Shop		300	2011-06-08	Cory Warmington
328110	CCGS Griffon	7	Main Deck				Paint Locker		40	2011-06-08	Cory Warmington
328110	CCGS Griffon	8	Lower Level				Engine Room		1000	2011-06-08	Cory Warmington
328110	CCGS Griffon	9	Lower Level				Prop Motor Room		400	2011-06-08	Cory Warmington



## Location List

Building#	Building Name	Loc #	Floor	Room Prefix	Room Number	Room Suffix	Room Name	No Access	Square Feet	Survey Date	Surveyor
328110	CCGS Griffon	10	Lower Level				Sewage Compartment		200	2011-06-08	Cory Warmington
328110	CCGS Griffon	11	Upper Level				Upper Motor Room		800	2011-06-08	Cory Warmington
328110	CCGS Griffon	12	Upper Level				Engine Control Room		250	2011-06-08	Cory Warmington
328110	CCGS Griffon	13	Upper Level				Upper Engine Room		800	2011-06-08	Cory Warmington
328110	CCGS Griffon	14	Upper Level				Engine Room Workshop		300	2011-06-08	Cory Warmington
328110	CCGS Griffon	15	Main Deck				Upper Deck Stack		800	2011-06-08	Cory Warmington
328110	CCGS Griffon	16	Upper Deck				Crew's Mess		400	2011-06-08	Cory Warmington
328110	CCGS Griffon	17	Upper Deck				Galley		800	2011-06-08	Cory Warmington
328110	CCGS Griffon	18	Upper Deck				Exercise Room		150	2011-06-08	Cory Warmington

## Location List

Building#	Building Name	Loc #	Floor	Room Prefix	Room Number	Room Suffix	Room Name	No Access	Square Feet	Survey Date	Surveyor
328110	CCGS Griffon	19	Lower Deck				Laundry Room		150	2011-06-08	Cory Warmington
328110	CCGS Griffon	20	Lower Deck				Store Storage		150	2011-06-08	Cory Warmington
328110	CCGS Griffon	21	Lower Deck				Freezers		400	2011-06-08	Cory Warmington
328110	CCGS Griffon	22	Poop Deck				Officer's Mess		200	2011-06-08	Cory Warmington
328110	CCGS Griffon	23	Poop Deck				Cabins		800	2011-06-08	Cory Warmington
328110	CCGS Griffon	24	Poop Deck				Pantry		100	2011-06-08	Cory Warmington
328110	CCGS Griffon	25	Poop Deck				Ships Office		100	2011-06-08	Cory Warmington
328110	CCGS Griffon	26	Poop Deck				Utility Locker		60	2011-06-08	Cory Warmington
328110	CCGS Griffon	27	Poop Deck				Washrooms		200	2011-06-08	Cory Warmington

## Location List

Building#	Building Name	Loc #	Floor	Room Prefix	Room Number	Room Suffix	Room Name	No Access	Square Feet	Survey Date	Surveyor
328110	CCGS Griffon	28	Poop Deck				Lower Fan Room		100	2011-06-08	Cory Warmington
328110	CCGS Griffon	29	Boat Deck				Emergency Generator Room		150	2011-06-08	Cory Warmington
328110	CCGS Griffon	30	Boat Deck				Fire Locker		60	2011-06-08	Cory Warmington
328110	CCGS Griffon	31	Boat Deck				Cabins		320	2011-06-08	Cory Warmington
328110	CCGS Griffon	32	Boat Deck				Laundry Room		30	2011-06-08	Cory Warmington
328110	CCGS Griffon	33	Boat Deck				Engineer's Office		100	2011-06-08	Cory Warmington
328110	CCGS Griffon	34	Bridge Deck				Communication Centre		150	2011-06-08	Cory Warmington
328110	CCGS Griffon	35	Nav Deck				Bridge		300	2011-06-08	Cory Warmington
328110	CCGS Griffon	36	Nav Deck				Bridge Washroom		30	2011-06-08	Cory Warmington

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## Location List

Building#	Building Name	Loc #	Floor	Room Prefix	Room Number	Room Suffix	Room Name	No Access	Square Feet	Survey Date	Surveyor
328110	CCGS Griffon	37	Bridge Deck				Upper Fan Room		150	2011-06-08	Cory Warmington
328110	CCGS Griffon	38	Upper Deck				Cabins		1280	2011-06-08	Cory Warmington
328110	CCGS Griffon	39	Bridge Deck				Cabins		80	2011-06-08	Cory Warmington
328110	CCGS Griffon	40	Upper Deck				Steering Gear Compartment		250	2011-06-08	Cory Warmington
328110	CCGS Griffon	41	Poop Deck				Officer's Lounge		150	2011-06-08	Cory Warmington

**Client:** Canadian Coast Guard  
**Site:** Vessels  
**Building Number(s):** 328110

## Bulk Sample Analysis

**Building #:** 328110    **Building Name:** CCGS Griffon    **Surveyor:** Cory Warmington    **Survey Date:** 2011-06-08

Sample #	System	Material	Loc #	Asbestos	Result A	Type A	Result B	Type B	Result C	Type C	Result D	Type D	Result
0001	Walls	Fibrous Fireproofing	5	<input type="checkbox"/>	N.D. N.D. N.D. N.D. N.D. N.D. N.D.								N.D.
Description:		Fibrous sprayed fireproofing - Cargo Hold & Carpenter's Shop, Lower Deck											
0002	Piping	Thermal Insulation	6	<input type="checkbox"/>	N.D. N.D. N.D.								N.D.
Description:		White insulation - Pipe fitting, hot water heating											
0003	Floor	VSF and Mastic Adhesive	16	<input type="checkbox"/>	N.D. N.D. N.D.		N.D. N.D. N.D.						N.D.
Description:		Vinyl sheet flooring, white & beige											
0004	Floor	VSF and Mastic Adhesive	33	<input type="checkbox"/>	N.D. N.D. N.D.		N.D. N.D. N.D.						N.D.
Description:		Cork flooring											

**APPENDIX II-C**  
**Asbestos Data Report**

## Confirmed Asbestos and Presumed Asbestos Report

### Legend:

Action			Access		Condition		Sample Number		
(1)	Clean Up of ACM Debris	(2)	Precautions for Access Which may Disturb ACM Debris	A	Accessible to all building occupants	Good	No visible damage or deterioration.	S####	Sample collected
(3)	ACM removal	(4)	Precautions for Work Which may Disturb ACM in Poor Condition	B	Accessible to maintenance and operations staff without a ladder	Fair	Minor, repairable damage, cracking or deterioration.	V####	Material is visually identified to be identical to S####
(5)	Proactive ACM removal (Minimum repair required for fair condition)	(6)	ACM repair	C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas	Poor	Irreparable damage or deterioration with exposed and missing material	V0000	Known non-asbestos material
(7)	Management program and surveillance			D	Not normally accessible or without demolition	NOTE: See report for full definitions of action, access and condition		V9000	Material is visually identified to contain asbestos
								V9500	Material is presumed to contain asbestos
NOTE: Actions in round brackets ( ) are auto-calculated. Actions in square brackets [ ] are manual								Note: Presumed various materials identified in the report are ACM if not sampled.	

**Units**
SF - Square feet
LF - Linear feet
EA - Each
% - Percentage

**APPENDIX II-D**  
**All Data Report**



## All Data Report

Building #: 328110 Location #: 1	Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08											
	Location Name: Winch room compartment		Floor: Lower Deck		Room #:				Square ft: 1000							
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
							Good		Fair		Poor					
Floor	N/A	Concrete(poured)	Not Applicable	N/A	NA	NA									None	
Ceiling	N/A	Metal	Not Applicable	N/A	NA	NA									None	
Walls	N/A	Metal	Not Applicable	N/A	NA	NA									None	
Structure	Not Found	None Found	Not Applicable	N/A	NA	NA									None	
Piping	N/A	Fibreglass	Not Applicable	Metal	NA	NA									None	
Piping	N/A	Fibreglass	Not Applicable	N/A	NA	NA									None	
Duct	Not Found	None Found	Not Applicable	N/A	NA	NA									None	
Mechanical Equipment	Not Found	None Found	Not Applicable	N/A	NA	NA									None	
Other	Not Found	None Found	Not Applicable	N/A	NA	NA									None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 2		Location Name: MG Compartment		Floor: Main Deck		Room #:				Square ft: 200					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Concrete(poured)			A	Y								None	
Ceiling		Metal			C	Y								None	
Walls		Metal			A	Y								None	
Structure	Beam Deck Joist	Metal			C	N								None	
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y								None	
Piping	Unidentified Pipe	Fibreglass	ALL	Canvas	A	Y								None	
Duct		None Found												None	
Mechanical Equipment	All	Not Insulated			A	Y								None	
Other		None Found												None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 3		Location Name: Buoy Repair Shop		Floor: Main Deck		Room #:				Square ft: 60					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor	N/A	Concrete(poured)	Not Applicable	N/A	NA	NA									None
Ceiling	N/A	Metal	Not Applicable	N/A	NA	NA									None
Walls	N/A	Metal	Not Applicable	N/A	NA	NA									None
Structure	Not Found	None Found	Not Applicable	N/A	NA	NA									None
Piping	N/A	Fibreglass	Not Applicable	Metal	NA	NA									None
Duct	Not Found	None Found	Not Applicable	N/A	NA	NA									None
Mechanical Equipment	Not Found	None Found	Not Applicable	N/A	NA	NA									None
Other	Not Found	None Found	Not Applicable	N/A	NA	NA									None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 4</b>		<b>Location Name: Bosun Storage</b>		<b>Floor: Main Deck</b>		<b>Room #:</b>				<b>Square ft: 100</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y								None	
Ceiling		Metal			C	Y								None	
Walls		Metal			A	Y								None	
Structure		Metal			C	N								None	
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y								None	
Duct	Unidentified Pipe	Not Insulated	ALL		A	Y								None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08											
Location #: 5		Location Name: Cargo Hold		Floor: Lower Deck		Room #:				Square ft: 1000							
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability	
							Good		Fair		Poor						
Floor		Metal			A	Y							SF	S0001	None		
Ceiling		Wood													None		
Walls		Fibrous Fireproofing			A	Y	1500						SF	S0001	None		
Walls		Metal			Fibrous Fireproofing	A	Y									None	
Structure	Overspray	Fibrous Fireproofing			C	Y	1000						SF	V0001	None		
Structure	Beam Deck Joist	Metal			Fibrous Fireproofing	C	Y									None	
Piping	Hot Water Heating	Fibreglass			Metal	C	Y									None	
Duct		None Found													None		
Mechanical Equipment		None Found													None		
Other		None Found													None		

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
Location #: 6		Location Name: Carpenter's Shop		Floor: Lower Deck		Room #:				Square ft: 300						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
							Good		Fair		Poor					
Floor		Wood			A	Y									None	
Ceiling		None Found													None	
Walls		Metal		Fibrous Fireproofing	A	Y									None	
Walls		Fibrous Fireproofing			A	Y	600					SF	S0001		None	
Structure	Beam Deck Joist	Metal		Fibrous Fireproofing	C	Y									None	
Structure	Overspray	Fibrous Fireproofing			C	Y	300					SF	V0001		None	
Piping	Sprinkler	Not Insulated			A	Y									None	
Piping	Hot Water Heating	Fibreglass	Straight	Canvas	A	Y									None	
Piping	Hot Water Heating	Thermal Insulation	Fitting	Canvas	A	Y	8					EA	S0002		None	
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>										
<b>Location #: 7</b>		<b>Location Name: Paint Locker</b>		<b>Floor: Main Deck</b>		<b>Room #:</b>				<b>Square ft: 40</b>						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
							Good		Fair		Poor					
Floor		Metal			A	Y								None		
Ceiling		Metal			C	Y								None		
Walls		Metal			A	Y								None		
Structure	Beam Deck Joist	Metal			C	N								None		
Piping	Unidentified Pipe	Not Insulated			A	Y								None		
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110 Location #: 8	Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
	Location Name: Engine Room		Floor: Lower Level		Room #:					Square ft: 1000					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y								None	
Ceiling		None Found												None	
Walls		Metal			A	Y								None	
Structure	Beam Deck Joist	Metal			C	Y								None	
Piping	Hot Water Heating	Fibreglass	ALL	Canvas	A	Y								None	
Piping	Unidentified Pipe	Not Insulated	ALL		A	Y								None	
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y								None	
Duct	Supply Air	Fibreglass	ALL	Canvas	A	Y								None	
Mechanical Equipment	Generator Unit	Not Insulated	ALL		A	Y								None	
Mechanical Equipment	Generator Exhaust	Fibreglass			A	Y								None	
Other	Motor	Not Insulated	ALL		A	Y								None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110 Location #: 9	Building Name: CCGS Griffon		Surveyor: Cory Warmington			Survey Date: 2011-06-08									
	Location Name: Prop Motor Room		Floor: Lower Level		Room #:						Square ft: 400				
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		None Found													None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			C	Y									None
Piping	Hot Water Heating	Fibreglass	ALL	Canvas	A	Y									None
Piping	Unidentified Pipe	Fibreglass	ALL	Canvas	A	Y									None
Piping	Unidentified Pipe	Not Insulated	ALL		A	Y									None
Duct		None Found													None
Mechanical Equipment	All	Not Insulated			A	Y									None
Other		None Found													None



**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>		<b>Room #:</b>		<b>Square ft: 200</b>	
<b>Location #: 10</b>		<b>Location Name: Sewage Compartment</b>		<b>Floor: Lower Level</b>		<b>Condition, Quantity &amp; Action</b>		<b>Units</b>	<b>Sample</b>	<b>Hazard</b>	<b>Friability</b>
System	Component	Material	Item	Covering	Access	Visible	Good	Fair	Poor		
Floor		Metal			A	Y					None
Ceiling		None Found									None
Walls		Metal			A	Y					None
Structure	Beam Deck Joist	Metal			C	Y					None
Piping	Hot Water Heating	Fibreglass	ALL	Canvas	A	Y					None
Piping	Unidentified Pipe	Not Insulated	ALL		A	Y					None
Duct		None Found									None
Mechanical Equipment	All	Not Insulated			A	Y					None
Other		None Found									None

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>		<b>Room #:</b>		<b>Square ft: 800</b>	
<b>Location #: 11</b>		<b>Location Name: Upper Motor Room</b>		<b>Floor: Upper Level</b>		<b>Condition, Quantity &amp; Action</b>		<b>Units</b>	<b>Sample</b>	<b>Hazard</b>	<b>Friability</b>
System	Component	Material	Item	Covering	Access	Visible	Good	Fair	Poor		
Floor	N/A	Metal	Not Applicable	N/A	NA	NA					None
Ceiling	N/A	Metal	Not Applicable	N/A	NA	NA					None
Walls	N/A	Metal	Not Applicable	N/A	NA	NA					None
Structure	Not Found	None Found	Not Applicable	N/A	NA	NA					None
Piping	N/A	Fibreglass	Not Applicable	N/A	NA	NA					None
Duct	N/A	Fibreglass	Not Applicable	Metal	NA	NA					None
Duct	N/A	Fibreglass	Not Applicable	N/A	NA	NA					None
Mechanical Equipment	Not Found	None Found	Not Applicable	N/A	NA	NA					None
Other	Not Found	None Found	Not Applicable	N/A	NA	NA					None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 12</b>		<b>Location Name: Engine Control Room</b>		<b>Floor: Upper Level</b>		<b>Room #:</b>				<b>Square ft: 250</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y								None	
Ceiling		Metal			C	Y								None	
Walls		Metal			A	Y								None	
Structure	Beam Deck Joist	Metal			C	N								None	
Piping		None Found												None	
Duct	Supply Air	Not Insulated			A	Y								None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110 Location #: 13	Building Name: CCGS Griffon	Surveyor: Cory Warmington			Survey Date: 2011-06-08											
		Location Name: Upper Engine Room		Floor: Upper Level	Room #:					Square ft: 800						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
							Good		Fair		Poor					
Floor		Concrete(poured)			A	Y									None	
Ceiling		None Found													None	
Walls		Metal			A	Y									None	
Structure	Beam Deck Joist	Metal			C	Y									None	
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None	
Piping	Unidentified Pipe	Not Insulated	ALL		A	Y									None	
Piping	Unidentified Pipe	Fibreglass	ALL	Canvas	A	Y									None	
Duct	Supply Air	Fibreglass	ALL	Canvas	A	Y									None	
Mechanical Equipment	Breeching	Fibreglass		Metal	A	Y									None	
Mechanical Equipment	Boiler	Fibreglass		Metal	A	Y									None	
Other		None Found													None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110 Location #: 14	Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
	Location Name: Engine Room Workshop		Floor: Upper Level		Room #:				Square ft: 300						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y								None	
Ceiling		None Found												None	
Walls		Metal			A	Y								None	
Structure	Beam Deck Joist	Metal			C	Y								None	
Piping	Unidentified Pipe	Fibreglass	ALL	Canvas	A	Y								None	
Piping	Unidentified Pipe	Not Insulated	ALL		A	Y								None	
Duct	Supply Air	Not Insulated			A	Y								None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
Location #: 15		Location Name: Upper Deck Stack		Floor: Main Deck		Room #:		Square ft: 800								
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
							Good		Fair		Poor					
Floor		Metal			A	Y									None	
Ceiling		None Found													None	
Walls		Metal			A	Y									None	
Structure	Beam Deck Joist	Metal			A	Y									None	
Piping	N/A	Not Insulated	Not Applicable	N/A	NA	NA									None	
Piping	N/A	Armaflex	Not Applicable	N/A	NA	NA									None	
Piping	N/A	Fibreglass		Metal	A	Y									None	
Duct	All	Fibreglass		Canvas	A	Y									None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 16		Location Name: Crew's Mess		Floor: Upper Deck		Room #:				Square ft: 400					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		VSF and Mastic Adhesive			A	Y	400					SF	S0003	None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 17		Location Name: Galley		Floor: Upper Deck		Room #:				Square ft: 800					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Concrete(poured)			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Metal			A	Y								None	
Structure		Steel												None	
Piping	N/A	Fibreglass	Not Applicable	Metal	NA	NA								None	
Duct	N/A	Fibreglass	Not Applicable	N/A	NA	NA								None	
Duct	N/A	Not Insulated	Not Applicable	N/A	NA	NA								None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

Building #: 328110		Building Name: CCGS Griffon			Surveyor: Cory Warmington		Survey Date: 2011-06-08								
Location #: 18		Location Name: Exercise Room			Floor: Upper Deck		Room #:				Square ft: 150				
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Rubber			A	Y									None
Ceiling		Metal			A	Y									None
Walls		Metal			A	Y									None
Structure		None Found													None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 19		Location Name: Laundry Room		Floor: Lower Deck		Room #:				Square ft: 150					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Ceramic Tiles			A	Y									None
Ceiling		None Found													None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			C	Y									None
Piping	Hot Water Heating	Fibreglass		Canvas	A	Y									None
Piping	Unidentified Pipe	Fibreglass		Metal	A	Y									None
Duct	All	Not Insulated			A	Y									None
Mechanical Equipment		None Found													None
Other		None Found													None

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 20</b>		<b>Location Name: Store Storage</b>		<b>Floor: Lower Deck</b>		<b>Room #:</b>				<b>Square ft: 150</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		None Found													None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			C	Y									None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None
Duct	Supply Air	Not Insulated			A	Y									None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>										
<b>Location #: 21</b>		<b>Location Name: Freezers</b>		<b>Floor: Lower Deck</b>		<b>Room #:</b>				<b>Square ft: 400</b>						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
							Good		Fair		Poor					
Floor		Fibreglass			A	Y									None	
Ceiling		Fibreglass			C	Y									None	
Walls		Fibreglass			A	Y									None	
Structure		None Found													None	
Piping	All	Styrofoam			C	Y									None	
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 22		Location Name: Officer's Mess		Floor: Poop Deck		Room #:				Square ft: 200					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Rubber			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	



**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 23</b>		<b>Location Name: Cabins</b>		<b>Floor: Poop Deck</b>		<b>Room #:</b>				<b>Square ft: 800</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 24</b>		<b>Location Name: Pantry</b>		<b>Floor: Poop Deck</b>		<b>Room #:</b>				<b>Square ft: 100</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Ceramic Tiles			A	Y									None
Ceiling		Metal			A	Y									None
Walls		Wood			A	Y									None
Structure		None Found													None
Piping		None Found													None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>	<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>			<b>Survey Date: 2011-06-08</b>									
<b>Location #: 25</b>	<b>Location Name: Ships Office</b>		<b>Floor: Poop Deck</b>			<b>Room #:</b>				<b>Square ft: 100</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor	N/A	Carpet	Not Applicable	N/A	NA	NA								None	
Ceiling	N/A	Metal	Not Applicable	N/A	NA	NA								None	
Walls	N/A	Wood	Not Applicable	N/A	NA	NA								None	
Structure	Not Found	None Found	Not Applicable	N/A	NA	NA								None	
Piping	Not Found	None Found	Not Applicable	N/A	NA	NA								None	
Duct	Not Found	None Found	Not Applicable	N/A	NA	NA								None	
Mechanical Equipment	Not Found	None Found	Not Applicable	N/A	NA	NA								None	
Other	Not Found	None Found	Not Applicable	N/A	NA	NA								None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
Location #: 26		Location Name: Utility Locker		Floor: Poop Deck		Room #:				Square ft: 60						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
							Good		Fair		Poor					
Floor		Metal			A	Y									None	
Ceiling		Metal			A	Y									None	
Walls		Wood			A	Y									None	
Walls		Metal			A	Y									None	
Structure		None Found	ALL	Metal	A	Y									None	
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 27</b>		<b>Location Name: Washrooms</b>		<b>Floor: Poop Deck</b>		<b>Room #:</b>					<b>Square ft: 200</b>				
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Ceramic Tiles			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 28		Location Name: Lower Fan Room		Floor: Poop Deck		Room #:				Square ft: 100					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		Metal			A	Y									None
Walls		Metal			A	Y									None
Structure		None Found													None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None
Duct	Unidentified Duct	Fibreglass	ALL	Canvas	A	Y									None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110 Location #: 29	Building Name: CCGS Griffon Location Name: Emergency Generator Room	Surveyor: Cory Warmington Floor: Boat Deck			Survey Date: 2011-06-08										
					Room #:	Square ft: 150									
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		None Found													None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			C	Y									None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	C	Y									None
Duct		None Found													None
Mechanical Equipment	Generator Exhaust	Fibreglass	ALL		A	Y									None
Mechanical Equipment	Generator Unit	Not Insulated			A	Y									None
Other		None Found													None

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 30</b>		<b>Location Name: Fire Locker</b>		<b>Floor: Boat Deck</b>		<b>Room #:</b>				<b>Square ft: 60</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		Fibreglass		Metal	A	Y									None
Walls		Fibreglass		Metal	A	Y									None
Structure		None Found													None
Piping	Sprinkler	Not Insulated			A	Y									None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 31</b>		<b>Location Name: Cabins</b>		<b>Floor: Boat Deck</b>		<b>Room #:</b>				<b>Square ft: 320</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 32		Location Name: Laundry Room		Floor: Boat Deck		Room #:				Square ft: 30					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Ceramic Tiles			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping	All	Fibreglass		Metal	A	Y								None	
Duct	All	Not Insulated			A	Y								None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08										
Location #: 33		Location Name: Engineer's Office		Floor: Boat Deck		Room #:					Square ft: 100					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
							Good		Fair		Poor					
Floor		VSF and Mastic Adhesive			A	Y	100						SF	S0004	[None]	
Ceiling		Metal			A	Y									None	
Walls		Wood			A	Y									None	
Structure		None Found													None	
Piping		None Found													None	
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>											
<b>Location #: 34</b>		<b>Location Name: Communication Centre</b>		<b>Floor: Bridge Deck</b>		<b>Room #:</b>		<b>Square ft: 150</b>									
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability	
							Good		Fair		Poor						
Floor		Rubber				A	Y										None
Ceiling		Metal				A	Y										None
Walls		Wood				A	Y										None
Structure		None Found															None
Piping		None Found															None
Duct		None Found															None
Mechanical Equipment		None Found															None
Other		None Found															None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>	<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>			<b>Survey Date: 2011-06-08</b>									
<b>Location #: 35</b>	<b>Location Name: Bridge</b>		<b>Floor: Nav Deck</b>			<b>Room #:</b>					<b>Square ft: 300</b>				
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y									None
Ceiling		Metal			A	Y									None
Walls		Wood			A	Y									None
Structure		None Found													None
Piping		None Found													None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None

Building #: 328110		Building Name: CCGS Griffon			Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 36		Location Name: Bridge Washroom			Floor: Nav Deck		Room #:				Square ft: 30					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
							Good		Fair		Poor					
Floor		Ceramic Tiles				A	Y								None	
Ceiling		Metal				A	Y								None	
Walls		Wood				A	Y								None	
Structure		None Found													None	
Piping		None Found													None	
Duct		None Found													None	
Mechanical Equipment		None Found													None	
Other		None Found													None	

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

Building #: 328110	Building Name: CCGS Griffon		Surveyor: Cory Warmington			Survey Date: 2011-06-08									
Location #: 37	Location Name: Upper Fan Room		Floor: Bridge Deck		Room #:				Square ft: 150						
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Metal			A	Y									None
Ceiling		None Found													None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			A	Y									None
Piping	Unidentified Pipe	Fibreglass	Straight	Canvas	A	Y	4					LF	V002		None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None
Piping	Hot Water Heating	Not Insulated	ALL		A	Y									None
Piping	Unidentified Pipe	Fibreglass	ALL	Canvas	A	Y									None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None



**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 38</b>		<b>Location Name: Cabins</b>		<b>Floor: Upper Deck</b>		<b>Room #:</b>				<b>Square ft: 1280</b>					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 39		Location Name: Cabins		Floor: Bridge Deck		Room #:				Square ft: 80					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y									None
Ceiling		Metal			A	Y									None
Walls		Wood			A	Y									None
Structure		None Found													None
Piping		None Found													None
Duct		None Found													None
Mechanical Equipment		None Found													None
Other		None Found													None

**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

<b>Building #: 328110</b>		<b>Building Name: CCGS Griffon</b>		<b>Surveyor: Cory Warmington</b>		<b>Survey Date: 2011-06-08</b>									
<b>Location #: 40</b>		<b>Location Name: Steering Gear</b>		<b>Floor: Upper Deck</b>		<b>Room #:</b>				<b>Square ft: 250</b>					
<b>System</b>	<b>Component</b>	<b>Material</b>	<b>Item</b>	<b>Covering</b>	<b>Access</b>	<b>Visible</b>	<b>Condition, Quantity &amp; Action</b>					<b>Units</b>	<b>Sample</b>	<b>Hazard</b>	<b>Friability</b>
							<b>Good</b>		<b>Fair</b>		<b>Poor</b>				
Floor		Metal			A	Y									None
Ceiling		Metal			C	Y									None
Walls		Metal			A	Y									None
Structure	Beam Deck Joist	Metal			C	N									None
Piping	Hot Water Heating	Fibreglass	ALL	Canvas	A	Y									None
Piping	Unidentified Pipe	Fibreglass	ALL	Metal	A	Y									None
Duct		None Found													None
Mechanical Equipment		None Found													None

Building #: 328110		Building Name: CCGS Griffon		Surveyor: Cory Warmington		Survey Date: 2011-06-08									
Location #: 41		Location Name: Officer's Lounge		Floor: Poop Deck		Room #:				Square ft: 150					
System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability
							Good		Fair		Poor				
Floor		Carpet			A	Y								None	
Ceiling		Metal			A	Y								None	
Walls		Wood			A	Y								None	
Structure		None Found												None	
Piping		None Found												None	
Duct		None Found												None	
Mechanical Equipment		None Found												None	
Other		None Found												None	



**Client:** Canadian Coast Guard

**Site:** Vessels

**Building Number(s):** 328110

## All Data Report

### Legend:

Action			Access		Condition		Sample Number		
(1)	Clean Up of ACM Debris	(2)	Precautions for Access Which may Disturb ACM Debris	A	Accessible to all building occupants	Good	No visible damage or deterioration.	S####	Sample collected
(3)	ACM removal	(4)	Precautions for Work Which may Disturb ACM in Poor Condition	B	Accessible to maintenance and operations staff without a ladder	Fair	Minor, repairable damage, cracking or deterioration.	V####	Material is visually identified to be identical to S####
(5)	Proactive ACM removal (Minimum repair required for fair condition)	(6)	ACM repair	C	Accessible to maintenance and operations staff with a ladder. Also rarely entered, locked areas	Poor	Irreparable damage or deterioration with exposed and missing material	V0000	Known non-asbestos material
(7)	Management program and surveillance			D	Not normally accessible or without demolition	NOTE: See report for full definitions of action, access and condition		V9000	Material is visually identified to contain asbestos
								V9500	Material is presumed to contain asbestos
NOTE: Actions in round brackets ( ) are auto-calculated. Actions in square brackets [ ] are manual								Note: Presumed various materials identified in the report are ACM if not sampled.	

**Units**                                      SF - Square feet                                      LF - Linear feet                                      EA - Each                                      % - Percentage

**APPENDIX III**  
**Asbestos Assessment Matrix**

## 1.0 EVALUATION CRITERIA AND BASIS OF RECOMMENDATIONS FOR ASBESTOS-CONTAINING MATERIALS

This reassessment provides accurate information regarding the location, condition and accessibility of the ACM used in the construction of the vessel. In order to make recommendations for compliance with current regulations, Pinchin developed the following ACM evaluation criteria based on the conclusion of previous published studies, particularly the "Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario" and our experience with structures containing ACM. The same criterion that was initially employed has been utilized for the reassessment.

### 1.1 Evaluation of Condition

#### 1.1.1 Spray Applied Fireproofing, Insulation and Texture Finishes

To evaluate the condition of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes, the following criteria is applied:

**GOOD** Surface of material shows no significant signs of damage, deterioration or delamination. Up to 1 percent visible damage to surface is allowed within range of **GOOD**. Evaluation of sprayed fireproofing requires the surveyor to be familiar with the irregular surface texture typical of fireproofing as installed. **GOOD** condition includes unencapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred.

**POOR** Sprayed materials show signs of damage, delamination or deterioration. More than 1 percent damage to surface of ACM spray.

In observation areas where damage exists, in isolated locations, both **GOOD** and **POOR** condition may be applicable. The extent or percentage of each condition will be recorded on the room-by-room survey form. **FAIR** condition is not utilized in the evaluation of the fireproofing, non-mechanical insulation, or texture coat finishes.

The evaluation of ACM spray applied as fireproofing, non-mechanical thermal insulation, or texture, decorative or acoustic finishes which are present above ceilings, may be limited by the number of observations made, and by building components such as ducts or full height bulkheads that obstruct the above ceiling observations. Persons entering the ceiling are advised to be watchful for ACM **DEBRIS** prior to accessing or working above ceilings in areas of buildings with ACM regardless of the reported condition.

### 1.1.2 Mechanical Insulation

The evaluation of the condition of mechanical insulation (on surface of boilers, breeching, exhausts, ductwork, piping, tanks, equipment etc.) utilizes the following criteria:

<b>GOOD</b>	Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. No insulation is exposed. Includes conditions where the jacketing has minor damage (ie., scuffs or stains), but the jacketing is not penetrated.
<b>FAIR</b>	Minor penetrating damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination) or undamaged insulation that had never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation ranges from minor to none. Damage can be repaired.
<b>POOR</b>	Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.

The evaluation of mechanical insulation may be limited by the number of observations made and vessel components such as ducts or bulkheads that obstruct observations. It is not possible to observe each foot of mechanical insulation from all angles. Persons working in proximity to mechanical insulation or entering ceilings with mechanical insulation are advised to be watchful of ACM **DEBRIS** regardless of the reported condition.

### 1.1.3 Non-friable and Potentially Friable Materials

The condition of non-friable ACM, such as plaster finishes containing asbestos, and manufactured products such as acoustic ceiling tiles and asbestos cement products (transite), all of which have the potential to become friable when handled are evaluated as follows:

<b>GOOD</b>	No significant damage. Material may be cracked or broken but is stable and not likely to become friable upon casual contact.
<b>POOR</b>	Material is severely damaged. Loose <b>DEBRIS</b> is present or binder has disintegrated to the point where contact will cause the material to become friable.

The evaluation of the condition of non-friable and potentially friable materials does not utilize a **FAIR** condition rating.

If the ACM is damaged but stable, and there is no friable **DEBRIS** present, the condition is rated as **GOOD**.

## 1.2 Evaluation of Accessibility

The accessibility of materials known or suspected of being ACM is rated according to the following criteria:

- ACCESS (A)** Areas of the vessel within reach (from deck level) of all general occupants. Includes areas such as storage areas where activities of the general occupants may result in disturbance of ACM not normally within reach from deck level.
- ACCESS (B)** Frequently entered maintenance and service areas of the vessel within reach of staff, without the need for a ladder (less frequently accessed than Access A areas). Includes:
- areas within reach from a fixed ladder or catwalk, ie. tops of equipment, mezzanines.
  - frequently entered pipe chases, stack towers, tunnels and service areas.
- ACCESS (C)** Areas of the vessel above 8'-0" where use of a ladder is required to reach the ACM (less frequently accessed than Access B areas).
- Refers to ACM materials that are exposed to view, from the floor or ladder, without the removal or opening of other vessel components such as deckheads/bulkheads, or service access doors or hatches. Does not include infrequently accessed service areas of the vessel.
- ACCESS (D)** Areas of the vessel behind inaccessible solid deckhead and/or bulkhead systems, or mechanical equipment etc. where demolition or removal of the deckhead/bulkhead or equipment etc. is required to reach the ACM. Evaluation of condition and extent of ACM is limited or impossible, depending on the surveyor's ability to visually examine materials in ACCESS D.

## 1.3 Evaluation of ACM DEBRIS

### 1.3.1 DEBRIS From Friable ACM

The presence of fallen ACM is noted separately from the presumed friable ACM source (sprayed fireproofing, thermal insulation, texture, decorative or acoustic finishes or mechanical insulation) and is referred to as **DEBRIS**.

### 1.3.2 DEBRIS From Damaged Non-Friable ACM

The presence of fallen ACM from damaged non-friable ACM is also reported separately from the non-friable ACM source. Only fallen non-friable ACM that has become friable is reported as **DEBRIS**.

The identification of the exact location or presence of **DEBRIS** on the top of deckhead panels is limited by the number of observations made and the presence of vessel components such as ducts or compartment bulkheads that obstruct observations. Workers are advised to be watchful for the presence of **DEBRIS** prior to accessing or working in proximity to mechanical insulation or above deckheads in areas of the vessel with ACM regardless of the reported presence or absence of **DEBRIS**.

### 1.4 Evaluation of SUSPECT MATERIALS

The evaluation of **SUSPECT MATERIALS** (SM), which are materials and products that may randomly contain asbestos but were not tested, is based on the assumption that these unsampled **SUSPECT MATERIALS** are asbestos-containing.

A number of potentially ACM's that are difficult to identify may be present in some areas. These materials are grouped under the heading of Suspect Asbestos-Containing Materials (the need for demolition/dismantling equipment and the lack of access limit our ability to determine the asbestos content).

Several areas of equipment base insulating materials are concealed with cladding, and every effort has been made to collect representative samples of base insulating materials. It is possible however that certain asbestos-containing base insulation is present behind solid cladding. A level of destructive testing prior to activities that may expose such materials is a standing recommendation.

### 1.5 Action Matrix and Definitions

Pinchin's evaluation of viability of a specific asbestos control options is based on the consideration of the ACM's condition and accessibility. The logic used is that damaged ACM located in an area frequently accessed by all vessel occupants is of a higher priority than damaged ACM located in an infrequently accessed service area.

Under current regulations and guidelines, the owner is required to control all disturbance of ACM. A number of abatement options, such as repair, removal, enclosure, or encapsulation are available to comply with the regulatory requirements.

The following factors are also considered in making site-specific recommendations for compliance with the provincial regulations:

- i) ACM in **POOR** condition is not routinely repairable.
  - o If an abatement action is necessary, removal is the recommended action (enclosure is a viable option in unusual circumstances).



- ii) Mechanical insulation in **FAIR** condition can be repaired or removed based on the following general recommendations applied on a case by case basis (Note: Either repair or removal are legally acceptable options for the treatment of ACM found in **FAIR** condition):
  - Repair ACM mechanical insulation found in **FAIR** condition in **ACCESS (B)** or **ACCESS (C)** areas.
  - Remove ACM mechanical insulation found in **FAIR** condition in **ACCESS (B)** and **ACCESS (C)** areas, where future damage to the ACM is likely to occur.
  - Remove ACM mechanical insulation found in **FAIR** condition with **ACCESS (A)** to eliminate the potential for re-damaging ACM by all vessel users.
- iii) ACM in **GOOD** condition present in **ACCESS (A)** at a minimum is subject to surveillance, as long as it is not disturbed by future renovation, maintenance or demolition. Pinchin recommends pro-active removal of the ACM in **ACCESS (A)** where damage is possible by ongoing occupant activity (accidental or intentional). This recommendation exceeds current regulatory requirements.
- iv) Non-friable or manufactured products are consider in the action matrix as follows:
  - Non-friable and manufactured products reported in **POOR** condition or friable **DEBRIS** resulting from the deterioration of non-friable ACM are treated as friable materials and the appropriate action, depending on accessibility, is determined from the Action Matrix for friable ACM.
  - For non-friable or manufactured products reported in **GOOD** condition, Action 7 (surveillance) is recommended regardless of Accessibility.
  - For non-friable or manufactured products **FAIR** condition is not utilized.
- v) Remove all ACM from a particular area where small quantities of asbestos are present and removal will negate the need for the use of the Asbestos Management Program in that area.

With these principles in mind, the following Action Matrix Tables establish the recommended asbestos control action. Note that factors not included in the above discussion, such as an owner's policy decision to remove material, knowledge of upcoming maintenance, etc., may result in a recommendation that differs from this table. The **ACTIONS** are defined in full following the tables.

## 1.6 Action Matrix Tables

### 1.6.1 FRIABLE ACM

ACCESS	CONDITION			DEBRIS	SUSPECT MATERIAL
	GOOD	FAIR	POOR		
<b>(A)</b>	ACTION 5/7 <sup>1</sup>	ACTION 5/6 <sup>2</sup>	ACTION 3	ACTION 1	ACTION 7

<b>(B)</b>	ACTION 7	ACTION 6/5 <sup>3</sup>	ACTION 3	ACTION 1	ACTION 7
<b>(C) Exposed</b>	ACTION 7	ACTION 6	ACTION 4	ACTION 2	ACTION 7
<b>(C) Concealed</b>	ACTION 7	ACTION 7	ACTION 4	ACTION 2	ACTION 7
<b>(D)</b>	ACTION 7	ACTION 7	ACTION 7	ACTION 7	ACTION 7
<sup>1</sup> If material in <b>ACCESS (A)/GOOD</b> condition is not removed <b>ACTION 7</b> is required. <sup>2</sup> If material in <b>ACCESS(A)/FAIR</b> condition is not removed <b>ACTION 6</b> is required. <sup>3</sup> Remove ACM in <b>ACCESS (B)/FAIR</b> condition if ACM is likely to be disturbed.					

### 1.6.2 NON-FRIABLE AND POTENTIALLY FRIABLE ACM

ACCESS	CONDITION		DEBRIS	SUSPECT MATERIAL
	GOOD	POOR		
<b>(A)</b>	ACTION 7	ACTION 3 <sup>4</sup>	ACTION 1	ACTION 7
<b>(B)</b>	ACTION 7	ACTION 3 <sup>4</sup>	ACTION 1	ACTION 7
<b>(C) Exposed</b>	ACTION 7	ACTION 4 <sup>4</sup>	ACTION 2	ACTION 7
<b>(C) Concealed</b>	ACTION 7	ACTION 4 <sup>4</sup>	ACTION 2	ACTION 7
<b>(D)</b>	ACTION 7	ACTION 7 <sup>4</sup>	ACTION 7	ACTION 7
<sup>4</sup> Non-friable and potentially friable ACM found in <b>POOR</b> condition and friable <b>DEBRIS</b> (from a non-friable ACM source) shall be treated as friable ACM.				

### 1.7 Action Definitions

The following definitions relate to the Action Matrix Tables presented above, and as calculated by Pinchin's Hazardous Materials Information System (HMIS). The corresponding Action is presented alongside the quantity in the Re-Assessment Survey Data sheets in Appendix I.

#### **ACTION 1 Immediate Clean-Up of DEBRIS that is Likely to Be Disturbed**

Restrict access that is likely to cause a disturbance of the ACM **DEBRIS** and clean up ACM **DEBRIS** immediately. Utilize correct asbestos procedures. This action is required for compliance with regulatory requirements. The surveyor will immediately notify the owner of this condition.

**ACTION 2      Type 2 Precautions for Entry into Areas with ACM DEBRIS**

At locations where ACM **DEBRIS** can be isolated in lieu of removal or cleaned up, use appropriate means to limit entry to the area. Restrict access to the area to persons utilizing Type 2 asbestos precautions. The precautions will be required until the ACM **DEBRIS** has been cleaned up, and the source of the **DEBRIS** has been stabilized or removed.

**ACTION 3      ACM Removal Required for Compliance**

Remove ACM for compliance with regulatory requirements. Utilize asbestos procedures appropriate to the scope of the removal work.

**ACTION 4      Type 2 Precautions for Access into Areas Where ACM is Present and Likely to be Disturbed by Access**

Use Type 2 asbestos precautions when entry or access into an area is likely to disturb the ACM. **ACTION 4** must be used until the ACM is removed (Use ACTION 1 or 2 if **DEBRIS** is present).

**ACTION 5      Proactive ACM Removal**

Remove ACM in lieu of repair, or at locations where the presence of asbestos in **GOOD** condition is not desirable.

**ACTION 6      ACM Repair**

Repair ACM found in **FAIR** condition, and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work treat ACM as material in **GOOD** condition and implement **ACTION 7**. If ACM is likely to be damaged or disturbed, during normal use of the area or room, implement **ACTION 5**.

**ACTION 7      Asbestos Management Program with Routine Surveillance**

Implement an Asbestos Management Program, including routine surveillance of ACM. Trained workers or contractors must use appropriate asbestos precautions (Type 1, Type 2 or Type 3) during disturbance of the remaining ACM.

**SUSPECT MATERIALS** are to be treated as ACM and subject to the Action Matrix, until bulk sampling confirms the absence of asbestos. Bulk sampling, of **SUSPECT MATERIALS**, is recommended prior to the start of renovation, demolition, or maintenance work that will result in a significant disturbance of the **SUSPECT MATERIAL**.

#### **APPENDIX IV**

#### **Results of Air Sample Analysis for Asbestos and Certificate of Instrument Calibration**



# SAMPLING REPORT



PROJECT NUMBER: Q04-26021-01  
 REPORT NUMBER: 001  
 CLIENT: Groupe Ocean, Mr.Serge Michaud

DATE OF SAMPLING: August 30, 2016

ESTABLISHMENT: CCGS Griffon  
 WORK AREA: Lower Deck, Tween Deck, Upper Deck, Poop Deck and Flight & Boat Deck  
 CONTRACTOR: None  
 WORK IN PROGRESS: None  
 TYPE OF ASBESTOS: Amosite  
 TIME OF ARRIVAL: 9 h 00

SAMPLE <sup>1</sup>		SAMPLING PARAMETERS				INTERPRETATION <sup>2</sup>		
Number	Designation	Start	End	Average output (L/min)	Volume (L)	Concentration (f/cm <sup>3</sup> )	Concentration limit (f/cm <sup>3</sup> )	Conformity
2016-323417	Blank 1	--	--	--	--	--	--	Compliant
2016-323428	Blank 2	--	--	--	--	--	--	Compliant
2016-323422	Ambient, Crews Mess	10 h 13	11 h 13	16,14	968,4	< 0,04	< 0,1	Compliant
2016-323427	Ambient, Galley	10 h 13	11 h 13	15,99	959,1	< 0,04	< 0,1	Compliant
2016-323425	Ambient, Chief Cook Cabin	10 h 25	11 h 25	16,52	991,2	< 0,04	< 0,1	Compliant
2016-323426	Ambient, Ship Office	10 h 50	11 h 50	16,08	964,8	< 0,04	< 0,1	Compliant
2016-323423	Ambient, Officers Mess	10 h 40	11 h 40	16,01	960,6	< 0,04	< 0,1	Compliant
2016-323449	Ambient, Carpenters Shop	13 h 15	14 h 15	16,52	991,2	< 0,04	< 0,1	Compliant
2016-323421	Ambient, Engine Control Room	13 h 30	14 h 30	15,99	959,1	< 0,04	< 0,1	Compliant
2016-323418	Ambient, Engine Room Workshop	13 h 40	14 h 40	16,14	968,4	< 0,04	< 0,1	Compliant
2016-323424	Ambient, Chief Officers Cabin	13 h 49	14 h 49	16,01	960,6	< 0,04	< 0,1	Compliant
2016-323420	Ambient, Outdoor Reference	13 h 57	14 h 57	16,08	964,8	< 0,04	< 0,1	Compliant

## Reference Table<sup>3</sup>

Occupied areas threshold limit values	
Concentration limit for amosite and crocidolite	< 0.1 f/cm <sup>3</sup>
Concentration limit for chrysotile	< 1 f/cm <sup>3</sup>

COMMENT: None

TECHNICIAN: Mr. Jimmy Ward

Signature: \_\_\_\_\_

<sup>1</sup> Sampled according to the *Guide d'échantillonnage des contaminants de l'air en milieu de travail*, from l'Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST).

<sup>2</sup> The result of the analysis is described in the certificate of the analysis by fibre counting in accordance with method 243-1 of the IRSST. The concentration limit is established according to the reference table. The result of the air test is considered acceptable, if it is inferior to the defined concentration limit.

<sup>3</sup> MOH&S regulations state the Threshold Limit Values (TLVs) for asbestos exposure.



# CERTIFICATE OF ANALYSIS



PROJECT NUMBER: Q04-26021-01      DATE OF RECEIPT: August 30, 2016  
REPORT NUMBER: 001      DATE OF ANALYSIS: August 31, 2016  
CLIENT: Groupe Ocean, Mr.Serge Michaud

METHOD OF ANALYSIS: 243-1 of the IRSST  
METHOD APPLIED: Counting by Phase Contrast Microscopy  
SAMPLING CASSETTE: Carrier cassette with extension and ECM 25 mm filter  
SAMPLING PERFORMED BY: Le Groupe Gesfor Poirier, Pinchin inc.

SAMPLE		ANALYSIS RESULTS		
Number	Volume of filtered air (L)	Quantifiable limit (f/cm <sup>3</sup> )	Density* (f/mm <sup>2</sup> )	Concentration (f/cm <sup>3</sup> )
2016-323417	--	--	1,27	--
2016-323428	--	--	1,91	--
2016-323422	968,4	0,04	< 100	< 0,04
2016-323427	959,1	0,04	< 100	< 0,04
2016-323425	991,2	0,04	< 100	< 0,04
2016-323426	964,8	0,04	< 100	< 0,04
2016-323423	960,6	0,04	< 100	< 0,04
2016-323449	991,2	0,04	< 100	< 0,04
2016-323421	959,1	0,04	< 100	< 0,04
2016-323418	968,4	0,04	< 100	< 0,04
2016-323424	960,6	0,04	< 100	< 0,04
2016-323420	964,8	0,04	< 100	< 0,04

\* If the density is inferior to 100 f/mm<sup>2</sup>, it is indicated < 100, and the concentration is calculated with a density of 100. If the density is superior to 1,300 f/mm<sup>2</sup>, it is indicated > 1,300 and the concentration is calculated with a density of 1,300.

NOTE: The application domain of the method corresponds to densities between **100 to 1300 f/mm<sup>2</sup>**. Densities have been corrected using one or more blank samples. All technicians performing the counting of respirable fibres participate in the *Institut de recherche Robert-Sauvé en santé et en sécurité du travail* (IRSST) quality control program of, which is required by provincial regulation in effect for use of the IRSST 243-1.

COMMENT: None.

ANALYST: Mr. Jimmy Ward  
IRSST ANALYST ID NUMBER: 362

Signature: \_\_\_\_\_



## Calibration Certificate

**Certificate No.** 5064018      **Sold to:** Le Groupe Gesfor Poirier, Pinchin,  
Inc. - Montreal  
**Product** Defender 510 High Flow      490, rue des Entrepreneurs, bur. 200  
**Serial No.** 128224      Quebec, Quebec  
**Cal. Date** 10-Sep-2015      G1M 1B5  
Canada

All calibrations are performed in accordance with ISO 17025 at Mesa Laboratories, Inc., 10 Park Place, Butler, NJ, 07405, 800-663-4977, an ISO 17025:2005 – accredited laboratory through NVLAP. This report shall not be reproduced except in full without the written approval of the laboratory. Results only relate to the items calibrated. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

### As Received Calibration Data

Technician      Lab.Pressure      mmHg  
Lab.Temperature      °C

Instrument Reading	Lab Standard Reading	Deviation	Allowable Deviation	As Received
ccm	ccm	%	1.00%	
ccm	ccm	%	1.00%	
ccm	ccm	%	1.00%	

### Mesa Laboratories Standards Used

Description	Standard Serial Number	Calibration Date	Calibration Due Date



## As Shipped Calibration Data

Certificate No. 5064018  
Technician Sonia Otero

Lab.Pressure 749mmHg  
Lab.Temperature 22.2 °C

Instrument Reading	Lab Standard Reading	Deviation	Allowable Deviation	As Shipped
505.13ccm	502.98ccm	0.43 %%	1.00%	In Tolerance
5005.7ccm	5007.75ccm	-0.04 %%	1.00%	In Tolerance
29942ccm	30074.5ccm	-0.44 %%	1.00%	In Tolerance

## Mesa Laboratories Standards Used

Description	Standard Serial Number	Calibration Date	Calibration Due Date
ML-500-44	113762	8-Apr-2015	7-Apr-2016

## Calibration Notes

The expanded uncertainty of flow has a coverage factor of  $k = 2$  for a confidence interval of approximately 95%.

Flow testing is in accordance with our test number PR17-13 with an expanded uncertainty of 0.27% using high-purity nitrogen or filtered laboratory air.

Traceability to the International System of Units (SI) is verified by accreditation to ISO/IEC 17025 by NVLAP under NVLAP Code 200661-0.

**Technician Notes:** as received flow data was not performed due to device under test malfunction.

Louis Guido, Quality Engineer