

ASBESTOS MATERIALS REASSESSMENT CCGS EARL GREY



Prepared for:

Canadian Coast Guard Services
Marine Engineering
50 Discovery Drive, Level 4
Dartmouth, Nova Scotia
B2Y 4A2

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Pinchin LeBlanc Environmental Limited Project No.: 01-02-00895

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1.0 INTRODUCTION

The Canada Coast Guard Services (CCGS) retained Pinchin LeBlanc Environmental Limited (Pinchin) to conduct a reassessment of asbestos-containing materials (ACM) aboard the CCGS Earl Grey while in port at the Bedford Institute of Oceanography, located in Dartmouth, Nova Scotia. The CCGS Earl Grey was initially surveyed by Pinchin in February 2007. The reassessment described herein was conducted by Julia King of Pinchin on June 4, 2014.

2.0 REASSESSMENT SCOPE

The reassessment involved inspecting and where required, updating the condition of the ACM identified in the original survey. The reassessment information was based on the original Pinchin survey report dated February 28, 2007.

Field inspections were performed for each asbestos-containing item identified in the original survey and previous assessments. The condition and approximate quantity of ACM present were noted for each item. The reassessment involved the verification of existing data, and modification to reflect changes to material quantity, condition and accessibility. The updated survey data is presented on an area-by-area basis in Appendix I – Confirmed Asbestos and Presumed Asbestos Report.

During the assessment, asbestos materials identified during the initial survey were examined. This included both friable and non-friable (usually manufactured) materials. The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Asbestos materials that are friable (i.e. easily release fibres) have a much greater potential for airborne fibre release and hence worker exposure. Therefore, provincial regulations and guidelines regarding asbestos materials distinguish between friable and non-friable materials when assigning appropriate work practices. The most common friable asbestos materials are mechanical insulations. Common manufactured materials include vinyl floor coverings, textile products and gasket materials.

3.0 REASSESSMENT LIMITATIONS

The reassessment described herein involved only a visual reassessment of existing site conditions. Sampling for verification of existing data was not undertaken.

Confined space entry was not within the scope of work (i.e. tanks and drums were not entered for interior inspection).

The majority of piping and systems were accessed for inspection. However, the erection of staging and scaffolding to access otherwise inaccessible piping and systems was not included in the scope of work. Certain assumptions were made as to the nature of insulation between accessible points, as reasonably expected.

General survey of stored goods or materials was not undertaken.

Assessment of possible settled dust on surfaces or in ventilation systems was not undertaken.

4.0 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.

4.1 Evaluation of Condition

4.1.1 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:

GOOD	Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. Insulation is not exposed. Includes conditions where the jacketing has minor damage (i.e., scuffs or stains), but the jacketing is not penetrated.
FAIR	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.
POOR	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 metre 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.

4.1.2 *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:

GOOD	Significant damage not present. Material may be cracked or broken but is stable and not likely to become friable upon casual contact.
FAIR	Showing signs of some cracking or breakage, but is not deteriorating (e.g. cracked plaster, broken but in place ceiling tile, etc.). The condition is such that it is still serving its intended use as a building material or finish but may require repair for mainly cosmetic purposes.
POOR	Significant deterioration or breaking apart of the material. Material has deteriorated to the point it is not serving its intended use as building material or finish. Material has deteriorated to a point it has become friable. Normally potentially friable ACM in Poor condition is not repairable and requires at least localized removal and replacement. Loose DEBRIS is present or binder has disintegrated to the point where contact will cause the material to become friable.

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

4.2 **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, i.e. tops of equipment, mezzanines.
 - frequently entered pipe chases, stack towers, tunnels and service areas.

ACCESS (C) Areas of the vessel above 2.44m 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.

4.3 Evaluation of ACM DEBRIS

4.3.1 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.

4.3.2 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.

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.

4.4 Action Matrix and Definitions

Pinchin's evaluation of viability of a specific asbestos control options is based on the consideration of the ACMs 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:

1. ACM in **POOR** condition is not routinely repairable.
 - If an abatement action is necessary, removal is the recommended action (enclosure is a viable option in unusual circumstances).
2. 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; and,
 - Remove ACM mechanical insulation found in **FAIR** condition with **ACCESS (A)** to eliminate the potential for re-damaging ACM by all vessel users.
3. 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.
4. Non-friable or manufactured products are considered in the action matrix as follows:
 - Non-friable and manufactured products reported in **POOR** condition or **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; and,
 - For non-friable or manufactured products **FAIR** condition is not utilized.
5. 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.

4.5 Action Matrix Tables

Table I Decision Matrix for Friable ACM

Access	Condition			DEBRIS
	GOOD	FAIR	POOR	
(A)	Action 5 ¹	Action 5 ²	Action 3	Action 1
(B)	Action 7	Action 6 ³	Action 3	Action 1
(C) Visible	Action 7	Action 6	Action 3	Action 2
(C) Not Visible	Action 7	Action 7	Action 4	Action 2
(D)	Action 7	Action 7	Action 7	Action 7

Table II Decision Matrix for Non-Friable ACM

Access	Condition			DEBRIS
	GOOD	FAIR	POOR	
(A)	Action 7	Action 7 ⁴	Action 3	Action 1
(B)	Action 7	Action 7	Action 3	Action 1
(C) Visible	Action 7	Action 7	Action 4	Action 2
(C) Not Visible	Action 7	Action 7	Action 4	Action 2

4.6 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 Confirmed Asbestos and Presumed Asbestos Report in Appendix II.

¹ If friable ACM in access (A)/Good condition is not proactively removed Action 7 (Manage) is recommended.

² If friable ACM in access (A)/Fair condition is not proactively removed repair is recommended.

³ If friable ACM in access (B)/Fair condition is likely to be disturbed after repair proactive removal is recommended.

⁴ Action 7 is recommended for all non-friable ACM in Fair condition however some clients may wish to repair or take some action primarily for cosmetic reasons

ACTION DEFINITIONS

- Action 1 Clean-Up of ACM Debris**
Restrict access that is likely to cause a disturbance of the ACM Debris and clean up ACM Debris. Utilize appropriate asbestos precautions.
- Action 2 Precautions for Access Which may Disturb ACM Debris**
Use appropriate means to isolate the debris or to limit entry to the area which may disturb the material. At locations where ACM Debris can remain in place in lieu of removal or clean-up (e.g. Debris on top of ceiling tiles or behind lockable door), Utilize appropriate asbestos precautions to enter the area if this will disturb debris. The precautions will be required until the ACM Debris has been cleaned up.
- Action 3 ACM Removal**
Remove ACM. Utilize asbestos procedures appropriate to the scope of the removal work. Until it is removed, restrict access to the material so it is not disturbed.
- Action 4 Precautions for Work Which may Disturb ACM in POOR Condition**
Utilize appropriate asbestos precautions if ACM may be disturbed by work on or near ACM. This does not require restricting access to the area, only control of work which may contact or disturb the ACM. Removal is the only viable option if work will disturb ACM.
- Action 5 Proactive ACM Removal**
Remove friable ACM where the presence of friable asbestos in GOOD condition is not desirable. If friable ACM in FAIR condition is not removed then Repair friable ACM
- Action 6 ACM Repair**
Repair friable ACM in FAIR condition which is not likely to be damaged again or disturbed by normal use of the area or room. Pinchin recommends proactive removal if friable ACM is likely to be damaged or disturbed during normal use of the area or room
- Action 7 Asbestos Management Program with Routine Surveillance**
Implement an Asbestos Management Program, including routine surveillance of ACM. Reassess materials regularly (typically once per year).

5.0 REASSESSMENT FINDINGS

The following is a summary of the ACM identified within the vessel. Results for the samples referenced below have been included in Appendix I – Sample Summary Report. The data report is provided in Appendix II – Confirmed and Presumed Asbestos Materials Report and the sample locations drawings are provided in Appendix III – Sample Locations Drawings.

- Green putty mastic and grey putty mastic are used on some cable penetrations as a fire-stop. These putty mastics contain 5.5% chrysotile asbestos, and 10% chrysotile asbestos respectively (reference samples S0001 and S0002). The mastic is a non-friable product and all areas were observed to be in GOOD condition with the exception of some material found in FAIR condition in the Store Room (Location 3) and POOR condition in the Towing Winch Space, Emergency Generator Room, Exterior and Crane Area, and Wheelhouse Top (Locations 27, 30, 61 and 66 respectively).
- Textile wrap is present on the charged air lines for the turbocharger. Some of these textile wraps contain 40% chrysotile asbestos (reference sample S0008) and are a non-friable product. All areas were observed to be in GOOD condition.
- The compressor motor and generator exhaust is insulated with a textile wrap containing 40% chrysotile asbestos (reference sample S0018) and is a non-friable product. All areas were observed to be in GOOD condition.
- Stainless-steel sink in the Wheel House (Location 60) has a tar coating on the underside. The tar coating contains 1.8% chrysotile asbestos (reference sample S0016). This tar is a non-friable product was observed to be in GOOD condition.
- A dark grey sheet of gasket material being stored in the Store Room on the Engine Deck (Location 3) representative of gaskets used within the ships machinery (reference sample S0003) contains 40% chrysotile asbestos. The gasket material is a non-friable product and was observed to be in GOOD condition.

6.0 RECOMMENDATIONS

The following recommendations have been broken down into two sections. The first are the general recommendations to be applied to all materials as a whole. The second section deals with the specific recommendations to address the findings of this reassessment to meet compliance requirements. This report addresses all actions required for compliance (Actions 1, Action 3, and Action 6).

6.1 General Recommendations

To conform to the CCGS Asbestos Management Program and current safe practices related to ACM, certain minimum general steps should be initiated if not already followed. As a minimum the following actions should be implemented where ACM have been identified:

- Maintain a copy of individual asbestos survey reports on the premises to provide a record of the location of asbestos materials;

- Advise workers who may disturb the asbestos material of the presence of the asbestos, including outside contractors;
- Provide asbestos related training to any employee who may disturb the asbestos or work in close proximity to it;
- Continue reassessments of all asbestos-containing materials to check on condition, at a minimum annually;
- Repair or remove deteriorated or damaged asbestos material as it occurs between reassessments;
- Remove all ACM prior to demolition or refit. It is recommended that asbestos materials be removed prior to any significant disturbance due to maintenance, demolition, or renovation. Follow Type 1 procedures for non-friable materials; and,
- Develop plans and specifications as required detailing the scope and procedures for the handling and disposal of asbestos-containing materials.

6.2 Short-Term Recommendations

Based on the findings of this reassessment, the following short-term recommendations are to be made to address compliance:

- Use Type 1 asbestos procedures to repair all areas of fire stop mastic in FAIR condition with loose material present on the starboard wall of the Store Room (Location 3).
- Use Type 1 asbestos procedures to remove or repair two areas of fire stop mastic in POOR condition present on the starboard wall of the Towing Winch Space (Location 27), one area of fire stop mastic in POOR condition present in the Emergency Generator Room (Location 30), two areas of fire stop mastic in POOR condition present in the centre of the Exterior Crane Area (Location 61), and four areas of fire stop mastic in POOR condition present on the starboard side, port side and upper level of the Wheelhouse Top (Location 66).

7.0 SURVEY LIMITATIONS

Pinchin warrants that the findings and conclusions contained herein have been derived in accordance with generally accepted inventory methods. The work has been completed in accordance with CCGS request and agreed upon scope of work, schedule and budget. These evaluation methods have been developed to provide CCGS with information regarding apparent indications of existing or potentially hazardous conditions relating to the site and are limited to the conditions observed and information available at the time of the site visit. There is a distinct possibility that conditions may exist which could not be reasonably identified within the scope of the survey or which were not apparent during the site visit.

This investigation was not exhaustive and cannot be construed as a certification of the absence of any hazardous materials from the site. Conclusions derived are specific and limited to the immediate area of investigation. The absence of information relating to a specific substance does not preclude its presence.

Third party use of this report, or any reliance on or decisions made based on the findings of this report, are the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted based on this report.

8.0 CLOSURE

We trust that the aforementioned report addresses your requirements. Should you require clarification or information regarding this report, please contact the undersigned.

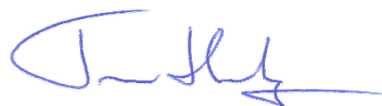
Following your review of this submission, we shall be available to address any questions you may have relating to the findings and/or recommendations.

Respectfully submitted,

PINCHIN LEBLANC ENVIRONMENTAL LIMITED



Julia King
Project Manager – Hazardous Materials
jking@pinchinleblanc.com



Trevor Houweling, P.Eng.
Vice President – Hazardous Materials
thouweling@pinchinleblanc.com

APPENDIX I

SAMPLE SUMMARY REPORT

Client: Canadian Coast Guard
Site: Vessels
Building Number(s): 807033

Bulk Sample Analysis

Building #: 807033 **Building Name:** CCGS Earl Grey **Surveyor:** **Survey Date:**

Sample #	System	Material	Loc #	Asbestos	Result A	Type A	Result B	Type B	Result C	Type C	Result D	Type D	Result
0001	Other	Mastic Material	1	<input checked="" type="checkbox"/>	5 - 10%	Chrysotile							5 - 10%
Description:	Green Mastic												
0002	Other	Mastic Material	3	<input checked="" type="checkbox"/>	10 - 25%	Chrysotile							10 - 25%
Description:	Grey Mastic												
0003	Other	Gasket	3	<input checked="" type="checkbox"/>	25 - 50%	Chrysotile							25 - 50%
Description:	Gasket												
0004	Mechanical Equipment	Preformed Block	6	<input type="checkbox"/>	N.D.								N.D.
Description:	Block Insulation on Engine Exhaust												
0005	Mechanical Equipment	Parging Cement	6	<input type="checkbox"/>	N.D.								N.D.
Description:	Parging over Block Insulation on Engine Exhaust												
0006	Mechanical Equipment	Preformed Block	6	<input type="checkbox"/>	N.D.								N.D.
Description:	Block Insulation of Generator Exhaust												
0007	Mechanical Equipment	Tar	6	<input type="checkbox"/>	N.D.								N.D.
Description:	Tar on Engine Insulation												
0008	Piping	Textile	6	<input checked="" type="checkbox"/>	25 - 50%	Chrysotile							25 - 50%
Description:	Insulation of Engine (Charged Air)												
0009	Floor	VAT and Mastic Adhesive	9	<input type="checkbox"/>	N.D.		N.D.						N.D.
Description:	Tan with Brown Streaks Vinyl Floor Tile												

Client: Canadian Coast Guard
Site: Vessels
Building Number(s): 807033

Bulk Sample Analysis

CONTINUED FROM PREVIOUS PAGE...

Sample #	System	Material	Loc #	Asbestos	Result A	Type A	Result B	Type B	Result C	Type C	Result D	Type D	Result
0010	Floor	Unidentified Material	10	<input type="checkbox"/>	N.D.								N.D.
Description:	Flooring Material												
0011	Walls	Fibrous Fireproofing	12	<input type="checkbox"/>	N.D.								N.D.
Description:	Sprayed Fireproofing												
0012	Walls	Fibrous Fireproofing	11	<input type="checkbox"/>	N.D.								N.D.
Description:	Sprayed Fireproofing												
0013	Ceiling	Textile	13	<input type="checkbox"/>	N.D.								N.D.
Description:	Ceiling Textile over Fibreglass												
0014	Duct	Mastic Material	13	<input type="checkbox"/>	N.D.								N.D.
Description:	Red Mastic on Duct Joints												
0015	Floor	VAT and Mastic Adhesive	14	<input type="checkbox"/>	N.D.		N.D.						N.D.
Description:	White Vinyl Floor Tile												
0016	Mechanical Equipment	Tar	24	<input checked="" type="checkbox"/>	1 - 5%	Chrysotile							1 - 5%
Description:	Tar on Sink												
0017	Mechanical Equipment	Parging Cement	30	<input type="checkbox"/>	N.D.								N.D.
Description:	Parging on Generator Exhaust												
0018	Piping	Textile	30	<input checked="" type="checkbox"/>	25 - 50%	Chrysotile							25 - 50%
Description:	Textile Wrap on Compressor Motor Exhaust												

Client: Canadian Coast Guard
Site: Vessels
Building Number(s): 807033

Bulk Sample Analysis

CONTINUED FROM PREVIOUS PAGE...

Sample #	System	Material	Loc #	Asbestos	Result A	Type A	Result B	Type B	Result C	Type C	Result D	Type D	Result
0019	Other	Mastic Material	60	<input type="checkbox"/>	N.D.								N.D.
Description:		Black Window Mastic											
0020	Piping	Textile	61	<input type="checkbox"/>	N.D.								N.D.
Description:		Tar Wrap on Hydraulic Lines											

APPENDIX II

CONFIRMED ASBESTOS AND ASSUMED ASBESTOS REPORT

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 1		Location Name: Steering Compartment		Floor: Engine Roo		Room #:		Square ft: 450							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368495	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	41	(7)			EA	S0001	Confirmed Asbestos	Non-Friable

Note: Gaskets on regular hatches are FG weave

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 2		Location Name: Hall to steering compartment		Floor: Engine Roo		Room #:		Square ft:							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368521	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	12	(7)			EA	V0001	Confirmed Asbestos	Non-Friable

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:										
Reassessment		Reassessment Surveyor: Julia King														
Date:2014-06-04																
Location #: 3		Location Name: Store Room		Floor: Engine Roo		Room #:		Square ft: 750								
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability	
								Good		Fair						Poor
368512	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	25	(7)	5	(7)		EA	S0002	Confirmed Asbestos	Non-Friable
368510	Other		Gasket	Gasket		A	Y	2	(7)				SF	S0003	Confirmed Asbestos	Non-Friable

Note: Stored gasket material = 30

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 6		Location Name: Engine Room		Floor: Engine Dec		Room #:		Square ft: 2100									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
								Good		Fair		Poor					
367907	Piping		Textile	Fire blanket		A	Y	40	(7)					LF	S0008	Confirmed Asbestos	Non-Friable
368477	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	53	(7)					EA	V0002	Confirmed Asbestos	Non-Friable

Note: MNEX canvas is FG weave and GENE Line 21 - pipe from main exhaust of main engines - possibly for turbo = 8 exterior diameter (charged air)

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 7		Location Name: Sewage System Room		Floor: Engine Dec		Room #:		Square ft: 160							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good		Fair	Poor				
368487	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	10	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 8		Location Name: Workshop		Floor: Engine Dec		Room #:		Square ft: 160							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good		Fair	Poor				
368478	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	5	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 9		Location Name: Machinery Control Room		Floor: Engine Dec		Room #:		Square ft: 320							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368480	Other	Electrical Equipment	Mastic Material	Fire stop		C	N	3	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 10		Location Name: Stack Room		Floor: Main Deck		Room #:		Square ft: 400							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368472	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	11	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Note: Line 15 - floor covered in sound dampening? material is small section

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 11		Location Name: Dry Provision Store		Floor: Engine Dec		Room #:		Square ft: 252							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368506	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	3	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Note: Bow Thruster Compartment Refridgerators x2 unaccessed

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 12		Location Name: Domesetic Machinery Space		Floor: Engine Dec		Room #:		Square ft: 400							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368496	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	3	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Note: Fan units adjacent bulkheads with oil

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 13		Location Name: Bow Thruster Compartment		Floor: Sub Engine		Room #:		Square ft: 500							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368518	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	7	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Note: Red Mastic in duct joint

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 24		Location Name: Officers Mess and Lounge		Floor: Main Deck		Room #:		Square ft: 336							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368491	Other	Electrical Equipment	Mastic Material	Fire stop		C	N	2	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033
Reassessment
Date:2014-06-04
Location #: 25

Building Name: CCGS Earl Grey
Reassessment Surveyor: Julia King

Surveyor:

Survey Date:

Location Name: General Stores

Floor: Main Deck

Room #:

Square ft:

Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good		Fair	Poor				
368488	Other	Electrical Equipment	Mastic Material	Fire stop		C	Y	2	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:										
Reassessment		Reassessment Surveyor: Julia King														
Date:2014-06-04																
Location #: 27		Location Name: Towing Winch Space		Floor: Main Deck		Room #:		Square ft: 472								
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability	
								Good		Fair						Poor
368483	Other	Electrical Equipment	Mastic Material	Fire stop		C	Y	10	(7)		2	(4)	EA	V0002	Confirmed Asbestos	Non-Friable

Note: 2 More fire hoses

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 28		Location Name: Bosun's Store		Floor: Main Deck		Room #:		Square ft: 120							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good		Fair	Poor				
368481	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	4	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:									
Reassessment		Reassessment Surveyor: Julia King													
Date:2014-06-04															
Location #: 29		Location Name: Workshop and Store		Floor: Main Deck		Room #:		Square ft: 144							
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good		Fair					
368484	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	3	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 30		Location Name: Emergency Generator Room		Floor: Main Deck		Room #:		Square ft: 144									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
								Good		Fair		Poor					
368107	Piping	Motor	Textile			A	Y	3	(7)					LF	S0018	Confirmed Asbestos	Non-Friable
368456	Mechanical Equipment	Generator Exhaust	Textile			A	Y	1	(7)					SF	V0018	Confirmed Asbestos	Non-Friable
368468	Other	Electrical Equipment	Mastic Material	Fire stop		C	Y	3	(7)			1	(4)	EA	V0002	Confirmed Asbestos	Non-Friable

Note: Motor for compressor

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 41		Location Name: General Store		Floor: Boat		Room #:		Square ft: 500									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
								Good		Fair		Poor					
368513	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	4	(7)					EA	V0002	Confirmed Asbestos	Non-Friable

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 59		Location Name: Electronics Room		Floor: Focsle		Room #:		Square ft: 70									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
								Good		Fair		Poor					
368474	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	3	(7)				EA	V0002	Confirmed Asbestos	Non-Friable	
Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 60		Location Name: Wheel house		Floor: Bridge		Room #:		Square ft: 816									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
								Good		Fair		Poor					
368492	Other	Sink	Tar			A	Y	4	(7)				SF	V0016	Confirmed Asbestos	Non-Friable	
Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 61		Location Name: Exterior and crane		Floor: Main Deck		Room #:		Square ft:									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action					Units	Sample	Hazard	Friability	
								Good		Fair		Poor					
368519	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	18	(7)			2	(3)	EA	V0002	Confirmed Asbestos	Non-Friable

Client: Canadian Coast Guard

Site: Vessels

Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033
Reassessment Date: 2014-06-04

Building Name: CCGS Earl Grey
Reassessment Surveyor: Julia King

Surveyor:

Survey Date:

Location #: 62

Location Name: Exterior

Floor: Boat Deck

Room #:

Square ft:

Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
367652	Piping		Textile		Tar	A	Y	50	(7)			EA	V0018	Confirmed Asbestos	Non-Friable
368500	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	45	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033
Reassessment Date: 2014-06-04

Building Name: CCGS Earl Grey
Reassessment Surveyor: Julia King

Surveyor:

Survey Date:

Location #: 63

Location Name: Exterior

Floor: Focsle

Room #:

Square ft:

Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
367657	Piping		Textile	Fitting	Tar	A	Y	35	(7)			EA	V0018	Confirmed Asbestos	Non-Friable
368503	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	23	(7)			EA	V0002	Confirmed Asbestos	Non-Friable

Building #: 807033
Reassessment Date: 2014-06-04

Building Name: CCGS Earl Grey
Reassessment Surveyor: Julia King

Surveyor:

Survey Date:

Location #: 65

Location Name: Exterior

Floor: Bridge

Room #:

Square ft:

Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action				Units	Sample	Hazard	Friability
								Good	Fair	Poor					
368502	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	4	(7)			EA	V0002	Confirmed Asbestos	Non-Friable



Client: Canadian Coast Guard **Site:** Vessels
Building Number(s): 807033

Confirmed Asbestos and Presumed Asbestos Report

Building #: 807033		Building Name: CCGS Earl Grey		Surveyor:		Survey Date:											
Reassessment		Reassessment Surveyor: Julia King															
Date:2014-06-04																	
Location #: 66		Location Name: Wheelhouse Top		Floor: Bridge		Room #:		Square ft:									
Observ. #	System	Component	Material	Item	Covering	Access	Visible	Condition, Quantity & Action						Units	Sample	Hazard	Friability
								Good		Fair		Poor					
368505	Other	Electrical Equipment	Mastic Material	Fire stop		A	Y	81	(7)			4	(3)	EA	V0002	Confirmed Asbestos	Non-Friable

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 III
SAMPLE LOCATION DRAWINGS

LEGEND:

(XX) PINCHIN LOCATION NUMBER

CLIENT:

CANADIAN COAST GUARD

PROJECT:

ASBESTOS MATERIALS
REASSESSMENT 2014

SITE ADDRESS:

CCGS EARL GREY

DRAWING NAME:

SAMPLE LOCATIONS
BOAT DECK, MAIN DECK AND
BELOW MAIN DECK

REFERENCE:

CANADIAN COAST GUARD

DATE:

JUNE 2014

PROJECT # :

01 - 02 - 00895

SCALE:

N.T.S.

FIGURE# :

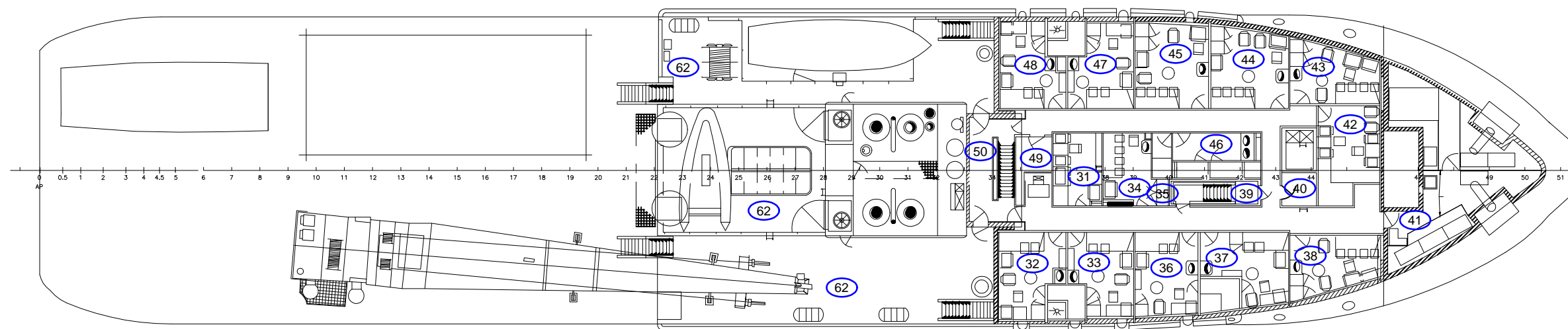
1

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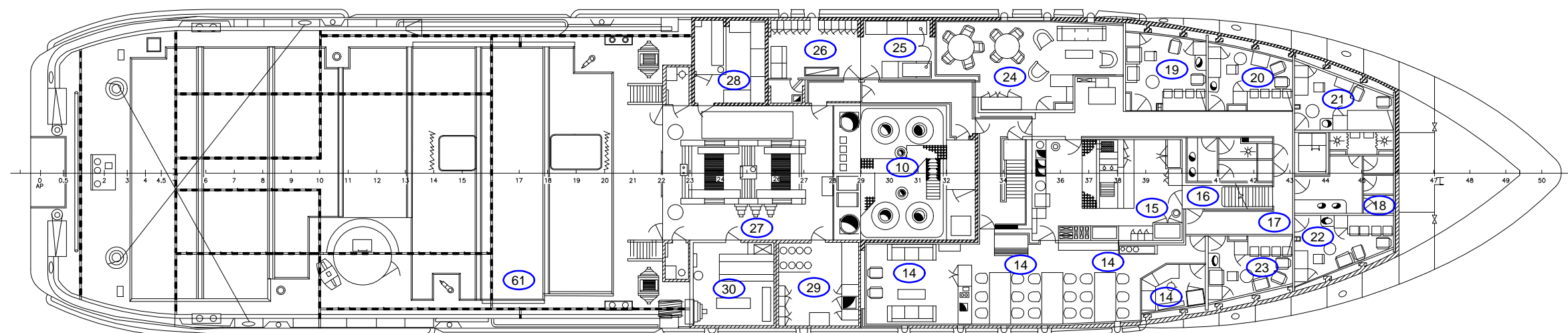
A. ANISCIKLI

CHECKED BY:

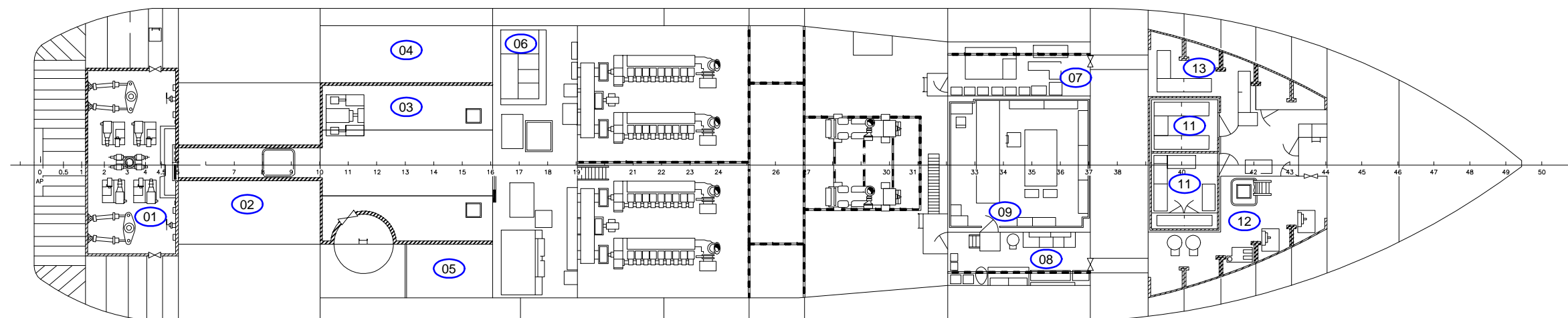
J. KING



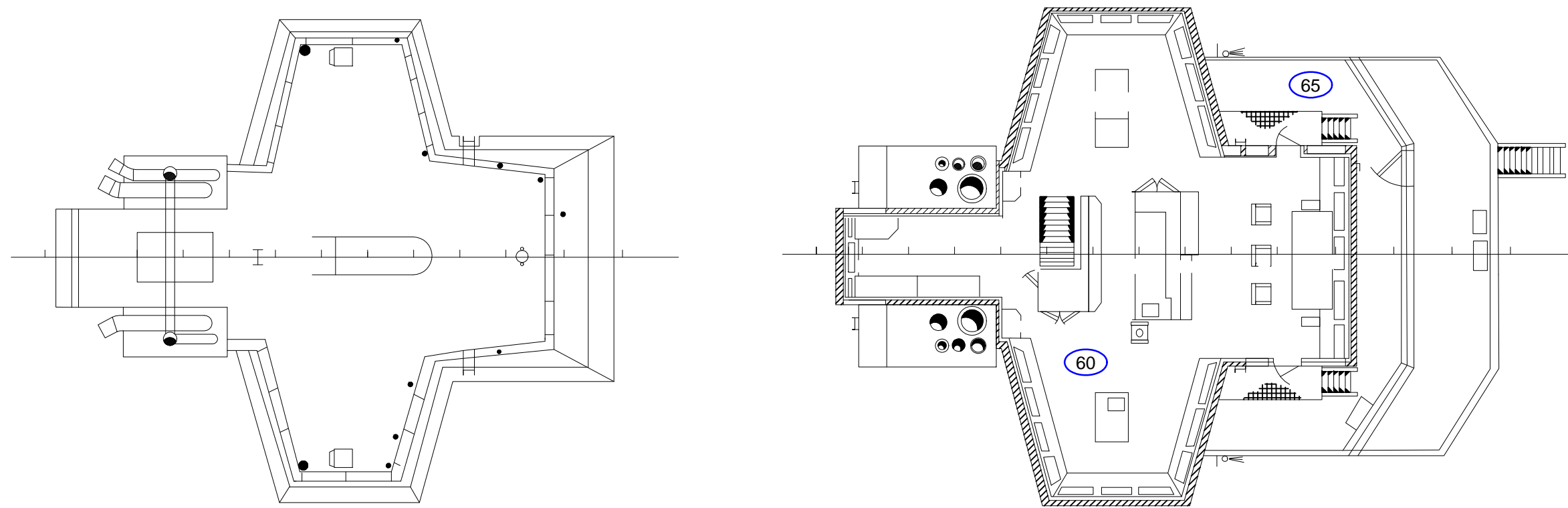
BOAT DECK



MAIN DECK

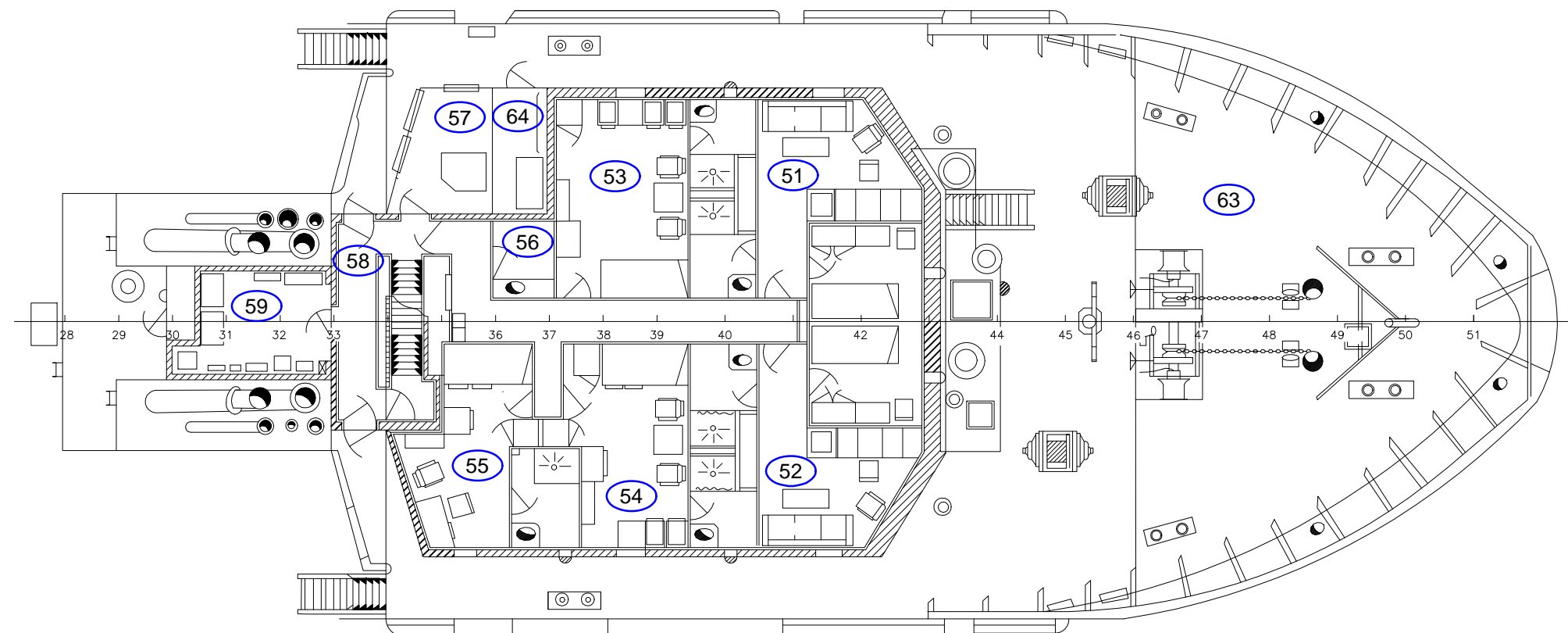


BELOW MAIN DECK



BRIDGE DECK

WHEELHOUSE FLOOR



FOCSLE DECK



LEGEND:

(XX) PINCHIN LOCATION NUMBER

CLIENT:

CANADIAN COAST GUARD

PROJECT:

ASBESTOS MATERIALS
REASSESSMENT 2014

SITE ADDRESS:

CCGS EARL GREY

DRAWING NAME:

SAMPLE LOCATIONS
BRIDGE DECK, WHEELHOUSE FLOOR,
AND FOCSLE DECK

REFERENCE:

CANADIAN COAST GUARD

DATE:

JUNE 2014

PROJECT # :

01 - 02 - 00895

SCALE:

N.T.S.

DRAWN BY:

A. ANISIKLI

CHECKED BY:

J. KING

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