



## **VOLUME II ASBESTOS CONTAINING MATERIAL & LEAD CONTAINING PAINT SURVEY REPORTS**

**VISN 1**  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 1**



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 145 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 12 of the collected samples contained asbestos greater than or equal to 1%.**
- 217 XRF analyzer measurements of building surfaces were taken in this building.
- **65 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 1 was a three-story Administration Building built in 1955 and occupied approximately 50,095 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 1			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
13A	208	Kitchen	12"x12" Light Brown Floor Tile Mastic	3% Chrysotile	100 SF	Good	4
13B							
13C							
14A	Stairwell	Stairwell Landings	12"x12" Brown Floor Tile	2% Chrysotile	200 SF	Good	4
14B	Stairwell Landing						
14C	Stairwell		12"x12" Brown Floor Tile Mastic	20% Chrysotile			4
15A	Stairwell						
15B	Stairwell Landing						
15C	Stairwell						
18A	Lobby	Lobby and vestibule - Inset Radiators	Transite Panel	40% Chrysotile	4 EA	Good	4
18B	Lobby Vestibule						
18C							
19A	Hallway	First Floor Alcove, Elevator Lobby and Central Corridor	12"x12" Tan Floor Tile	2% Chrysotile	1,900 SF	Good	4
19B	Alcove 130						
19C	Elevator Lobby		12"x12" Tan Floor Tile Mastic	10% Chrysotile		Good	4
20A	Hallway						
20B	Alcove 130						
20C	Elevator Lobby						
21A	126	Room 126 (Repro Room)	12"x12" Off-White Floor Tile	2% Chrysotile	170 SF	Good	4
21B							
21C							
23A	126	Room 126 (Repro Room) and Room 126B (Storage Room)	4" Pipe Insulation	40% Chrysotile 10% Amosite	30 LF	Good	4
23B							
23C	126B						
24A	141	Roof Drain Insulation Above Drop Ceiling	6" Pipe Insulation	5% Chrysotile	10 LF	Good	4
24B							
24C							

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 1							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
30A	147	Supply Closet	9"x9" Gray Floor Tile	10% Chrysotile	25 SF	Good	4
30B							
30C							
32A	145	Under Carpet	Sheet Flooring	25% Chrysotile	2,500 SF	Good	4
32B	138						
32C	143						
41B	Exterior - East Side	Doors	Door Frame Caulk (Old)	2.25% Chrysotile <sup>1</sup> 1.60 % Anthophyllite <sup>1</sup>	100 LF	Good	4
Footnotes: 1 – Analyzed by TEM SF – Square Feet LF – Linear Feet EA – Each							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 1							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
221	Second	CR202	Metal Door Casing	North	Fair	White	0.11
222	Second	CR202	Metal Ladder	North	Fair	Black	5
224	Second	CR202	Plaster Column	North	Fair	White	0.7
238	Second	204	Wood Door	West	Intact	Beige	3.5
244	Second	202	Plaster Wall	West	Intact	White	0.7
255	Second	211B	Metal Privacy Partition	North	Fair	Blue	0.5
257	Second	211B	Plaster Wall	South	Intact	Blue	0.6
267	Second	ST-1A-201	Plaster Wall	South	Intact	Pink	0.24
268	Second	ST-1A-201	Metal Window Sill	East	Fair	White	0.16
270	Second	ST-1A-201	Plaster Wall	East	Cracked	White	0.3
271	Second	ST-1A-201	Plaster Wall	East	Cracked	White	0.4
274	First	ST-1A-101	Plaster Wall	North	Cracked	White	0.4
275	First	ST-1A-101	Plaster Wall	South	Fair	Blue	0.21
276	First	ST-1A-101	Metal Door Casing	South	Fair	Blue	0.15
298	First	171	Metal Window Casing	West	Intact	Beige	0.7
303	First	171D	Metal Window Sash	West	Intact	Brown	0.3
311	First	171	Metal Door Casing	North	Intact	Green	0.14
317	First	171	Plaster Wall	North	Intact	Multi	0.14

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 1							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
321	First	171R	Plaster Wall	North	Fair	Pink	0.13
322	First	171R	Metal Door Casing	North	Fair	Beige	0.12
325	First	158	Metal Radiator	East	Intact	White	0.14
327	First	158	Metal Window Sash	East	Intact	Brown	0.3
328	First	158	Metal Window Sill	East	Intact	White	0.12
335	First	126	Wood Door Casing	East	Fair	Green	6.5
336	First	126	Wood Door	East	Fair	Green	4.6
338	First	126	Metal Door	North	Intact	Green	0.12
348	First	105	Plaster Ceiling	Ceiling	Poor	Beige	0.5
350	First	105	Plaster Wall	North	Intact	Blue	0.6
354	First	CR102	Plaster Wall	West	Intact	White	0.11
362	First	CR103	Plaster Wall	South	Fair	White	0.11
366	First	CR103	Metal Door Casing	South	Intact	White	0.23
367	First	142 Vestibule	Wood Door Casing	East	Fair	White	7.2
368	First	142 Vestibule	Wood Door Casing	East	Fair	White	4.2
369	First	142 Vestibule	Wood Door	East	Fair	Gray	3.1
374	Basement	004C	Wood Door	North	Intact	White	0.14
386	Basement	004G	Metal Pipe	North	Intact	Gray	0.29
387	Basement	004G	Metal Door Casing	West	Poor	Gray	0.22
397	Basement	004H	Concrete Floor	Floor	Intact	Gray	0.17
407	Basement	1	Concrete Floor	Floor	Intact	Yellow	0.21
417	Basement	7	Concrete Wall	East	Intact	White	0.5
425	Basement	Corridor Outside 008	Plaster Wall	East	Intact	White	0.29
428	Basement	Corridor Outside 007	Plaster Ceiling	Ceiling	Intact	White	0.4
429	Exterior	Exterior	Concrete Trim	East	Fair	Yellow	7.7
430	Exterior	Exterior	Metal Handrail	East	Poor	Brown	6.2
431	Exterior	Exterior	Wood Door	East	Poor	Brown	15
432	Exterior	Exterior	Metal Safety Gate	East	Poor	Black	13.6
433	Exterior	Exterior	Metal Safety Gate	East	Poor	Black	8.9
434	Exterior	Exterior	Metal Handrail	East	Poor	Black	10.2
435	Exterior	Exterior	Metal Grill Cover	North	Fair	Brown	3.8
436	Exterior	Exterior	Wood Door	East	Poor	Brown	18.8



Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 1							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
437	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	22
438	Exterior	Exterior	Metal Ladder	East	Intact	Black	2.9
448	Basement	2	Concrete Wall	South	Intact	White	0.6
449	Basement	2	Concrete Window Sill	South	Intact	White	0.6
452	Basement	005B	Metal Pipe	South	Poor	Gray	0.4
457	Basement	6	Metal Handrail	North	Poor	Black	5.5
460	Basement	6	Metal Ladder	North	Intact	White	1.2

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

## 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 1</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	2,395 SF
Sheet Flooring and/or Mastic	2,500 SF
Pipe Insulation	40 LF
Door Caulking	100 LF
Transite Panel at Radiators	4 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	202A	-	Yellow Carpet Adhesive	NAD	-	-	-
1B	211	-	Yellow Carpet Adhesive	NAD	-	-	-
1C	172	-	Yellow Carpet Adhesive	NAD	-	-	-
2A	211	-	6" Gray Cove Base Adhesive	NAD	-	-	-
2B	156	-	6" Gray Cove Base Adhesive	NAD	-	-	-
2C	149	-	6" Gray Cove Base Adhesive	NAD	-	-	-
3A	209	-	6" Black Cove Base Adhesive	NAD	-	-	-
3B	112	-	6" Black Cove Base Adhesive	NAD	-	-	-
3C	113	-	6" Black Cove Base Adhesive	NAD	-	-	-
4A	202	-	2'x2' Ceiling Tile	NAD	-	-	-
4B	Hallway RM 151C	-	2'x2' Ceiling Tile	NAD	-	-	-
4C	Hallway RM 156	-	2'x2' Ceiling Tile	NAD	-	-	-
5A	208	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-
5B	126	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5C	152A	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-
6A	202	-	Drywall	NAD	-	-	-
6B	202	-	Drywall	NAD	-	-	-
6C	156A	-	Drywall	NAD	-	-	-
6D	Elevator Lobby	-	Drywall	NAD	-	-	-
6E	004G	-	Drywall	NAD	-	-	-
6F	004B	-	Drywall	NAD	-	-	-
6G	3	-	Drywall	NAD	-	-	-
7A	202	-	Joint Compound	NAD	-	-	-
7B	202	-	Joint Compound	NAD	-	-	-
7C	156A	-	Joint Compound	NAD	-	-	-
7D	Elevator Lobby	-	Joint Compound	NAD	-	-	-
7E	004G	-	Joint Compound	NAD	-	-	-
7F	004B	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
7G	3	-	Joint Compound	NAD	-	-	-
8A	211	-	Base Coat Wall Plaster	NAD	-	-	-
8B	Hallway	-	Base Coat Wall Plaster	NAD	-	-	-
8C	152	-	Base Coat Wall Plaster	NAD	-	-	-
8D	141	-	Base Coat Wall Plaster	NAD	-	-	-
8E	127	-	Base Coat Wall Plaster	NAD	-	-	-
8F	Elevator Lobby	-	Base Coat Wall Plaster	NAD	-	-	-
8G	171P	-	Base Coat Wall Plaster	NAD	-	-	-
9A	211	-	Skim Coat Wall Plaster	NAD	-	-	-
9B	Hallway	-	Skim Coat Wall Plaster	NAD	-	-	-
9C	152	-	Skim Coat Wall Plaster	NAD	-	-	-
9D	141	-	Skim Coat Wall Plaster	NAD	-	-	-
9E	127	-	Skim Coat Wall Plaster	NAD	-	-	-
9F	Elevator Lobby	-	Skim Coat Wall Plaster	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
9G	171P	-	Skim Coat Wall Plaster	NAD	-	-	-
10A	211	-	12"x12" Gray Floor Tile	NAD	-	-	-
10B	157	-	12"x12" Gray Floor Tile	NAD	-	-	-
10C	122A	-	12"x12" Gray Floor Tile	NAD	-	-	-
11A	211	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
11B	157	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
11C	122A	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
12A	208	-	12"x12" Light Brown Floor Tile	NAD	-	-	-
12B	208	-	12"x12" Light Brown Floor Tile	NAD	-	-	-
12C	208	-	12"x12" Light Brown Floor Tile	NAD	-	-	-
13A	208	Room 208 (Kitchen)	12"x12" Light Brown Floor Tile Mastic	3% Chrysotile	100 SF	Good	4
13B	208	Room 208 (Kitchen)	12"x12" Light Brown Floor Tile Mastic	Stop Positive See 13A			
13C	208	Room 208 (Kitchen)	12"x12" Light Brown Floor Tile Mastic	Stop Positive See 13A			
14A	Stairwell	Stairwell and Landings	12"x12" Brown Floor Tile	2% Chrysotile	200 SF	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
14B	Stairwell Landing	Stairwell and Landings	12"x12" Brown Floor Tile	Stop Positive See 14A			
14C	Stairwell	Stairwell and Landings	12"x12" Brown Floor Tile	Stop Positive See 14A			
15A	Stairwell	Stairwell and Landings	12"x12" Brown Floor Tile Mastic	20% Chrysotile	200 SF	Good	4
15B	Stairwell Landing	Stairwell and Landings	12"x12" Brown Floor Tile Mastic	Stop Positive See 15A			
15C	Stairwell	Stairwell and Landings	12"x12" Brown Floor Tile Mastic	Stop Positive See 15A			
16A	211A	-	Brown Window Caulk	NAD	-	-	-
16B	118	-	Brown Window Caulk	NAD	-	-	-
16C	156A	-	Brown Window Caulk	NAD	-	-	-
17A	202	-	Black Damp Proofing	NAD	-	-	-
17B	116	-	Black Damp Proofing	NAD	-	-	-
17C	141	-	Black Damp Proofing	NAD	-	-	-
18A	Lobby	Lobby and Vestibule - Inset Radiators	Transite Panel	40% Chrysotile	4 EA	Good	4
18B	Lobby Vestibule	Lobby and Vestibule - Inset Radiators	Transite Panel	Stop Positive See 18A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
18C	Lobby Vestibule	Lobby and Vestibule - Inset Radiators	Transite Panel	Stop Positive See 18A			
19A	Hallway	First Floor Alcove, Elevator Lobby and Center Corridor	12"x12" Tan Floor Tile	2% Chrysotile	1,900 SF	Good	4
19B	Alcove 130		12"x12" Tan Floor Tile	Stop Positive See 19A			
19C	Elevator Lobby		12"x12" Tan Floor Tile	Stop Positive See 19A			
20A	Hallway	First Floor Alcove, Elevator Lobby and Center Corridor	12"x12" Tan Floor Tile Mastic	10% Chrysotile	1,900 SF	Good	4
20B	Alcove 130		12"x12" Tan Floor Tile Mastic	Stop Positive See 20A			
20C	Elevator Lobby		12"x12" Tan Floor Tile Mastic	Stop Positive See 20A			
21A	126	Room 126 - Repro Room	12"x12" Off-White Floor Tile	2% Chrysotile	170 SF	Good	4
21B	126	Room 126 - Repro Room	12"x12" Off-White Floor Tile	Stop Positive See 21A			
21C	126	Room 126 - Repro Room	12"x12" Off-White Floor Tile	Stop Positive See 21A			
22A	126	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-
22B	126	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-
22C	126	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
23A	126	Room 126 - Repro Room and Room 126B - Storage Room	4" Pipe Insulation	40% Chrysotile 10% Amosite	30 LF	Good	4
23B	126		4" Pipe Insulation	Stop Positive See 23A			
23C	126B		4" Pipe Insulation	Stop Positive See 23A			
24A	141	Roof Drain Insulation Above Ceiling	6" Pipe Insulation	5% Chrysotile	10LF	Good	4
24B	141	Roof Drain Insulation Above Ceiling	6" Pipe Insulation	Stop Positive See 24A			
24C	141	Roof Drain Insulation Above Ceiling	6" Pipe Insulation	Stop Positive See 24A			
25A	108	-	1'x1' Ceiling Tile	NAD	-	-	-
25B	112	-	1'x1' Ceiling Tile	NAD	-	-	-
25C	Entry Lobby	-	1'x1' Ceiling Tile	NAD	-	-	-
26A	Stairwell	-	Ceiling Plaster Base Coat	NAD	-	-	-
26B	104	-	Ceiling Plaster Base Coat	NAD	-	-	-
26C	153	-	Ceiling Plaster Base Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
27A	Stairwell	-	Ceiling Plaster Finish Coat	NAD	-	-	-
27B	104	-	Ceiling Plaster Finish Coat	NAD	-	-	-
27C	153	-	Ceiling Plaster Finish Coat	NAD	-	-	-
28A	151B	-	2'x4' Ceiling Tile	NAD	-	-	-
28B	151A	-	2'x4' Ceiling Tile	NAD	-	-	-
28C	151C	-	2'x4' Ceiling Tile	NAD	-	-	-
29A	126	-	2'x2' Ceiling Tile Rough	NAD	-	-	-
29B	126	-	2'x2' Ceiling Tile Rough	NAD	-	-	-
29C	126	-	2'x2' Ceiling Tile Rough	NAD	-	-	-
30A	147	Room 147 - Supply Closet	9"x9" Gray Floor Tile	10% Chrysotile	25 SF	Good	4
30B	147	Room 147 - Supply Closet	9"x9" Gray Floor Tile	Stop Positive See 30A			
30C	147	Room 147 - Supply Closet	9"x9" Gray Floor Tile	Stop Positive See 30A			
31A	147	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
31B	147	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
31C	147	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
32A	145	First Floor Center Offices Under Carpet	Sheet Flooring	25% Chrysotile	2,500 SF	Good	4
32B	138		Sheet Flooring	Stop Positive See 32A			
32C	143		Sheet Flooring	Stop Positive See 32A			
33A	145	-	Sheet Flooring Adhesive	NAD	-	-	-
33B	138	-	Sheet Flooring Adhesive	NAD	-	-	-
33C	143	-	Sheet Flooring Adhesive	NAD	-	-	-
34A	008C	-	Textured Wall Material	NAD	-	-	-
34B	008C	-	Textured Wall Material	NAD	-	-	-
34C	008C	-	Textured Wall Material	NAD	-	-	-
35A	Crawl Space North	-	Felt Paper	NAD	-	-	-
35B	Crawl Space South	-	Felt Paper	NAD	-	-	-
35C	Crawl Space West	-	Felt Paper	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
36A	6	-	Fire Stop	NAD	-	-	-
36B	6	-	Fire Stop	NAD	-	-	-
36C	6	-	Fire Stop	NAD	-	-	-
37A	Basement Hallway North Side	-	12"x12" Gray Floor Tile (type 2)	NAD	-	-	-
37B	Elevator Lobby	-	12"x12" Gray Floor Tile (type 2)	NAD	-	-	-
37C	Basement Hallway West Side	-	12"x12" Gray Floor Tile (type 2)	NAD	-	-	-
38A	Basement Hallway North Side	-	12"x12" Gray Floor Tile (type 2) Mastic	Trace <sup>1</sup>	-	-	-
38B	Basement Hallway - North Side	-	12"x12" Gray Floor Tile (type 2) Mastic	Trace <sup>1</sup>	-	-	-
38C	Basement Hallway West Side	-	12"x12" Gray Floor Tile (type 2) Mastic	NAD	-	-	-
39A	Crawl Space North	-	Duct Sealant	NAD	-	-	-
39B	Crawl Space North	-	Duct Sealant	NAD	-	-	-
39C	Crawl Space North	-	Duct Sealant	NAD	-	-	-
40A	Exterior East Side	-	Window Frame Caulk	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 1**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
40B	Exterior North Side	-	Window Frame Caulk	NAD	-	-	-
40C	Exterior West Side	-	Window Frame Caulk	NAD	-	-	-
41A	Exterior East Side	-	Door Frame Caulk (Old)	NAD	-	-	-
41B	Exterior East Side	Doors	Door Frame Caulk (Old)	2.25% Chrysotile <sup>1</sup> 1.60% Anthophyllite <sup>1</sup>	100 LF	Good	4
41C	Exterior South Side	-	Door Frame Caulk (Old)	NAD	-	-	-
42A	Exterior East Side	-	Door Frame Caulk (New)	NAD	-	-	-
42B	Exterior North Side	-	Door Frame Caulk (New)	NAD	-	-	-
42C	Exterior West Side	-	Door Frame Caulk (New)	NAD	-	-	-
43A	Exterior South Side	-	Expansion Joint Caulk	NAD	-	-	-
43B	Exterior South Side	-	Expansion Joint Caulk	NAD	-	-	-
43C	Exterior South Side	-	Expansion Joint Caulk	NAD	-	-	-
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet			



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
209	Second	Elevator Lobby 205	Drywall Wall	East	Intact	Gray	0
210	Second	Elevator Lobby 205	Metal Radiator	East	Fair	Gray	0
211	Second	Elevator Lobby 205	Metal Handrail	East	Fair	Brown	0
213	Second	Elevator Lobby 205	Metal Window Casing	East	Intact	Brown	0
214	Second	Elevator Lobby 205	Metal Door	East	Intact	Brown	0
215	Second	CR202	Drywall Wall	East	Intact	Gray	0
216	Second	CR202	Wood Door	North	Intact	Red	0.03
217	Second	CR202	Metal Door Casing	North	Intact	White	0.05
218	Second	FC201	Plaster Wall	East	Intact	Red	0.08
219	Second	CR202	Metal Door	North	Fair	Gray	0.01
220	Second	CR202	Metal Door	North	Fair	Gray	0
221	Second	CR202	Metal Door Casing	North	Fair	White	0.11
222	Second	CR202	Metal Ladder	North	Fair	Black	5
223	Second	CR202	Wood Wall	Upper	Fair	Beige	0.05
224	Second	CR202	Plaster Column	North	Fair	White	0.7
225	Second	CR202	Plaster Wall	North	Fair	White	0.05
232	Second	201	Metal Door Casing	East	Intact	White	0
235	Second	201	Drywall Wall	East	Intact	White	0
236	Second	204	Drywall Wall	East	Intact	Pink	0.06
237	Second	204	Metal Door Casing	West	Intact	Pink	0
238	Second	204	Wood Door	West	Intact	Beige	3.5
239	Second	201	Wood Door	East	Intact	Clear	0
240	Second	CR201	Plaster Wall	East	Intact	White	0.03
241	Second	202	Plaster Window Casing	West	Fair	White	0.05
242	Second	202	Wood Window Sill	West	Fair	White	0.1
243	Second	202	Metal Radiator	West	Fair	White	0.05
244	Second	202	Plaster Wall	West	Intact	White	0.7
245	Second	202A	Plaster Column	East	Intact	White	0
246	Second	202	Drywall Wall	North	Intact	White	0
247	Second	202	Metal Door Casing	North	Intact	White	0
248	Second	202	Wood Door Casing	North	Intact	Clear	0
249	Second	202B	Drywall Wall	East	Intact	White	0
252	Second	211A	Plaster Wall	West	Cracked	White	0.06
253	Second	211A	Plaster Window Sill	West	Cracked	White	0.05
254	Second	211A	Metal Radiator	South	Cracked	White	0.02
255	Second	211B	Metal Privacy Partition	North	Fair	Blue	0.5
257	Second	211B	Plaster Wall	South	Intact	Blue	0.6
258	Second	211B	Plaster Window Sill	South	Fair	Blue	0.06
260	Second	211B	Metal Door Casing	West	Intact	Beige	0.03
261	Second	210A	Metal Door Casing	West	Intact	Yellow	0.08

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
262	Second	CR201	Drywall Wall	South	Intact	White	0
263	Second	208A	Plaster Ceiling	Na	Peeling	Yellow	0.06
264	Second	208	Plaster Wall	East	Intact	White	0
267	Second	ST-1A-201	Plaster Wall	South	Intact	Pink	0.24
268	Second	ST-1A-201	Metal Window Sill	East	Fair	White	0.16
269	Second	ST-1A-201	Metal Wall	East	Intact	White	0.07
270	Second	ST-1A-201	Plaster Wall	East	Cracked	White	0.3
271	Second	ST-1A-201	Plaster Wall	East	Cracked	White	0.4
273	Second	ST-1A-201	Plaster Wall	East	Cracked	Black	0.03
274	First	ST-1A-101	Plaster Wall	North	Cracked	White	0.4
275	First	ST-1A-101	Plaster Wall	South	Fair	Blue	0.21
276	First	ST-1A-101	Metal Door Casing	South	Fair	Blue	0.15
277	First	ST-1A-101	Metal Door	East	Poor	Blue	0
278	First	130 ALCOVE	Metal Floor	North	Poor	Red	0
279	First	130 ALCOVE	Metal Wall	North	Intact	White	0.08
281	First	130 ALCOVE	Plaster Wall	North	Fair	White	0.09
282	First	130 ALCOVE	Metal Radiator	East	Fair	Gray	0.09
284	First	171A	Metal Radiator	North	Intact	White	0.01
285	First	171A	Metal Window Sill	North	Intact	Multi	0.03
286	First	171A	Plaster Wall	West	Intact	Multi	0.01
287	First	171A	Plaster Column	West	Intact	Multi	0
289	First	171A	Wood Door	East	Intact	Clear	0.02
290	First	171A	Metal Door Casing	East	Intact	Clear	0.03
292	First	171	Wood Trim	West	Intact	Beige	0
293	First	171	Wood Door	North	Intact	Beige	0.02
294	First	171	Wood Door Casing	North	Intact	Beige	0.05
296	First	171	Metal Door Casing	West	Fair	Beige	0.08
297	First	171	Wood Wall	West	Intact	Clear	0
298	First	171	Metal Window Casing	West	Intact	Beige	0.7
299	First	171D	Metal Wall	West	Intact	White	0
300	First	171	Metal Door Casing	North	Intact	Green	0
301	First	171D	Metal Wall	West	Intact	White	0
302	First	171D	Plaster Wall	South	Intact	Multi	0.01
303	First	171D	Metal Window Sash	West	Intact	Brown	0.3
304	First	171D	Metal Window Casing	West	Intact	Brown	0.01
305	First	171	Wood Wall	North	Intact	Clear	0
306	First	171	Wood Door Casing	North	Intact	Green	0
307	First	171	Wood Trim	North	Intact	Clear	0
308	First	171B	Metal Radiator	South	Intact	Green	0.01
309	First	171B	Metal Window Casing	South	Intact	Brown	0.03
310	First	171	Metal Radiator	North	Intact	Beige	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
311	First	171	Metal Door Casing	North	Intact	Green	0.14
313	First	FC104	Plaster Wall	West	Intact	Red	0.06
314	First	FC104	Wood Shelf	North	Intact	Red	0.01
315	First	FC104	Wood Door	South	Intact	Red	0.04
316	First	171	Wood Door	North	Intact	Green	0.05
317	First	171	Plaster Wall	North	Intact	Multi	0.14
318	First	171H	Metal Door	East	Fair	Beige	0
319	First	171H	Metal Door	East	Fair	Beige	0
320	First	171R	Plaster Wall	West	Fair	Beige	0.09
321	First	171R	Plaster Wall	North	Fair	Pink	0.13
322	First	171R	Metal Door Casing	North	Fair	Beige	0.12
323	First	171R	Wood Cabinet	North	Intact	Clear	0
324	First	158	Plaster Wall	East	Intact	White	0.01
325	First	158	Metal Radiator	East	Intact	White	0.14
326	First	158	Metal Window Casing	East	Fair	Brown	0.1
327	First	158	Metal Window Sash	East	Intact	Brown	0.3
328	First	158	Metal Window Sill	East	Intact	White	0.12
329	First	CR102	Metal Door Casing	East	Intact	White	0.07
330	First	CR102	Wood Door	East	Intact	Clear	0.01
331	First	CR102	Metal Window Casing	East	Intact	Gray	0
332	First	172	Plaster Wall	West	Intact	White	0.06
333	First	173	Metal Door Casing	West	Fair	White	0
335	First	126	Wood Door Casing	East	Fair	Green	6.5
336	First	126	Wood Door	East	Fair	Green	4.6
338	First	126	Metal Door	North	Intact	Green	0.12
339	First	126	Metal Door Casing	North	Fair	Green	0.07
342	First	126	Plaster Wall	North	Fair	Green	0
344	First	126A	Metal Door Casing	South	Fair	Yellow	0
348	First	105	Plaster Ceiling	Na	Poor	Beige	0.5
350	First	105	Plaster Wall	North	Intact	Blue	0.6
351	First	105	Metal Cabinet	North	Intact	Blue	0
353	First	105	Metal Door Casing	East	Poor	Blue	0.04
354	First	CR102	Plaster Wall	West	Intact	White	0.11
355	First	CR102	Plaster Wall	East	Intact	White	0
356	First	CR102	Metal Door	North	Intact	Gray	0
357	First	122	Plaster Wall	East	Fair	Pink	0.04
358	First	CR102	Metal Floor	Na	Poor	Blue	0
359	First	CR102	Wood Tack Board	East	Fair	White	0
362	First	CR103	Plaster Wall	South	Fair	White	0.11
363	First	L46	Plaster Wall	South	Fair	White	0.05
364	First	L46	Metal Privacy Partition	North	Intact	White	0.08
365	First	CR103	Wood Door	South	Intact	Clear	0.01
366	First	CR103	Metal Door Casing	South	Intact	White	0.23

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
367	First	142 Vestibule	Wood Door Casing	East	Fair	White	7.2
368	First	142 Vestibule	Wood Door Casing	East	Fair	White	4.2
369	First	142 Vestibule	Wood Door	East	Fair	Gray	3.1
370	First	CR103	Metal Floor	Na	Fair	Blue	0.01
372	Basement	004F	Concrete Wall	North	Peeling	White	0.01
373	Basement	004F	Concrete Window Sill	North	Cracked	White	0.01
374	Basement	004C	Wood Door	North	Intact	White	0.14
375	Basement	004C	Metal Door Casing	North	Fair	White	0.04
377	Basement	004G	Wood Door	East	Intact	Yellow	0.01
378	Basement	004G	Wood Door Casing	West	Fair	Yellow	0
379	Basement	004H	Concrete Wall	South	Intact	Yellow	0.01
382	Basement	004H	Metal Beam	Na	Intact	White	0.02
383	Basement	004H	Wood Ceiling	Na	Intact	White	0
384	Basement	004H	Wood Ceiling	Na	Intact	White	0
385	Basement	004H	Metal Radiator	West	Intact	Gray	0.02
386	Basement	004G	Metal Pipe	North	Intact	Gray	0.29
387	Basement	004G	Metal Door Casing	West	Poor	Gray	0.22
388	Basement	004G	Metal Door	West	Poor	Green	0.06
389	Basement	004C	Metal Door Casing	East	Poor	Beige	0.04
390	Basement	ST-2A-001	Metal Door	South	Intact	Yellow	0.01
391	Basement	ST-2A-001	Concrete Wall	East	Intact	Yellow	0
392	Basement	ST-2A-001	Metal Door Casing	South	Intact	Yellow	0
393	Basement	ST-2A-001	Metal Door	South	Intact	Brown	0
395	Basement	ST-2A-001	Brick Wall	North	Intact	Brown	0.01
397	Basement	004H	Concrete Floor	Na	Intact	Gray	0.17
398	Basement	004C	Wood Trim	East	Intact	Gray	0.01
399	Basement	4	Drywall Wall	South	Intact	Blue	0.06
400	Basement	4	Metal Door Casing	South	Intact	Beige	0.07
401	Basement	4	Wood Door	South	Intact	Clear	0
402	Basement	4	Metal Door	West	Poor	Beige	0.02
404	Basement	Corridor Outside 005B	Plaster Wall	South	Intact	Multi	0.06
405	Basement	Corridor Outside 003	Plaster Wall	East	Intact	White	0.07
406	Basement	3	Concrete Wall	South	Intact	White	0
407	Basement	1	Concrete Floor	Na	Intact	Yellow	0.21
408	Basement	001B	Brick Wall	West	Intact	White	0.02
409	Basement	001B	Concrete Column	West	Intact	White	0.01
410	Basement	001C	Wood Door	East	Intact	White	0.14
411	Basement	012B	Drywall Wall	North	Intact	Beige	0
412	Basement	012B	Drywall Wall	West	Fair	Green	0
415	Basement	008D	Drywall Wall	East	Intact	White	0
416	Basement	008C	Concrete Floor	Na	Intact	Gray	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
417	Basement	7	Concrete Wall	East	Intact	White	0.5
418	Basement	Corridor Outside 007	Wood Door	East	Intact	Gray	0.03
419	Basement	Corridor Outside 007	Metal Door Casing	East	Intact	Gray	0.09
420	Basement	Corridor Outside 008c	Plaster Wall	West	Intact	White	0.03
421	Basement	Corridor Outside 008c	Plaster Wall	West	Intact	Gray	0.04
423	Basement	Corridor Outside 008	Wood Door	East	Fair	Gray	0.05
424	Basement	Corridor Outside 008	Metal Door Casing	East	Fair	White	0.03
425	Basement	Corridor Outside 008	Plaster Wall	East	Intact	White	0.29
426	Basement	Corridor Outside 008B	Metal Door	West	Intact	White	0.05
427	Basement	Corridor Outside 008B	Metal Door Casing	East	Intact	White	0.03
428	Basement	Corridor Outside 007	Plaster Ceiling	Na	Intact	White	0.4
429	Exterior	Exterior	Concrete Trim	East	Fair	Yellow	7.7
430	Exterior	Exterior	Metal Handrail	East	Poor	Brown	6.2
431	Exterior	Exterior	Wood Door	East	Poor	Brown	15
432	Exterior	Exterior	Metal Safety Gate	East	Poor	Black	13.6
433	Exterior	Exterior	Metal Safety Gate	East	Poor	Black	8.9
434	Exterior	Exterior	Metal Handrail	East	Poor	Black	10.2
435	Exterior	Exterior	Metal Grill Cover	North	Fair	Brown	3.8
436	Exterior	Exterior	Wood Door	East	Poor	Brown	18.8
437	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	22
438	Exterior	Exterior	Metal Ladder	East	Intact	Black	2.9
439	Exterior	Exterior	Metal Column	East	Intact	Gray	0
447	Basement	2	Drywall Wall	East	Intact	White	0
448	Basement	2	Concrete Wall	South	Intact	White	0.6
449	Basement	2	Concrete Window Sill	South	Intact	White	0.6
450	Basement	2	Metal Radiator	South	Intact	White	0
451	Basement	005B	Concrete Floor	Na	Fair	Gray	0
452	Basement	005B	Metal Pipe	South	Poor	Gray	0.4
453	Basement	5	Concrete Wall	South	Intact	White	0
456	Basement	005A	Concrete Floor	Na	Poor	Red	0
457	Basement	6	Metal Handrail	North	Poor	Black	5.5
458	Basement	6	Concrete Stringer	West	Intact	Gray	0
459	Basement	6	Concrete Riser	North	Intact	Gray	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 1**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
460	Basement	6	Metal Ladder	North	Intact	White	1.2
461	Basement	6	Metal Door	North	Intact	White	0.07
462	Basement	008F	Metal Door Casing	North	Poor	Multi	0.04
463	Basement	8	Plaster Wall	South	Intact	Blue	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM





Mastic Associated with 12"x12" Light Brown Floor Tile, Sample 13A



12"x12" Brown Floor Tile and Mastic, Samples 14A, 15A



Transite Covering Inside Heater, Sample 18A



12"x12" Tan Floor Tile and Mastic, Samples 19A, 20A



12"x12" Off White Floor Tile, Sample 21A



4" Pipe Insulation Above Ceiling, Sample 23A



6" Pipe Insulation, Sample 24A



9"x9" Gray Floor Tile, Sample 30A





Sheet Flooring Under Carpet, Sample 32A



Old Door Frame Caulk, Sample 41B

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal ladder, Reading 222



Concrete Trim and Metal Handrail, Readings 429 and 430



Metal Safety Gate, Reading 432 and 433



Metal Grill Cover, Reading 435





Metal Handrail, Reading 457

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 2**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 132 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 3 of the collected samples contained asbestos greater than or equal to 1%.**
- 144 XRF analyzer measurements of building surfaces were taken in this building.
- **39 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 2 was a five-story Inpatient Psychiatry Building built in 1955 and occupied approximately 183,100 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 2			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.



Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 2							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
18A	Basement	Tunnel between Bldg 2 and 3	9"x9" Gray Floor Tile	43.49% Chrysotile <sup>1</sup>	1,200 SF	Good	4
18B							
18C							
19A	Basement	Tunnel between Bldg 2 and 3	9"x9" Gray Floor Tile Mastic	10% Chrysotile		Good	4
19B							
19C							
29A	A-105	Room A105 and adjacent Hallway	12"x12" Green Floor Tile	2% Chrysotile	600 SF	Good	4
29B	Hallway						
Footnotes: 1 – Analyzed by TEM							
SF – Square feet							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 2							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1242	Basement	A-015	Metal Door Casing	North	Intact	Pink	0.21
1247	Basement	FC-B-001	Wood Door	East	Intact	Red	3.4
1251	Basement	Stair 2-2	Metal Handrail	East	Fair	Black	4.3
1253	Basement	S1-02	Metal Handrail	East	Poor	Gray	3.9
1265	Penthouse	C	Brick Wall (Exterior)	East	Poor	Yellow	1.7
1267	Penthouse	C	Metal Handrail	West	Poor	Black	9.7
1269	Penthouse	C	Wood Window Casing	East	Poor	Yellow	4
1270	Penthouse	C	Metal Handrail	West	Poor	Black	2.5
1271	Penthouse	C	Concrete Wall (Interior)	West	Intact	Yellow	0.18
1278	Basement	A004	Wood Door	East	Intact	White	2.9
1279	Basement	A004	Wood Door Casing	East	Intact	Pink	5.7
1280	Basement	C-010C	Wood Door Casing	South	Intact	Pink	9.5
1281	Basement	C-010C	Wood Door	South	Intact	White	2.5
1285	Basement	St-3-C-001	Plaster Wall (Interior)	East	Intact	White	0.5
1334	First	Stair 1-2	Plaster Wall (Interior)	South	Intact	White	0.4
1342	Second	FC-C-201	Plaster Wall (Interior)	West	Intact	Red	0.6

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 2							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1346	Second	A-217	Drywall Wall (Exterior)	South	Intact	Blue	0.19
1356	Third	A-316	Drywall Wall (Exterior)	South	Intact	Blue	0.13
1363	Third	Stair 2-2	Metal Handrail	North	Intact	Black	2.2
1368	Third	FC-B-301	Plaster Wall (Interior)	East	Intact	Red	0.12
1380	Fifth	ST-4D-501 Penthouse	Brick Wall (Exterior)	North	Poor	Yellow	0.6
1381	Fifth	ST-4D-501 Penthouse	Brick Wall (Exterior)	West	Poor	Yellow	0.19
1386	Fourth	A-405	Plaster Wall (Interior)	North	Intact	Green	2.4
1390	Fourth	A-406	Plaster Column	North	Fair	Green	1.6
1391	Fourth	A-406	Plaster Wall (Exterior)	East	Intact	White	2
1392	Fourth	Corridor Outside A-411	Plaster Wall (Interior)	South	Poor	White	0.4
1393	Fourth	A-411	Plaster Wall (Interior)	South	Intact	Green	0.4
1394	Fourth	A-411	Metal Door Casing	West	Intact	White	0.11
1397	Fourth	Stair 1-2	Metal Security Gate	East	Fair	White	2.3
1398	Fourth	PHA-02	Concrete Column	North	Fair	Yellow	0.5
1399	Fourth	PHA-02	Concrete Wall (Interior)	North	Fair	Yellow	0.4
1400	Fourth	PHA-02	Metal Ladder	North	Fair	Black	0.11
1401	Fourth	PHA-02	Brick Wall (Exterior)	East	Poor	Yellow	0.4
1402	Fourth	PHA-02	Concrete Floor	Floor	Poor	Gray	0.5
1403	Fourth	PHA-02	Metal Pipe	South	Poor	Gray	0.5
1405	Exterior	Exterior	Metal Vent	West	Poor	Gray	24.4
1409	Exterior	Exterior	Wood Door	South	Poor	Brown	18.1
1412	Exterior	Exterior	Metal Handrail	South	Poor	Black	3.6
1413	Exterior	Exterior	Metal Trim	South	Poor	Black	0.6

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos

Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 2	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	1,800 SF
SF – Square feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Hallway	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1B	C-320	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1C	Hallway	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
2A	B-004	-	2'x4' Ceiling Tile (Striped)	NAD	-	-	-
2B	B-004	-	2'x4' Ceiling Tile (Striped)	NAD	-	-	-
2C	B-004	-	2'x4' Ceiling Tile (Striped)	NAD	-	-	-
3A	B-415	-	Drywall	NAD	-	-	-
3B	C-426	-	Drywall	NAD	-	-	-
3C	C-320	-	Drywall	NAD	-	-	-
3D	Elevator Lobby	-	Drywall	NAD	-	-	-
3E	C-225	-	Drywall	NAD	-	-	-
3F	A-102	-	Drywall	NAD	-	-	-
3G	Hallway	-	Drywall	NAD	-	-	-
4A	B-415	-	Joint Compound	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
4B	C-426	-	Joint Compound	NAD	-	-	-
4C	C-320	-	Joint Compound	NAD	-	-	-
4D	Elevator Lobby	-	Joint Compound	NAD	-	-	-
4E	C-225	-	Joint Compound	NAD	-	-	-
4F	A-102	-	Joint Compound	NAD	-	-	-
4G	Hallway	-	Joint Compound	NAD	-	-	-
5A	Stairwell 1-2	-	Wall Plaster Base Coat	NAD	-	-	-
5B	Stairwell 3-2	-	Wall Plaster Base Coat	NAD	-	-	-
5C	Stairwell 2-2	-	Wall Plaster Base Coat	NAD	-	-	-
5D	Stairwell 1-2	-	Wall Plaster Base Coat	NAD	-	-	-
5E	Stairwell 3-2	-	Wall Plaster Base Coat	NAD	-	-	-
5F	Stairwell 2-1	-	Wall Plaster Base Coat	NAD	-	-	-
5G	Stairwell 3-1	-	Wall Plaster Base Coat	NAD	-	-	-
6A	Stairwell 1-2	-	Wall Plaster Skim Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6B	Stairwell 3-2	-	Wall Plaster Skim Coat	NAD	-	-	-
6C	Stairwell 2-2	-	Wall Plaster Skim Coat	NAD	-	-	-
6D	Stairwell 1-2	-	Wall Plaster Skim Coat	NAD	-	-	-
6E	Stairwell 3-2	-	Wall Plaster Skim Coat	NAD	-	-	-
6F	Stairwell 2-1	-	Wall Plaster Skim Coat	NAD	-	-	-
6G	Stairwell 3-1	-	Wall Plaster Skim Coat	NAD	-	-	-
7A	Stairwell 1-2	-	Ceiling Plaster Base Coat	NAD	-	-	-
7B	Stairwell 3-2	-	Ceiling Plaster Base Coat	NAD	-	-	-
7C	Stairwell 2-2	-	Ceiling Plaster Base Coat	NAD	-	-	-
7D	Stairwell 1-2	-	Ceiling Plaster Base Coat	NAD	-	-	-
7E	Stairwell 3-2	-	Ceiling Plaster Base Coat	NAD	-	-	-
7F	Stairwell 2-1	-	Ceiling Plaster Base Coat	NAD	-	-	-
7G	Stairwell 3-1	-	Ceiling Plaster Base Coat	NAD	-	-	-
8A	Stairwell 1-2	-	Ceiling Plaster Skim Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
8B	Stairwell 3-2	-	Ceiling Plaster Skim Coat	NAD	-	-	-
8C	Stairwell 2-2	-	Ceiling Plaster Skim Coat	NAD	-	-	-
8D	Stairwell 1-2	-	Ceiling Plaster Skim Coat	NAD	-	-	-
8E	Stairwell 3-2	-	Ceiling Plaster Skim Coat	NAD	-	-	-
8F	Stairwell 2-1	-	Ceiling Plaster Skim Coat	NAD	-	-	-
8G	Stairwell 3-1	-	Ceiling Plaster Skim Coat	NAD	-	-	-
9A	B-415	-	Red Firestop	NAD	-	-	-
9B	A-315	-	Red Firestop	NAD	-	-	-
9C	A-110	-	Red Firestop	NAD	-	-	-
10A	C-315	-	Tan Firestop	NAD	-	-	-
10B	C-005	-	Tan Firestop	NAD	-	-	-
10C	B-001A	-	Tan Firestop	NAD	-	-	-
11A	B-422	-	6" Cove Base Adhesive	NAD	-	-	-
11B	A-201	-	6" Cove Base Adhesive	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
11C	Hallway	-	6" Cove Base Adhesive	NAD	-	-	-
12A	B-416	-	4" Cove Base Adhesive	NAD	-	-	-
12B	B-419	-	4" Cove Base Adhesive	NAD	-	-	-
12C	B-004	-	4" Cove Base Adhesive	NAD	-	-	-
13A	A-415	-	Sink Coat	NAD	-	-	-
13B	C-311	-	Sink Coat	NAD	-	-	-
13C	B-210	-	Sink Coat	NAD	-	-	-
14A	PHA-02	-	Duct Seam Sealant	NAD <sup>1</sup>	-	-	-
14B	Mechanical Room B	-	Duct Seam Sealant	NAD	-	-	-
14C	C-001A	-	Duct Seam Sealant	NAD	-	-	-
15A	B-008A	-	Floor Stanchion Glue	NAD	-	-	-
15B	B-008A	-	Floor Stanchion Glue	NAD	-	-	-
15C	B-004	-	Floor Stanchion Glue	NAD	-	-	-
16A	PHA-02	-	HVAC Flex Connectors	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
16B	Mechanical Room B	-	HVAC Flex Connectors	NAD	-	-	-
16C	C-001A	-	HVAC Flex Connectors	NAD	-	-	-
17A	PHA-02	-	Stick Pin Adhesive	NAD	-	-	-
17B	Mechanical Room B	-	Stick Pin Adhesive	NAD	-	-	-
17C	Mechanical Room C	-	Stick Pin Adhesive	NAD	-	-	-
18A	Basement	Tunnel between Bldg 2 and 3	9"x9" Gray Floor Tile	43.49% Chrysotile <sup>1</sup>	1,200 SF	Good	4
18B	Basement		9"x9" Gray Floor Tile	Stop Positive See 18A			
18C	Basement		9"x9" Gray Floor Tile	Stop Positive See 18A			
19A	Basement		9"x9" Gray Floor Tile Mastic	10% Chrysotile	1,200 SF	Good	4
19B	Basement		9"x9" Gray Floor Tile Mastic	Stop Positive See 19A			
19C	Basement		9"x9" Gray Floor Tile Mastic	Stop Positive See 19A			
20A	B-405	-	Carpet Adhesive	NAD	-	-	-
20B	C-307	-	Carpet Adhesive	NAD	-	-	-
20C	C-201	-	Carpet Adhesive	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
21A	C-426	-	Ceramic Tile Adhesive	NAD	-	-	-
21B	A-209	-	Ceramic Tile Adhesive	NAD	-	-	-
21C	B-125	-	Ceramic Tile Adhesive	NAD	-	-	-
22A	C-405	-	12"x12" Beige Floor Tile	NAD	-	-	-
22B	A-315	-	12"x12" Beige Floor Tile	NAD	-	-	-
22C	A-110	-	12"x12" Beige Floor Tile	NAD	-	-	-
23A	C-405	-	12"x12" Beige Floor Tile Mastic	NAD	-	-	-
23B	A-315	-	12"x12" Beige Floor Tile Mastic	NAD	-	-	-
23C	A-110	-	12"x12" Beige Floor Tile Mastic	NAD	-	-	-
24A	B-412	-	12"x12" Gray Floor Tile	NAD <sup>1</sup>	-	-	-
24B	C-312	-	12"x12" Gray Floor Tile	NAD <sup>1</sup>	-	-	-
24C	C-211	-	12"x12" Gray Floor Tile	NAD <sup>1</sup>	-	-	-
25A	B-412	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
25B	C-312	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
25C	C-211	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
26A	A-406	-	12"x12" Tan Floor Tile	NAD	-	-	-
26B	B-312	-	12"x12" Tan Floor Tile	NAD	-	-	-
26C	Stairwell 3-2	-	12"x12" Tan Floor Tile	NAD	-	-	-
27A	A-406	-	12"x12" Tan Floor Tile Mastic	NAD	-	-	-
27B	B-312	-	12"x12" Tan Floor Tile Mastic	NAD	-	-	-
27C	Stairwell 3-2	-	12"x12" Tan Floor Tile Mastic	NAD	-	-	-
28A	B-201	-	Black Damp Proofing	NAD	-	-	-
28B	C-009A	-	Black Damp Proofing	NAD	-	-	-
28C	C-009A	-	Black Damp Proofing	NAD	-	-	-
29A	A-105	Storage	12"x12" Green Floor Tile	2% Chrysotile	600 SF	Good	4
29B	Hallway	Outside Rm A-106A	12"x12" Green Floor Tile	Stop Positive See 29A			
30A	A-105	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
30B	Hallway	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
31A	B-1416B	-	Blue Sheet Flooring	NAD	-	-	-
31B	B-416C	-	Blue Sheet Flooring	NAD	-	-	-
32A	B-1416B	-	Blue Sheet Flooring Adhesive	NAD	-	-	-
32B	B-416C	-	Blue Sheet Flooring Adhesive	NAD	-	-	-
33A	A-109	-	Green Firestop	NAD	-	-	-
33B	A-109	-	Green Firestop	NAD	-	-	-
34A	B-004	-	12"x12" Light Brown Floor Tile	NAD	-	-	-
34B	B-004	-	12"x12" Light Brown Floor Tile	NAD	-	-	-
35A	B-004	-	12"x12" Light Brown Floor Tile Mastic	NAD	-	-	-
35B	B-004	-	12"x12" Light Brown Floor Tile Mastic	NAD	-	-	-
36A	Exterior North	-	Window Frame Caulk	NAD	-	-	-
36B	Exterior Northwest Corner	-	Window Frame Caulk	NAD	-	-	-
36C	Exterior South	-	Window Frame Caulk	NAD	-	-	-
37A	Exterior North	-	Door Frame Caulk	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 2**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
37B	Exterior Northwest Corner	-	Door Frame Caulk	NAD	-	-	-
37C	Exterior East	-	Door Frame Caulk	NAD	-	-	-
38A	Exterior North	-	Expansion Joint Caulk	NAD	-	-	-
38B	Exterior Northwest Corner	-	Expansion Joint Caulk	NAD	-	-	-
38C	Exterior South	-	Expansion Joint Caulk	NAD	-	-	-
39	C-126	-	Fire Door Insulation	NAD	-	-	-
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 2**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1239	Basement	A-015	Brick Wall (Exterior)	South	Intact	Blue	0
1240	Basement	A-015	Concrete Window Sill	South	Intact	Blue	0
1242	Basement	A-015	Metal Door Casing	North	Intact	Pink	0.21
1243	Basement	A-015	Metal Window Sash	South	Intact	Brown	0
1245	Basement	A-015	Concrete Wall (Interior)	East	Intact	White	0.08
1246	Basement	A009A	Drywall Wall (Exterior)	South	Intact	White	0
1247	Basement	FC-B-001	Wood Door	East	Intact	Red	3.4
1248	Basement	FC-B-001	Plaster Wall (Interior)	East	Intact	Red	0.08
1249	Basement	FC-B-001	Metal Door Casing	East	Intact	Beige	0.1
1250	Basement	Stair 2-2	Plaster Wall (Interior)	East	Intact	Beige	0.04
1251	Basement	Stair 2-2	Metal Handrail	East	Fair	Black	4.3
1252	Basement	Stair 2-2	Metal Sprinkler Pipe	West	Intact	Red	0.02
1253	Basement	S1-02	Metal Handrail	East	Poor	Gray	3.9
1257	Basement	008A	Metal Window Casing	West	Intact	Beige	0.01
1258	Basement	B008A	Drywall Wall (Exterior)	South	Intact	White	0
1259	Basement	B008A	Drywall Column	North	Intact	White	0
1260	Basement	B004	Wood Wall (Exterior)	North	Intact	Clear	0
1261	Basement	B004	Metal Window Casing	South	Intact	Beige	0
1262	Basement	B003	Wood Wall (Interior)	North	Intact	Beige	0
1263	Basement	CRB001	Metal Door Casing	North	Intact	Pink	0
1264	Basement	CRB001	Concrete Wall (Interior)	South	Intact	Beige	0.13
1265	Penthouse	C	Brick Wall (Exterior)	East	Poor	Yellow	1.7
1266	Penthouse	C	Metal Beam	East	Intact	Gray	0.07
1267	Penthouse	C	Metal Handrail	West	Poor	Black	9.7
1268	Penthouse	C	Concrete Floor	Na	Poor	Gray	0.04
1269	Penthouse	C	Wood Window Casing	East	Poor	Yellow	4
1270	Penthouse	C	Metal Handrail	West	Poor	Black	2.5
1271	Penthouse	C	Concrete Wall (Interior)	West	Intact	Yellow	0.18
1272	Penthouse	C	Concrete Riser	West	Intact	Gray	0.03
1274	Basement	A004	Concrete Wall (Exterior)	North	Intact	Yellow	0.01
1276	Basement	A004	Wood Door	West	Intact	Beige	0.01
1277	Basement	A004	Drywall Column	West	Intact	White	0.01
1278	Basement	A004	Wood Door	East	Intact	White	2.9
1279	Basement	A004	Wood Door Casing	East	Intact	Pink	5.7
1280	Basement	C-010C	Wood Door Casing	South	Intact	Pink	9.5
1281	Basement	C-010C	Wood Door	South	Intact	White	2.5

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 2**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1282	Basement	C-010C	Drywall Wall (Interior)	South	Intact	White	0
1283	Basement	C-010G	Drywall Wall (Interior)	East	Intact	Blue	0
1284	Basement	C-010	Metal Door Casing	South	Intact	White	0
1285	Basement	ST-3-C-001	Plaster Wall (Interior)	East	Intact	White	0.5
1286	Basement	ST-3-C-001	Concrete Riser	West	Fair	Pink	0.03
1287	First	C-117	Wood Cabinet	West	Intact	White	0
1288	First	C-117	Drywall Wall (Exterior)	South	Intact	White	0
1289	First	C-117	Metal Window Sash	South	Intact	Brown	0
1290	First	C-117	Metal Door Casing	North	Intact	Pink	0
1291	First	C-117	Wood Door	North	Intact	Clear	0
1293	First	FC-C-101	Wood Door	West	Intact	Red	0.03
1294	First	FC-C-101	Plaster Wall (Interior)	West	Intact	Red	0.06
1295	First	FC-C-101	Metal Door Casing	West	Intact	Pink	0
1297	First	C-125	Metal Closet	West	Intact	Beige	0
1298	First	C-125	Drywall Wall (Exterior)	East	Intact	White	0
1299	First	C-105	Drywall Wall (Interior)	West	Intact	White	0
1300	First	Corridor Outside C-100	Metal Door Casing	North	Fair	Pink	0
1301	First	Corridor Outside C-100	Metal Door	North	Fair	Pink	0.01
1302	First	A-111	Drywall Wall (Interior)	North	Intact	White	0
1303	First	B-121	Drywall Wall (Interior)	South	Intact	White	0
1330	First	B-116	Drywall Wall (Exterior)	South	Intact	Pink	0
1331	First	B-116	Metal Closet	East	Intact	Pink	0
1332	First	B-116	Metal Door Casing	East	Intact	Pink	0
1333	First	B-116	Drywall Wall (Exterior)	South	Intact	White	0
1334	First	Stair 1-2	Plaster Wall (Interior)	South	Intact	White	0.4
1335	First	Stair 1-2	Metal Sprinkler Pipe	North	Intact	Red	0
1336	First	Stair 1-2	Concrete Riser	South	Fair	Red	0.05
1338	Second	C-212	Drywall Wall (Exterior)	South	Intact	White	0
1339	Second	C-212	Metal Window Sash	West	Intact	Brown	0
1340	Second	FC-C-201	Wood Door	West	Intact	Red	0.06
1341	Second	FC-C-201	Metal Door Casing	West	Intact	White	0.04

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 2**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1342	Second	FC-C-201	Plaster Wall (Interior)	West	Intact	Red	0.6
1343	Second	Stair 3-2	Plaster Wall (Exterior)	North	Cracked	White	0
1344	Second	Stair 3-2	Metal Door Casing	East	Fair	White	0.01
1345	Second	Stair 3-2	Metal Door	East	Fair	Pink	0.03
1346	Second	A-217	Drywall Wall (Exterior)	South	Intact	Blue	0.19
1347	Second	A-217	Drywall Column	East	Intact	White	0
1348	Second	B-229	Drywall Wall (Interior)	East	Intact	Blue	0
1349	Second	Corridor Outside B212	Drywall Wall (Interior)	South	Intact	Green	0
1350	Second	Corridor Outside B212	Metal Door Casing	South	Intact	Green	0.02
1351	Second	Corridor Outside B212	Wood Door	South	Intact	Clear	0
1352	Second	A204	Drywall Wall (Interior)	East	Intact	White	0
1353	Third	Corridor Outside A-301	Drywall Wall (Interior)	South	Intact	Beige	0.1
1354	Third	A-306	Drywall Wall (Exterior)	North	Fair	White	0
1355	Third	C-327	Drywall Wall (Exterior)	North	Intact	White	0
1356	Third	A-316	Drywall Wall (Exterior)	South	Intact	Blue	0.13
1357	Third	A-316	Wood Door	North	Intact	Clear	0
1358	Third	A-316	Metal Door Casing	North	Intact	White	0
1360	Third	Corridor Outside A-314	Metal Door	South	Fair	Pink	0
1361	Third	Corridor Outside A-314	Metal Door Casing	South	Fair	Pink	0
1362	Third	Stair 2-2	Plaster Wall (Interior)	North	Intact	White	0.03
1363	Third	Stair 2-2	Metal Handrail	North	Intact	Black	2.2
1364	Third	Stair 2-2	Concrete Riser	East	Fair	Pink	0.03
1365	Third	Stair 2-2	Metal Door	West	Fair	White	0
1366	Third	Stair 2-2	Metal Door Casing	West	Fair	White	0.01
1367	Third	Corridor Outside ST-2-B-301	Drywall Wall (Interior)	East	Intact	White	0
1368	Third	FC-B-301	Plaster Wall (Interior)	East	Intact	Red	0.12
1369	Third	Stair 2-2	Plaster Wall (Exterior)	North	Poor	White	0.05
1370	Third	Stair 2-2	Plaster Stringer	North	Poor	White	0.03

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 2**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1371	Third	B-417	Drywall Wall (Interior)	North	Intact	Blue	0
1372	Third	B-417	Metal Closet	East	Intact	Beige	0
1373	Third	B-417	Metal Door Casing	East	Intact	Pink	0
1374	Third	B-416C	Metal Swinging Screen	South	Fair	Beige	0.01
1375	Third	B-416C	Metal Door	South	Intact	Pink	0
1376	Third	B-416C	Metal Door Casing	South	Intact	Pink	0
1378	Third	B-413	Drywall Wall (Interior)	North	Intact	White	0
1379	Third	B-413	Drywall Wall (Interior)	North	Intact	White	0
1380	Fifth	ST-4D-501 Penthouse	Brick Wall (Exterior)	North	Poor	Yellow	0.6
1381	Fifth	ST-4D-501 Penthouse	Brick Wall (Exterior)	West	Poor	Yellow	0.19
1383	Fourth	A-415	Drywall Wall (Exterior)	South	Intact	White	0
1384	Fourth	Corridor Outside A-403	Wood Door	East	Intact	Pink	0.02
1385	Fourth	Corridor Outside A-403	Plaster Wall (Interior)	East	Intact	Beige	0
1386	Fourth	A-405	Plaster Wall (Interior)	North	Intact	Green	2.4
1387	Fourth	A-405	Plaster Wall (Exterior)	West	Intact	White	0
1388	Fourth	A-405	Metal Door Casing	North	Intact	Green	0.01
1389	Fourth	A-405	Wood Door	North	Intact	Clear	0.01
1390	Fourth	A-406	Plaster Column	North	Fair	Green	1.6
1391	Fourth	A-406	Plaster Wall (Exterior)	East	Intact	White	2
1392	Fourth	Corridor Outside A-411	Plaster Wall (Interior)	South	Poor	White	0.4
1393	Fourth	A-411	Plaster Wall (Interior)	South	Intact	Green	0.4
1394	Fourth	A-411	Metal Door Casing	West	Intact	White	0.11
1395	Fourth	A-411	Plaster Wall (Interior)	West	Intact	White	0.06
1397	Fourth	Stair 1-2	Metal Security Gate	East	Fair	White	2.3
1398	Fourth	PHA-02	Concrete Column	North	Fair	Yellow	0.5
1399	Fourth	PHA-02	Concrete Wall (Interior)	North	Fair	Yellow	0.4
1400	Fourth	PHA-02	Metal Ladder	North	Fair	Black	0.11
1401	Fourth	PHA-02	Brick Wall (Exterior)	East	Poor	Yellow	0.4
1402	Fourth	PHA-02	Concrete Floor	NA	Poor	Gray	0.5
1403	Fourth	PHA-02	Metal Pipe	South	Poor	Gray	0.5
1404	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.06

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 2**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1405	Exterior	Exterior	Metal Vent	West	Poor	Gray	24.4
1406	Exterior	Exterior	Metal Door	North	Intact	Black	0
1407	Exterior	Exterior	Metal Door	North	Intact	Black	0
1408	Exterior	Exterior	Metal Enclosed Portico	East	Intact	Black	0
1409	Exterior	Exterior	Wood Door	South	Poor	Brown	18.1
1410	Exterior	Exterior	Metal Lintel	South	Intact	Brown	0.06
1411	Exterior	Exterior	Wood Ceiling At Loading Dock	NA	Poor	White	0
1412	Exterior	Exterior	Metal Handrail	South	Poor	Black	3.6
1413	Exterior	Exterior	Metal Trim	South	Poor	Black	0.6

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM





9"x9" Gray Floor Tile and Mastic, Samples 18A, 19A



12"x12" Green Floor Tile, Sample 29A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal Handrail, Reading 1251



Wood Window Casing, Reading 1269



Plaster Column, Reading 1390



Metal Security Gate, Reading 1397



Metal Vent, Reading 1405

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 3**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

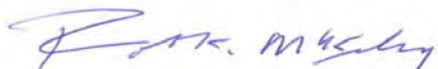
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 235 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 28 of the collected samples contained asbestos greater than or equal to 1%.**
- 577 XRF analyzer measurements of building surfaces were taken in this building.
- **174 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 3 was a seven-story Outpatient Building built in 1955 and occupied approximately 228,766 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 3			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during the survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positives ACM Samples  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
7A 7B 7C	A-615 Hallway Construction Area	Interior Perimeter Walls	Black Damp Proofing	2% Chrysotile	105,000 SF	Good	4
8A 8B 8C	Hallway 207 A-131	Interior Perimeter of Windows	Window Caulk	1.57 % Chrysotile (TEM)	10,000 LF	Good	4
9A 9B 9C	Mechanical Room Penthouse	Electrical Room	Black Electrical Mounting Board	35% Chrysotile	20 SF	Good	4
13A 13B 13C	A-616 Hallway Construction Area	Throughout Building at Inset Radiators	Transite Heater Panel	30% Chrysotile	430 EA	Good	4
17A 17B 17C 17D 17E 17F	C-522A A-408 A-331D Hallway B-117 A-007	Throughout Building in Pipe Chases and Above Suspended Ceiling	Pipe Insulation	25% Chrysotile  15% Amosite	1,600 LF	Fair	2
22A 22B 22C	Hallway	Sub-Basement and Throught Building on Water Pipe	Black Cork Pipe Insulation	10% Chrysotile	1,200 LF	Good	4
29A 29B 29C	A-616 A-512B	Closets Throughout Building	9"x9" Floor Tile- Type I	10% Chrysotile	500 SF	Good	4
31A 31B 31C	A-620A A-608 CRA-603	Sixth Floor Corridor and Elevator Lobby	12"x12" Floor Tile (6th Floor Old)	3% Chrysotile	3,000 SF	Good	4
32A 32B 32C	A-620A A-608 CRA-603		12"x12" Floor Tile Mastic (6th Floor Old)	10% Chrysotile		Good	4
34A 34B 34C	A-629 A-517 A-502	Fifth and Sixth Floors	Sheet Flooring-Type I (Old)	20% Chrysotile	600 SF	Good	4

**Table 2 - Summary of Positives ACM Samples  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
39A 39B 39C	Hallway A-512A Hallway	Throughout Fifth Floor	12"x12" Floor Tile (5th Floor New)	3% Chrysotile	16,500 SF	Good	4
40A 40B 40C	Hallway A-512A Hallway		12x12 Floor Tile Mastic (5th Floor New)	10% Chrysotile		Good	4
41A 41B 41C	C-509B B-510 B-501		12"x12" Floor Tile (5th Floor Old)	2% Chrysotile		Good	4
42A 42B 42C	C-509B B-510 B-501		12"x12" Floor Tile Mastic (5th Floor Old)	10% Chrysotile		Good	4
45A 45B 45C	Elevator Lobby CRM402 C-410C	Throughout Forth Floor	12"x12" Floor Tile (4th Floor Old)	3% Chrysotile	17,000 SF	Good	4
46A 46B 46C	Elevator Lobby CRM402 C-410C		12"x12" Floor Tile Mastic (4th Floor Old)	2% Chrysotile		Good	4
48A 48B 48C	A-400D A-400B A-400A	Fourth Floor Rooms Adjacent to Elevator Lobby	Sheet Flooring-Type II Adhesive (4th Floor New)	2% Chrysotile	1,600 SF	Good	4
51A 51B 51C	A-314 A-324 Hallway	Third Floor South Wing	12"x12" Floor Tile (3rd Floor Old)	3% Chrysotile	8,500 SF	Good	4
52A 52B 52C	A-314 A-324 Hallway		12"x12" Floor Tile Mastic (3rd Floor Old)	2% Chrysotile		Good	4
53A 53B 53C	B-221 Hallway	Second Floor	9"x9" Floor Tile- Type II	10% Chrysotile	1,200 SF	Good	4
55A 55B 55C	Hallway B-217 Hallway	Second Floor Store, Corridor and Northeast Wing	12"x12" Floor Tile (2nd Floor Old)	2% Chrysotile	9,000 SF	Good	4

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 3							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
60A 60B 60C	C-136 A-137 A-110A	Throughout First Floor	12"x12" Floor Tile Mastic (1st Floor Old)	2% Chrysotile	8,500 SF	Good	4
62A 62B	A-313 A-238	Second and Third Floors	Sheet Flooring-Type II (Old)	30% Chrysotile	350 SF	Good	4
64	C-509B	C-509B	2nd Layer Floor Tile	3% Chrysotile	200 SF	Good	4
65	C-509B		2nd Layer Floor Tile Mastic	10% Chrysotile		Good	4
67B 67C	A-016 A-004	Throughout Basement	12"x12" Floor Tile Mastic (Basement Old)	5% Chrysotile	16,000 SF	Good	4
69A 69B	C-014 C-013		12"x12" Floor Tile Mastic (Basement New)	3% Chrysotile		Good	4
71A	Exterior	Doors	Door Frame Caulk	2.07% Chrysotile (TEM) 6.22% Anthophyllite (TEM)	80 LF	Good	4
72A 72B 72C	Exterior	Loading Dock	Expansion Joint Caulk	2% Chrysotile	200 LF	Good	4

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
480	Third	Stair 4-3	Metal Handrail	North	Intact	Black	1.9
498	Third	A-331C	Plaster Wall	South	Intact	White	0.7
503	Third	Corridor Outside A-331B	Wood Door	South	Intact	Brown	4.9
532	Third	A323	Plaster Wall	North	Intact	White	0.8
536	Third	A323A	Plaster Wall	North	Intact	White	0.6
539	Third	A-325	Metal Radiator	South	Fair	White	0.12
556	First	A120	Metal Radiator	North	Intact	Blue	1.7
558	First	A120	Metal Radiator	North	Intact	Beige	0.7
560	First	A120	Metal Radiator	North	Fair	Blue	0.5
561	First	A121A	Metal Pipe	North	Poor	Tan	0.29
566	First	A121	Metal Radiator	South	Intact	Beige	0.8
574	First	A119	Metal Electrical Conduit	North	Poor	White	0.15
580	First	A123	Metal Radiator	South	Intact	White	0.5
581	First	A123	Metal Radiator	South	Intact	White	1.7



Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
585	First	A123	Wood Door	West	Intact	Blue	3.1
607	Third	A343b	Metal Swinging Screen Assoc. with Window	West	Peeling	White	0.11
612	Third	A342	Metal Radiator	West	Intact	White	0.23
617	Third	A342	Plaster Wall	West	Fair	White	2
622	Third	A342	Plaster Wall	West	Fair	White	1.9
624	Third	A342	Plaster Wall	West	Fair	White	2.5
630	Third	A341	Plaster Wall	West	Fair	White	0.28
634	Third	A341	Plaster Wall	South	Poor	Beige	0.5
635	Third	A341	Plaster Wall	West	Intact	Black	0.6
640	Third	A339	Plaster Wall	East	Intact	Green	0.5
648	Third	A347	Plaster Column	West	Intact	White	0.7
649	Third	Corridor Outside A347	Plaster Wall	North	Intact	White	1.5
652	Third	Corridor Outside C332	Plaster Wall	East	Intact	White	1.5
653	Third	C326	Plaster Wall	East	Intact	White	0.5
656	Third	C326	Plaster Wall	East	Intact	White	0.8
662	Third	Corridor Outside C319	Plaster Wall	West	Intact	White	1.8
677	Third	Stair 3-3	Concrete Tread	NA	Fair	Gray	0.11
679	Third	Stair 3-3	Metal Handrail	South	Intact	Black	0.3
687	Third	C311	Metal Window Return	West	Poor	Gray	0.12
688	Third	Corridor Outside A346	Plaster Wall	South	Intact	White	2.1
691	Third	Corridor Outside B319	Plaster Wall	East	Intact	White	2.7
693	Third	Corridor Outside B311	Plaster Wall	North	Intact	White	3.2
699	Eighth	Elevator Machine Room	Concrete Column	West	Intact	Yellow	0.24
702	Seventh	PH701	Metal Handrail	North	Intact	Black	5.2
705	Seventh	PH701	Concrete Column	West	Intact	Yellow	0.6
708	Seventh	PH701	Concrete Wall	North	Poor	Yellow	0.6
709	Seventh	Stair 1-3	Plaster Wall	East	Poor	White	0.13
710	Sixth	St-1-A701	Metal Cage	East	Poor	Beige	1.8
711	Sixth	ST-1-A701	Plaster Column	North	Fair	Pink	0.5
712	Sixth	ST-1-A701	Plaster Wall	East	Intact	Yellow	0.5
716	Sixth	Corridor Outside ST-1-A-601	Plaster Wall	West	Intact	White	0.5
722	Sixth	FC-A-601	Plaster Wall	South	Fair	Red	0.6

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
726	First	Corridor Outside A-109	Plaster Wall	East	Fair	Multi	2.3
727	First	Corridor Outside A-109	Plaster Wall	East	Intact	Multi	2.1
729	First	Corridor Outside A-109	Plaster Wall	West	Intact	Multi	2
730	First	B-108	Plaster Wall	West	Intact	White	0.4
738	First	Corridor Outside B-108	Plaster Wall	West	Intact	Multi	2.2
750	First	B117	Metal Cabinet	South	Fair	Yellow	0.24
756	First	B121	Plaster Wall	East	Fair	White	0.5
758	First	B121B	Plaster Wall	West	Fair	White	0.5
762	First	B121A	Plaster Wall	South	Intact	White	0.5
763	First	A105	Plaster Wall	South	Intact	White	0.4
767	First	B122B	Plaster Wall	South	Intact	White	0.6
770	First	B122B	Plaster Column	North	Intact	White	0.5
773	First	A103B	Plaster Wall	North	Intact	White	0.7
775	First	A103B	Metal Radiator	North	Intact	White	1.3
788	First	Corridor Outside C104B	Plaster Wall	South	Intact	White	1.7
793	First	C116	Plaster Ceiling	Ceiling	Fair	White	0.5
796	First	Corridor Outside C113	Plaster Wall	West	Intact	Multi	2.5
797	First	Corridor Outside C113	Plaster Wall	South	Intact	Multi	1.7
800	First	C113	Plaster Wall	West	Intact	Pink	0.4
802	First	C112	Plaster Wall	South	Fair	White	0.4
805	First	Corridor Outside C112	Plaster Wall	South	Intact	Multi	2.3
808	First	Stair 3-3	Metal Door	South	Cracked	Beige	2.6
809	First	Stair 3-3	Wood Door Casing	South	Cracked	Beige	6
813	First	Stair 3-3	Metal Handrail	South	Intact	Black	0.14
815	First	A136	Plaster Wall	East	Intact	White	2.5
822	First	C130	Plaster Wall (Exterior)	North	Fair	Pink	0.3
823	First	C130	Metal Radiator	North	Intact	Pink	0.3
824	First	C130	Plaster Column	West	Intact	Pink	0.4
826	Sixth	C624B	Concrete Wall (Exterior)	South	Cracked	White	0.6
837	Sixth	C626-B	Metal Duct	East	Intact	White	0.25
849	Sixth	A-626A	Metal Door Casing	South	Cracked	White	0.12
852	Sixth	A-619	Plaster Wall (Exterior)	South	Intact	White	0.16

<b>Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3</b>							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
875	Fifth	Corridor Outside A-502	Plaster Wall (Interior)	North	Intact	Pink	2
877	Fifth	ST1A-501	Metal Sprinkler Main	North	Fair	Red	16.6
880	Fifth	Corridor Outside B-520A	Plaster Wall (Interior)	North	Intact	Multi	2
884	Fifth	Corridor Outside B522A	Metal Radiator	East	Intact	Blue	0.3
885	Fifth	Corridor Outside B522A	Metal Window Sill	East	Fair	Blue	2.7
886	Fifth	Corridor Outside B522A	Metal Window Casing	East	Fair	Blue	1.9
889	Fifth	Stair 2-3	Metal Handrail	South	Intact	Black	1.4
895	Fifth	Stair 2-3	Plaster Wall (Interior)	South	Intact	Beige	0.15
896	Fifth	Stair 2-3	Metal Sprinkler Main	North	Intact	Beige	13
898	Fifth	Corridor Outside ST-2-B-501	Metal Door Casing	South	Intact	Blue	0.22
902	Fifth	B-524	Wood Trim	North	Intact	Beige	0.17
905	Fifth	Corridor Outside B-514	Plaster Wall (Exterior)	East	Intact	Multi	1.7
912	Fifth	B512A	Metal Window Sill	East	Intact	White	3
914	Fifth	B507	Metal Frame	South	Fair	Yellow	0.16
915	Fifth	B-511	Plaster Wall (Interior)	South	Intact	White	0.13
917	Fifth	B-511	Metal Window Sill	East	Fair	White	2.2
918	Fifth	B-511	Metal Window Casing	East	Fair	White	2
919	Fifth	B-511	Plaster Wall (Interior)	West	Intact	White	0.12
922	Fifth	Corridor Outside B512	Plaster Wall (Interior)	East	Intact	Multi	2.4
924	Fifth	B-501	Plaster Wall (Exterior)	North	Cracked	White	0.11
926	Fifth	B-501	Metal Window Sill	North	Cracked	White	2.8
927	Fifth	B-501	Metal Window Casing	North	Cracked	White	2.1
932	Fifth	Corridor Outside A504	Plaster Wall (Interior)	North	Intact	Multi	2.6

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
934	Fifth	C510	Metal Window Casing	North	Intact	White	1.5
940	Fifth	Corridor Outside C510	Plaster Wall (Interior)	North	Intact	Multi	2
945	Fifth	C512	Plaster Wall (Interior)	East	Intact	White	0.21
951	Fifth	A514	Metal Radiator	South	Intact	Pink	0.12
953	Fifth	A514	Plaster Wall (Interior)	South	Intact	Multi	2.6
954	Fifth	A514	Metal Door Casing	South	Intact	Pink	0.14
956	Fifth	Corridor Outside C513	Plaster Wall (Interior)	West	Intact	Multi	2.5
957	Fifth	Corridor Outside C517	Plaster Wall (Interior)	East	Intact	Multi	1.9
960	Fourth	Corridor Outside A402	Plaster Wall (Interior)	North	Intact	Beige	2.4
969	Fourth	Corridor Outside Stair 4-3	Plaster Wall (Interior)	West	Intact	White	0.17
973	Fourth	Stair 4-3	Metal Fence	East	Fair	White	7.9
977	Fifth	PHD-03	Metal Pipe	North	Poor	Gray	0.4
991	Fourth	400F	Metal Window Sill	West	Intact	White	0.12
992	Fourth	400F	Metal Window Casing	West	Intact	White	0.12
997	Fourth	C-410D	Metal Radiator	North	Intact	White	0.25
998	Fourth	C-410D	Metal Pipe Chase	North	Intact	White	0.6
999	Fourth	C-410D	Metal Door Casing	South	Intact	White	0.19
1004	Fourth	C-408	Metal Privacy Partition	West	Intact	Blue	0.13
1008	Fourth	Corridor Outside C-411	Plaster Wall (Interior)	North	Intact	Green	0.7
1017	Fourth	B-401	Plaster Wall (Exterior)	North	Intact	White	0.3
1019	Fourth	B-401	Plaster Column	North	Intact	White	0.7
1025	Fourth	Corridor Outside B-401	Plaster Wall (Interior)	North	Intact	White	2.5
1032	Fourth	B-415	Plaster Wall (Interior)	West	Intact	White	0.7
1033	Fourth	B-415	Metal Door Casing	North	Intact	White	0.11
1034	Fourth	Corridor Outside B-415	Plaster Wall (Interior)	East	Intact	White	2.3

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1045	Second	Construction Area	Metal Door Casing	South	Intact	Gray	0.18
1053	Second	C-211	Plaster Wall (Interior)	South	Intact	White	0.6
1057	Second	C212	Metal Window Sash	North	Intact	Black	0.24
1059	Second	C-214	Plaster Wall (Exterior)	North	Intact	Pink	0.5
1139	Second	A-237	Metal Window Sash	North	Intact	Brown	0.27
1141	Second	A-237	Plaster Wall (Interior)	North	Intact	White	0.7
1145	Second	Corridor Outside B-201	Plaster Wall (Interior)	North	Intact	White	0.5
1146	Second	B-213	Plaster Wall (Interior)	South	Intact	White	0.5
1148	Second	B-213	Window Glazing (X-Ray Control Room)	South	Fair	White	68.9
1149	Second	B-213A	Plaster Wall (Interior)	North	Intact	White	0.5
1150	Second	B-213	Metal Cabinet	East	Intact	Gray	6
1152	Second	B-219	Drywall Wall (Interior)	North	Intact	White	45.1
1162	Second	B-205	Drywall Wall (Interior)	East	Intact	White	8.4
1166	Second	B-207	Metal Radiator	East	Intact	White	0.17
1167	Second	B-207	Plaster Wall (Interior)	West	Intact	White	2.8
1177	Second	A-215E	Plaster Wall (Interior)	North	Intact	White	1.1
1185	First	Stair 1-3	Wood Door	South	Fair	Blue	4.3
1186	First	Stair 1-3	Wood Door Casing	South	Fair	Blue	6.3
1199	Basement	B-006	Concrete Floor Stripe	NA	Fair	Red	0.12
1222	Basement	Corridor Outside A-018	Metal Window Sash	East	Intact	Brown	0.6
1226	Exterior	Exterior	Metal Vent	North	Intact	Gray	4.4
1228	Exterior	Exterior	Metal Window Well Security Grate	South	Fair	Black	3
1230	Exterior	Exterior	Wood Door	South	Poor	Brown	20.5
1231	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	21.3
1233	Exterior	Exterior	Metal Handrail	South	Poor	Black	0.5

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 3							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1238	Exterior	Exterior	Metal Bollard	South	Intact	Yellow	0.5

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain

asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 3</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	80,400 SF
Sheet Flooring and/or Mastic	2,550 SF
Pipe Insulation	2,800 LF
Window Caulking	10,000 SF
Door Caulking	80 LF
Building Caulking	200 LF
Damp Proofing	105,000 SF
Black Electrical Mounting Board	20 SF
Transite Panel at Radiators	430 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.



## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Mechanical Room	-	Drywall	NAD	-	-	-
1B	Hallway	-	Drywall	NAD	-	-	-
1C	Hallway	-	Drywall	NAD	-	-	-
1D	A-408	-	Drywall	NAD	-	-	-
1E	B-326	-	Drywall	NAD	-	-	-
1F	A-227A	-	Drywall	NAD	-	-	-
1G	A-B1	-	Drywall	NAD	-	-	-
2A	Mechanical Room	-	Joint Compound	NAD	-	-	-
2B	Hallway	-	Joint Compound	NAD	-	-	-
2C	Hallway	-	Joint Compound	NAD	-	-	-
2D	A-408	-	Joint Compound	NAD	-	-	-
2E	B-326	-	Joint Compound	NAD	-	-	-
2F	A-227A	-	Joint Compound	NAD	-	-	-
2G	A-B1	-	Joint Compound	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
3A	A-615	-	Wall Plaster Base Coat	NAD	-	-	-
3B	B-504	-	Wall Plaster Base Coat	NAD	-	-	-
3C	C-428	-	Wall Plaster Base Coat	NAD	-	-	-
3D	A-331D	-	Wall Plaster Base Coat	NAD	-	-	-
3E	Construction Area	-	Wall Plaster Base Coat	NAD	-	-	-
3F	ST-2-B-101	-	Wall Plaster Base Coat	NAD	-	-	-
3G	ST-3-C-001	-	Wall Plaster Base Coat	NAD	-	-	-
4A	A-615	-	Wall Plaster Skim Coat	NAD	-	-	-
4B	B-504	-	Wall Plaster Skim Coat	NAD	-	-	-
4C	C-428	-	Wall Plaster Skim Coat	NAD	-	-	-
4D	A-331D	-	Wall Plaster Skim Coat	NAD	-	-	-
4E	Construction Area	-	Wall Plaster Skim Coat	NAD	-	-	-
4F	ST-2-B-101	-	Wall Plaster Skim Coat	NAD	-	-	-
4G	ST-3-C-001	-	Wall Plaster Skim Coat	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5A	609	-	Ceiling Plaster Base Coat	NAD	-	-	-
5B	B-504	-	Ceiling Plaster Base Coat	NAD	-	-	-
5C	C-428	-	Ceiling Plaster Base Coat	NAD	-	-	-
5D	C-306	-	Ceiling Plaster Base Coat	NAD	-	-	-
5E	B-220	-	Ceiling Plaster Base Coat	NAD	-	-	-
5F	ST-2-B-101	-	Ceiling Plaster Base Coat	NAD	-	-	-
5G	ST-3-C-001	-	Ceiling Plaster Base Coat	NAD	-	-	-
6A	609	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6B	B-504	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6C	C-428	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6D	C-306	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6E	B-220	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6F	ST-2-B-101	-	Ceiling Plaster Skim Coat	NAD	-	-	-
6G	ST-3-C-001	-	Ceiling Plaster Skim Coat	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
7A	A-615	Interior Perimeter of Building Behind Plaster Walls	Black Damp Proofing	2% Chrysotile	105,000 SF	Good	4
7B	Hallway		Black Damp Proofing	Stop Positive See 7A			
7C	Construction Area		Black Damp Proofing	Stop Positive See 7A			
8A	Hallway	Interior Perimeter of Windows	Window Caulk	1.57% Anthophyllite (TEM)	10,000 LF	Good	4
8B	207		Window Caulk	NAD (TEM)			
8C	A-131		Window Caulk	0.63% Anthophyllite (TEM)			
9A	Mechanical Room	Mechanical Room	Black Electrical Mounting Board	35% Chrysotile	20 SF	Good	4
9B	Mechanical Room		Black Electrical Mounting Board	Stop Positive See 9A			
9C	Mechanical Room		Black Electrical Mounting Board	Stop Positive See 9A			
10A	Mechanical Room	-	Red Fire Stop	NAD	-	-	-
10B	A-408	-	Red Fire Stop	NAD	-	-	-
10C	B-310	-	Red Fire Stop	NAD	-	-	-
11A	A-615	-	Tan Fire Stop	NAD	-	-	-
11B	A-408	-	Tan Fire Stop	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
11C	B-310	-	Tan Fire Stop	NAD	-	-	-
12A	Mechanical Room	-	Duct Coating	NAD	-	-	-
12B	Mechanical Room	-	Duct Coating	NAD	-	-	-
12C	Mechanical Room	-	Duct Coating	NAD	-	-	-
13A	A-616 Hallway	Throughout Building at Inset Radiators	Transite Heater Panel	30% Chrysotile	430 EA	Good	4
13B	Hallway		Transite Heater Panel	Stop Positive See 13B			
13C	Construction Area		Transite Heater Panel	Stop Positive See 13B			
14A	Mechanical Room	-	HVAC Flex Connector	NAD	-	-	-
14B	Mechanical Room	-	HVAC Flex Connector	NAD	-	-	-
14C	A-611	-	HVAC Flex Connector	NAD	-	-	-
15A	A-611	-	Stick Pin Adhesive	NAD	-	-	-
15B	A-611	-	Stick Pin Adhesive	NAD	-	-	-
15C	A-611	-	Stick Pin Adhesive	NAD	-	-	-
16A	A-623B	-	Mud fitting	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
16B	A-623B	-	Mud fitting	NAD	-	-	-
16C	A-623B	-	Mud fitting	NAD	-	-	-
17A	C-522A	Throughout Building in Pipe Chases and Above Suspended Ceiling	Pipe Insulation	25% Chrysotile 15% Amosite	1,600 LF	Fair	2
17B	A-408		Pipe Insulation	Stop Positive See 17A			
17C	A-331D		Pipe Insulation	Stop Positive See 17A			
17D	Hallway		Pipe Insulation	Stop Positive See 17A			
17E	B-117		Pipe Insulation	Stop Positive See 17A			
17F	A-007		Pipe Insulation	Stop Positive See 17A			
18A	Hallway	-	2x2 Fissured Ceiling Tile Type-1	NAD	-	-	-
18B	Hallway	-	2x2 Fissured Ceiling Tile Type-1	NAD	-	-	-
18C	A-227A	-	2x2 Fissured Ceiling Tile Type-1	NAD	-	-	-
19A	Hallway	-	2x2 Fissured Ceiling Tile Type-2	NAD	-	-	-
19B	Hallway	-	2x2 Fissured Ceiling Tile Type-2	NAD	-	-	-
19C	Hallway	-	2x2 Fissured Ceiling Tile Type-2	NAD	-	-	-



**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
20A	A-502	-	2x2 Fissured Ceiling Tile	NAD	-	-	-
20B	PHD-03	-	2x2 Fissured Ceiling Tile	NAD	-	-	-
20C	C-306	-	2x2 Fissured Ceiling Tile	NAD	-	-	-
21A	A-611	-	Duct Sealant	NAD	-	-	-
21B	PHD-03	-	Duct Sealant	NAD	-	-	-
21C	C-306	-	Duct Sealant	NAD	-	-	-
22A	Hallway	Sub-Basement and Throught Building on Water Pipe	Black Cork Pipe Insulation	10% Chrysotile	1,200 LF	Good	4
22B	Hallway		Black Cork Pipe Insulation	Stop Positive See 22A			
22C	Hallway		Black Cork Pipe Insulation	Stop Positive See 22A			
23A	Hallway	-	2x2 Ceiling Tile (Rough)	NAD	-	-	-
23B	Hallway	-	2x2 Ceiling Tile (Rough)	NAD	-	-	-
23C	C-201	-	2x2 Ceiling Tile (Rough)	NAD	-	-	-
24A	Hallway	-	1x1 Ceiling Tile	NAD	-	-	-
24B	B-216	-	1x1 Ceiling Tile	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
24C	C-417	-	1x1 Ceiling Tile	NAD	-	-	-
25A	Hallway	-	1x1 Ceiling Tile Glue Dawb	NAD	-	-	-
25B	B-216	-	1x1 Ceiling Tile Glue Dawb	NAD	-	-	-
25C	Hallway	-	1x1 Ceiling Tile Glue Dawb	NAD	-	-	-
26A	PHD-03	-	Saddle Block Insulation	NAD	-	-	-
26B	PHD-03	-	Saddle Block Insulation	NAD	-	-	-
26C	PHD-03	-	Saddle Block Insulation	NAD	-	-	-
27A	A-131	-	2x2 Ceiling Tile (Pin Hole)	NAD	-	-	-
27B	A-115	-	2x2 Ceiling Tile (Pin Hole)	NAD	-	-	-
27C	A-133	-	2x2 Ceiling Tile (Pin Hole)	NAD	-	-	-
28A	Lobby	-	2x2 Ceiling Tile (Striped)	NAD	-	-	-
28B	Lobby	-	2x2 Ceiling Tile (Striped)	NAD	-	-	-
28C	Lobby	-	2x2 Ceiling Tile (Striped)	NAD	-	-	-
29A	A-616	Closets Throughout Building	9x9 Floor Tile - Type I	10% Chrysotile	500 SF	Good	4

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
29B	A-512B		9x9 Floor Tile - Type I	Stop Positive See 29A			
29C	A-512B		9x9 Floor Tile - Type I	Stop Positive See 29A			
30A	A-616	-	9x9 Floor Tile Mastic - Type I	NAD	-	-	-
30B	A-512B	-	9x9 Floor Tile Mastic - Type I	NAD	-	-	-
30C	A-512B	-	9x9 Floor Tile Mastic - Type I	NAD	-	-	-
31A	A-620A	Sixth Floor Corridor and Elevator Lobby	12x12 Floor tile (6th floor old)	3% Chrysotile	3000 SF	Good	4
31B	A-608		12x12 Floor tile (6th floor old)	Stop Positive See 31A			
31C	CRA-603		12x12 Floor tile (6th floor old)	Stop Positive See 31A			
32A	A-620A		12x12 Floor Tile Mastic (6th floor old)	10% Chrysotile	3000 SF	Good	4
32B	A-608		12x12 Floor Tile Mastic (6th floor old)	Stop Positive See 32A			
32C	CRA-603		12x12 Floor Tile Mastic (6th floor old)	Stop Positive See 32A			
33A	Hallway	-	Expansion Joint Caulk (Floor)	NAD	-	-	-
33B	Hallway	-	Expansion Joint Caulk (Floor)	NAD	-	-	-
33C	Hallway	-	Expansion Joint Caulk (Floor)	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
34A	A-629	Fifth and Sixth Floors	Sheet Flooring-Type I (old)	20% Chrysotile	600 SF	Good	4
34B	A-517		Sheet Flooring-Type I (old)	Stop Positive See 34A			
34C	A-502		Sheet Flooring-Type I (old)	Stop Positive See 34A			
35A	A-629	-	Sheet Flooring Adhesive (old)	NAD	-	-	-
35B	A-517	-	Sheet Flooring Adhesive (old)	NAD	-	-	-
35C	A-502	-	Sheet Flooring Adhesive (old)	NAD	-	-	-
36A	B-501	-	Ceramic Wall Tile Adhesive	NAD	-	-	-
36B	A-303	-	Ceramic Wall Tile Adhesive	NAD	-	-	-
36C	A-106	-	Ceramic Wall Tile Adhesive	NAD	-	-	-
37A	C-509A	-	4" Cove Base Adhesive	NAD	-	-	-
37B	B-202	-	4" Cove Base Adhesive	NAD	-	-	-
37C	A-104	-	4" Cove Base Adhesive	NAD	-	-	-
38A	C-509A	-	6" Cove Base Adhesive	NAD	-	-	-
38B	Elevator Lobby	-	6" Cove Base Adhesive	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
38C	C-101A	-	6" Cove Base Adhesive	NAD	-	-	-
39A	Hallway	Throughout 5th Floor	12x12 Floor Tile (5th floor new)	3% Chrysotile	16,500 SF	Good	4
39B	A-512A		12x12 Floor Tile (5th floor new)	Stop Positive See 39A			
39C	Hallway		12x12 Floor Tile (5th floor new)	Stop Positive See 39A			
40A	Hallway		12x12 Floor Tile Mastic (5th floor new)	10% Chrysotile	16,500 SF	Good	4
40B	A-512A		12x12 Floor Tile Mastic (5th floor new)	Stop Positive See 40A			
40C	Hallway		12x12 Floor Tile Mastic (5th floor new)	Stop Positive See 40A			
41A	C-509B		12x12 Floor Tile (5th floor old)	2% Chrysotile	16,500 SF	Good	4
41B	B-510		12x12 Floor Tile (5th floor old)	Stop Positive See 41A			
41C	B-501		12x12 Floor Tile (5th floor old)	Stop Positive See 41A			
42A	C-509B		12x12 Floor Tile Mastic (5th floor old)	10% Chrysotile	16,500 SF	Good	4
42B	B-510		12x12 Floor Tile Mastic (5th floor old)	Stop Positive See 42A			
42C	B-501		12x12 Floor Tile Mastic (5th floor old)	Stop Positive See 42A			
43A	A-430	-	Sheet Flooring - Type I (4th floor new)	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
43B	Hallway	-	Sheet Flooring - Type I (4th floor new)	NAD	-	-	-
43C	Hallway	-	Sheet Flooring - Type I (4th floor new)	NAD	-	-	-
44A	A-430	-	Sheet Flooring Adhesive (4th floor new)	NAD	-	-	-
44B	Hallway	-	Sheet Flooring Adhesive (4th floor new)	NAD	-	-	-
44C	Hallway	-	Sheet Flooring Adhesive (4th floor new)	NAD	-	-	-
45A	Elevator Lobby	Throughout Fourth Floor	12x12 Floor Tile (4th floor old)	3% Chrysotile	17,000 SF	Good	4
45B	CRM402	Throughout Fourth Floor	12x12 Floor Tile (4th floor old)	Stop Positive See 45A			
45C	C-410C		12x12 Floor Tile (4th floor old)	Stop Positive See 45A			
46A	Elevator Lobby		12x12 Floor Tile Mastic (4th floor old)	2% Chrysotile	17,000 SF	Good	4
46B	CRM402		12x12 Floor Tile Mastic (4th floor old)	Stop Positive See 46A			
46C	C-410C		12x12 Floor Tile Mastic (4th floor old)	Stop Positive See 46A			
47A	A-400D	-	Sheet Flooring - Type II (4th floor new)	NAD	-	-	-
47B	A-400B	-	Sheet Flooring - Type II (4th floor new)	NAD	-	-	-
47C	A-400A	-	Sheet Flooring - Type II (4th floor new)	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
48A	A-400D	Fourth Floor Rooms Adjacent to Elevator Lobby	Sheet Flooring - Type II Adhesive (4th floor new)	2% Chrysotile	1,600 SF	Good	4
48B	A-400B		Sheet Flooring - Type II Adhesive (4th floor new)	Stop Positive See 48A			
48C	A-400A		Sheet Flooring - Type II Adhesive (4th floor new)	Stop Positive See 48A			
49A	C326	-	12x12 Floor Tile (3rd floor new)	NAD	-	-	-
49B	C311	-	12x12 Floor Tile (3rd floor new)	NAD	-	-	-
49C	Elevator Lobby	-	12x12 Floor Tile (3rd floor new)	NAD	-	-	-
50A	C326	-	12x12 Floor Tile Mastic (3rd floor new)	NAD	-	-	-
50B	C311	-	12x12 Floor Tile Mastic (3rd floor new)	NAD	-	-	-
50C	Elevator Lobby	-	12x12 Floor Tile Mastic (3rd floor new)	NAD	-	-	-
51A	A-314	Third Floor South Wing	12x12 Floor Tile (3rd floor old)	3% Chrysotile	8,500 SF	Good	4
51B	A-324		12x12 Floor Tile (3rd floor old)	Stop Positive See 51A			
51C	Hallway		12x12 Floor Tile (3rd floor old)	Stop Positive See 51A			
52A	Hallway		12x12 Floor Tile Mastic (3rd floor old)	2% Chrysotile	8,500 SF	Good	4
52B	A-324		12x12 Floor Tile Mastic (3rd floor old)	Stop Positive See 52A			

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
52C	Hallway		12x12 Floor Tile Mastic (3rd floor old)	Stop Positive See 52A			
53A	B-221	Second Floor	9x9 Floor Tile - Type II	10% Chrysotile	1,200 SF	Good	4
53B	Hallway		9x9 Floor Tile - Type II	Stop Positive See 53A			
53C	Hallway		9x9 Floor Tile - Type II	Stop Positive See 53A			
54A	B-221	-	9x9 Floor Tile Mastic - Type II	NAD	-	-	-
54B	Hallway	-	9x9 Floor Tile Mastic - Type II	NAD	-	-	-
54C	Hallway	-	9x9 Floor Tile Mastic - Type II	NAD	-	-	-
55A	Hallway	Second Floor Store, Corridor and Northeast Wing	12x12 Floor Tile (2nd floor old)	2% Chrysotile	9,000 SF	Good	4
55B	B-217		12x12 Floor Tile (2nd floor old)	Stop Positive See 55A			
55C	Hallway		12x12 Floor Tile (2nd floor old)	Stop Positive See 55A			
56A	Hallway	-	12x12 Floor Tile Mastic (2nd floor old)	NAD	-	-	-
56B	B-217	-	12x12 Floor Tile Mastic (2nd floor old)	NAD	-	-	-
56C	Hallway	-	12x12 Floor Tile Mastic (2nd floor old)	NAD	-	-	-
57A	A-133C	-	12x12 Floor Tile (1st floor new)	NAD	-	-	-



**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
57B	A-112	-	12x12 Floor Tile (1st floor new)	NAD	-	-	-
57C	A-131A	-	12x12 Floor Tile (1st floor new)	NAD	-	-	-
58A	A-133C	-	12x12 Floor Tile Mastic (1st floor new)	NAD	-	-	-
58B	A-112	-	12x12 Floor Tile Mastic (1st floor new)	NAD	-	-	-
58C	A-131A	-	12x12 Floor Tile Mastic (1st floor new)	NAD	-	-	-
59A	C-136	-	12x12 Floor Tile (1st floor old)	NAD	-	-	-
59B	A-137	-	12x12 Floor Tile (1st floor old)	NAD	-	-	-
59C	A-110A	-	12x12 Floor Tile (1st floor old)	NAD	-	-	-
60A	C-136	Throughout First Floor	12x12 Floor Tile Mastic (1st floor old)	2% Chrysotile	8,500 SF	Good	4
60B	A-137		12x12 Floor Tile Mastic (1st floor old)	Stop Positive See 60A			
60C	A-110A		12x12 Floor Tile Mastic (1st floor old)	Stop Positive See 60A			
61A	A-432	-	Sink undercoating	NAD	-	-	-
61B	A-325	-	Sink undercoating	NAD	-	-	-
61C	A-131	-	Sink undercoating	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
62A	A-313	Second and Third Floors	Sheet Flooring - Type II (Old)	30% Chrysotile	350 SF	Good	4
62B	A-238		Sheet Flooring - Type II (Old)	Stop Positive See 62A			
63A	A-313	-	Sheet Flooring Adhesive -Type II (Old)	NAD	-	-	-
63B	A-238	-	Sheet Flooring Adhesive -Type II (Old)	NAD	-	-	-
64	C-509B	C-509B	2nd Layer Floor Tile	3% Chrysotile	200 SF	Good	4
65	C-509B		2nd Layer Floor Tile Mastic	10% Chrysotile	200 SF	Good	4
66A	A-02	-	12x12 Floor Tile (Basement old)	NAD	-	-	-
66B	A-016	-	12x12 Floor Tile (Basement old)	NAD	-	-	-
66C	A-004	-	12x12 Floor Tile (Basement old)	NAD	-	-	-
67A	A-02		12x12 Floor Tile Mastic (Basement old)	NAD	-	-	-
67B	A-016	Throughout Basement	12x12 Floor Tile Mastic (Basement old)	5% Chrysotile	16,000 SF	Good	4
67C	A-004		12x12 Floor Tile Mastic (Basement old)	Stop Positive See 67B			
68A	C-014	-	12x12 Floor Tile (Basement new)	NAD	-	-	-
68B	C-013	-	12x12 Floor Tile (Basement new)	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 3**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
69A	C-014	Throughout Basement	12x12 Floor Tile Mastic(Basement new)	3% Chrysotile	16,000 SF	Good	4
69B	C-013		12x12 Floor Tile Mastic(Basement new)	Stop Positive See 69A			
70A	Exterior	-	Window Frame Caulk	NAD	-	-	-
70B	Exterior	-	Window Frame Caulk	NAD	-	-	-
70C	Exterior	-	Window Frame Caulk	NAD	-	-	-
71A	Exterior	Doors	Door Frame Caulk	2.07% Chrysotile (TEM) 6.22% Anthophyllite (TEM)	80 LF	Good	4
71B	Exterior		Door Frame Caulk	Trace			
71C	Exterior		Door Frame Caulk	Trace			
72A	Exterior	Loading Dock	Expansion Joint Caulk	2% Chrysotile	200 LF	Good	4
72B	Exterior		Expansion Joint Caulk	Stop Positive See 72A			
72C	Exterior		Expansion Joint Caulk	Stop Positive See 72A			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
466	Third	Corridor Outside A-334	Wood Tread	West	Intact	Yellow	0.02
467	Third	Corridor Outside A-334	Concrete Tread	West	Intact	Yellow	0.05
468	Third	Corridor Outside A-334	Wood Door Casing	West	Intact	White	0.04
469	Third	Corridor Outside A-334	Wood Door	West	Intact	Gray	0
472	Third	Corridor Outside A-334	Plaster Wall	West	Intact	White	0
473	Third	Corridor Outside A-334	Metal Door Casing	North	Intact	Blue	0
474	Third	Corridor Outside A-334	Wood Door	North	Intact	Clear	0
476	Third	Corridor Outside A-334	Drywall Wall	North	Intact	Blue	0
477	Third	Corridor Outside A-332	Metal Door	North	Intact	Gray	0.03
478	Third	Corridor Outside A-332	Metal Door Casing	North	Intact	Blue	0.05
479	Third	Stair 4-3	Plaster Wall	North	Intact	White	0.03
480	Third	Stair 4-3	Metal Handrail	North	Intact	Black	1.9
484	Third	Stair 4-3	Concrete Tread	East	Intact	Gray	0.05
485	Third	Stair 4-3	Concrete Riser	East	Intact	Gray	0.03
486	Third	Stair 4-3	Plaster Wall	North	Intact	Gray	0.07
487	Third	A-334	Plaster Wall	West	Intact	Beige	0.04
488	Third	FC-AR-301	Wood Door	North	Intact	Red	0.02
489	Third	FC-AR-301	Plaster Wall	West	Intact	Red	0.05
490	Third	FC-AR-301	Wood Shelf	North	Intact	Red	0.05
496	Third	A338	Plaster Wall	South	Intact	White	0.02
497	Third	A338	Plaster Ceiling	NA	Intact	White	0.02
498	Third	A-331C	Plaster Wall	South	Intact	White	0.7
502	Third	A-331C	Plaster Ceiling	NA	Intact	White	0.09
503	Third	Corridor Outside A-331B	Wood Door	South	Intact	Brown	4.9
504	Third	Corridor Outside A-331B	Metal Trim	South	Intact	Blue	0.02
509	Third	A-319A	Metal Door Casing	South	Intact	Yellow	0.03
510	Third	A-320	Wood Wall	North	Intact	White	0
511	Third	A-320	Metal Radiator	North	Intact	White	0
512	Third	A-320	Metal Window Casing	North	Intact	Brown	0
513	Third	A-320	Metal Window Sill	North	Intact	White	0.1

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
514	Third	Corridor Outside A-324	Metal Window Sill	East	Fair	White	0.06
515	Third	Corridor Outside A-324	Metal Window Casing	East	Intact	White	0.05
516	Third	Corridor Outside A-324	Metal Window Sash	East	Intact	Brown	0.06
517	Third	Corridor Outside A-324	Metal Radiator	East	Intact	Blue	0.08
518	Third	A-325	Wood Wall	East	Intact	White	0.05
519	Third	A-327A	Wood Wall	Right	Intact	White	0.07
520	Third	A-327A	Metal Radiator	South	Intact	White	0.1
521	Third	A-327B	Plaster Wall	East	Intact	Yellow	0
530	Third	A327	Metal Door	West	Intact	Gray	0.01
531	Third	A327	Metal Door Casing	East	Intact	White	0.09
532	Third	A323	Plaster Wall	North	Intact	White	0.8
533	Third	A323	Plaster Wall	North	Intact	White	0.05
534	Third	A323	Metal Radiator	North	Intact	White	0.01
536	Third	A323A	Plaster Wall	North	Intact	White	0.6
538	Third	A323A	Plaster Ceiling	Na	Intact	White	0.08
539	Third	A-325	Metal Radiator	South	Fair	White	0.12
540	Third	A-325	Metal Cabinet	West	Intact	Green	0
541	Third	A-325	Drywall Wall	West	Intact	Green	0
546	Third	Corridor Outside A-342	Metal Floor	NA	Poor	Red	0
547	First	A120B	Plaster Wall	West	Fair	Beige	0.01
548	First	A120B	Metal Cabinet	North	Fair	Orange	0
549	First	A120B	Metal Door Casing	North	Intact	Beige	0.09
550	First	A120B	Metal Door	North	Intact	Blue	0
552	First	Corridor Outside A-120B	Plaster Wall	South	Intact	Beige	0
553	First	Corridor Outside A-120B	Plaster Column	South	Intact	Beige	0.02
554	First	A120	Plaster Wall	North	Intact	Blue	0
556	First	A120	Metal Radiator	North	Intact	Blue	1.7
558	First	A120	Metal Radiator	North	Intact	Beige	0.7
559	First	A120	Plaster Wall	North	Intact	Blue	0.05
560	First	A120	Metal Radiator	North	Fair	Blue	0.5
561	First	A121A	Metal Pipe	North	Poor	Tan	0.29
562	First	A121	Wood Door	East	Intact	White	0
563	First	A121	Metal Door Casing	East	Intact	Pink	0.05
564	First	A121	Plaster Wall	East	Intact	Pink	0.01
565	First	A121	Plaster Wall	South	Intact	Beige	0.02

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
566	First	A121	Metal Radiator	South	Intact	Beige	0.8
567	First	A122	Metal Radiator	South	Intact	White	0.04
568	First	A122	Metal Window Sill	South	Intact	White	0.09
569	First	A122	Metal Window Casing	South	Intact	White	0.05
570	First	A122	Plaster Wall	South	Intact	White	0.07
573	First	A119	Metal Radiator	North	Poor	White	0.03
574	First	A119	Metal Electrical Conduit	North	Poor	White	0.15
575	First	Corridor Outside A119	Wood Door	North	Intact	Blue	0
576	First	A123	Plaster Wall	South	Intact	Blue	0.01
577	First	A123	Plaster Window Return	South	Intact	White	0.03
578	First	A123	Plaster Window Return	South	Intact	White	0.02
580	First	A123	Metal Radiator	South	Intact	White	0.5
581	First	A123	Metal Radiator	South	Intact	White	1.7
582	First	A123	Metal Window Casing	South	Intact	White	0.03
583	First	A123	Wood Door Casing	West	Intact	Blue	0.03
584	First	A123	Wood Door Casing	West	Intact	Blue	0.1
585	First	A123	Wood Door	West	Intact	Blue	3.1
586	First	A123	Metal Duct	South	Intact	Brown	0
587	First	A123	Wood Door	North	Intact	Blue	0
588	First	A-130B	Plaster Wall	North	Intact	White	0.01
589	First	A-130B	Concrete Wall	East	Intact	White	0
590	First	A123	Metal Door	North	Intact	Blue	0.02
593	First	A131	Drywall Wall	North	Intact	White	0
594	First	A131	Metal Window Casing	North	Intact	White	0.02
595	First	A131	Wood Door	East	Intact	Clear	0
596	First	A131	Metal Door Casing	East	Intact	White	0
597	First	A115	Metal Radiator	East	Intact	White	0.02
598	First	A115	Plaster Wall	East	Intact	White	0.02
604	Third	A343C	Metal Door	South	Intact	Calibrate	0.01
605	Third	A343C	Metal Door Casing	South	Fair	Beige	0
606	Third	A342	Plaster Wall	South	Intact	Multi	0.01
607	Third	A343B	Metal Swinging Screen Assoc. With Window	West	Peeling	White	0.11

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
608	Third	A343B	Metal Window Casing	West	Cracked	White	0.09
609	Third	A343B	Metal Swinging Screen Casing	West	Intact	White	0.01
610	Third	A343B	Plaster Wall	West	Intact	Multi	0
611	Third	A343B	Metal Cabinet	West	Intact	Beige	0
612	Third	A342	Metal Radiator	West	Intact	White	0.23
613	Third	A342	Metal Swinging Screen Assoc. With Window	West	Intact	White	0.03
614	Third	A342	Metal Swinging Screen Casing	West	Intact	White	0.01
617	Third	A342	Plaster Wall	West	Fair	White	2
618	Third	A342	Plaster Wall	North	Intact	White	0.01
622	Third	A342	Plaster Wall	West	Fair	White	1.9
623	Third	A342	Plaster Wall	North	Intact	White	0
624	Third	A342	Plaster Wall	West	Fair	White	2.5
625	Third	A342	Metal Floor	NA	Poor	White	0
626	Third	A342	Plaster Wall	West	Fair	White	0
627	Third	A342	Plaster Wall	West	Fair	White	0
629	Third	A342	Metal Door	East	Fair	White	0.02
630	Third	A341	Plaster Wall	West	Fair	White	0.28
633	Third	A341	Plaster Wall	West	Fair	Yellow	0.05
634	Third	A341	Plaster Wall	South	Poor	Beige	0.5
635	Third	A341	Plaster Wall	West	Intact	Black	0.6
636	Third	A341	Metal Door Casing	South	Intact	Gray	0
640	Third	A339	Plaster Wall	East	Intact	Green	0.5
641	Third	Corridor Outside A310	Plaster Wall	West	Intact	Blue	0
643	Third	A342a	Plaster Wall	West	Intact	Yellow	0.02
644	Third	C337	Plaster Wall	North	Intact	White	0
645	Third	C337	Drywall Wall	North	Intact	White	0
647	Third	A347	Metal Radiator	North	Intact	White	0
648	Third	A347	Plaster Column	West	Intact	White	0.7
649	Third	Corridor Outside A347	Plaster Wall	North	Intact	White	1.5
650	Third	Corridor Outside A347	Plaster Wall	North	Intact	White	0
651	Third	Corridor Outside A347	Metal Floor	NA	Fair	Blue	0
652	Third	Corridor Outside C332	Plaster Wall	East	Intact	White	1.5
653	Third	C326	Plaster Wall	East	Intact	White	0.5
656	Third	C326	Plaster Wall	East	Intact	White	0.8
657	Third	C326	Plaster Wall	East	Intact	White	0.01



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
658	Third	C326	Metal Door Casing	East	Intact	White	0.04
659	Third	Corridor Outside C326	Metal Window Casing	North	Intact	White	0.09
660	Third	Corridor Outside C326	Metal Window Sill	North	Intact	White	0.08
662	Third	Corridor Outside C319	Plaster Wall	West	Intact	White	1.8
668	Third	C319	Plaster Wall	East	Fair	White	0.1
669	Third	C308	Drywall Wall	West	Intact	White	0
670	Third	C316	Drywall Wall	West	Intact	White	0
671	Third	Stair 3-3	Wood Trim	North	Intact	Beige	0
672	Third	Stair 3-3	Wood Access Panel	North	Intact	Beige	0
673	Third	Stair 3-3	Plaster Wall	West	Fair	Beige	0.02
674	Third	Stair 3-3	Concrete Floor	NA	Poor	Gray	0.03
675	Third	Stair 3-3	Plaster Trim	West	Intact	Gray	0.03
677	Third	Stair 3-3	Concrete Tread	NA	Fair	Gray	0.11
678	Third	Stair 3-3	Concrete Riser	NA	Intact	Gray	0.04
679	Third	Stair 3-3	Metal Handrail	South	Intact	Black	0.3
680	Third	Corridor Outside Stair 3-3	Metal Door	South	Fair	Blue	0
681	Third	Corridor Outside Stair 3-3	Metal Door Casing	South	Fair	Blue	0
682	Third	Corridor Outside Stair 3-3	Metal Door Casing	South	Fair	Blue	0
683	Third	C311	Plaster Wall	West	Poor	Multi	0.03
684	Third	C311	Metal Window Sill	West	Poor	Gray	0.04
685	Third	C311	Metal Window Casing	West	Poor	Gray	0.07
687	Third	C311	Metal Window Return	West	Poor	Gray	0.12
688	Third	Corridor Outside A346	Plaster Wall	South	Intact	White	2.1
691	Third	Corridor Outside B319	Plaster Wall	East	Intact	White	2.7
692	Third	B307	Plaster Wall	East	Intact	White	0
693	Third	Corridor Outside B311	Plaster Wall	North	Intact	White	3.2
694	Third	Corridor Outside B311	Metal Window Return	North	Intact	White	0.07
695	Third	Corridor Outside B311	Metal Radiator	North	Intact	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
696	Third	B327	Plaster Wall	East	Poor	Blue	0
697	Third	B327	Plaster Wall	East	Poor	Pink	0.04
698	Eighth	Elevator Machine Room	Concrete Floor	NA	Poor	Gray	0.04
699	Eighth	Elevator Machine Room	Concrete Column	West	Intact	Yellow	0.24
700	Eighth	Elevator Machine Room	Concrete Column	West	Intact	Gray	0.01
701	Eighth	Elevator Machine Room	Drywall Wall	East	Intact	White	0
702	Seventh	PH701	Metal Handrail	North	Intact	Black	5.2
704	Seventh	PH701	Metal Handrail	West	Intact	Red	0.02
705	Seventh	PH701	Concrete Column	West	Intact	Yellow	0.6
706	Seventh	PH701	Metal Ladder	East	Intact	Black	0
707	Seventh	PH701	Metal Stringer	East	Intact	Black	0
708	Seventh	PH701	Concrete Wall	North	Poor	Yellow	0.6
709	Seventh	STAIR 1-3	Plaster Wall	East	Poor	White	0.13
710	Sixth	ST-1-A701	Metal Cage	East	Poor	Beige	1.8
711	Sixth	ST-1-A701	Plaster Column	North	Fair	Pink	0.5
712	Sixth	ST-1-A701	Plaster Wall	East	Intact	Yellow	0.5
713	Sixth	ST-1-A701	Metal Door	West	Intact	Gray	0
714	Sixth	Corridor Outside ST-1-A-601	Metal Door Casing	East	Intact	Yellow	0.04
716	Sixth	Corridor Outside ST-1-A-601	Plaster Wall	West	Intact	White	0.5
717	Sixth	Corridor Outside A616	Metal Radiator	South	Intact	Pink	0.09
718	Sixth	Corridor Outside A616	Metal Window Sill	South	Intact	Gray	0.05
720	Sixth	FC-A-601	Wood Door	North	Intact	Red	0.04
722	Sixth	FC-A-601	Plaster Wall	South	Fair	Red	0.6
723	Sixth	FC-A-601	Wood Shelf	North	Fair	Red	0.01
726	First	Corridor Outside A-109	Plaster Wall	East	Fair	Multi	2.3
727	First	Corridor Outside A-109	Plaster Wall	East	Intact	Multi	2.1
728	First	Corridor Outside A-109	Plaster Wall	West	Intact	Multi	0
729	First	Corridor Outside A-109	Plaster Wall	West	Intact	Multi	2
730	First	B-108	Plaster Wall	West	Intact	White	0.4
731	First	B-108	Metal Radiator	West	Intact	White	0.03

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
732	First	B-108	Plaster Wall	North	Intact	Blue	0.09
733	First	B-108	Metal Door Casing	East	Intact	Pink	0.04
735	First	B-108	Plaster Wall	East	Intact	Blue	0.05
736	First	B-107	Drywall Wall	North	Intact	White	0.01
737	First	Corridor Outside B-108	Wood Door	West	Intact	Clear	0
738	First	Corridor Outside B-108	Plaster Wall	West	Intact	Multi	2.2
739	First	Corridor Outside B-108	Metal Bracket On Window Casing	North	Intact	Pink	0.01
740	First	Corridor Outside B-108	Metal Window Casing	North	Intact	Pink	0.03
741	First	B106	Plaster Wall	West	Intact	White	0.03
742	First	B106	Plaster Wall	North	Intact	Pink	0.01
743	First	B106	Plaster Wall	North	Intact	White	0.05
744	First	B109A	Plaster Wall	East	Fair	White	0.03
746	First	B113	Metal Door Casing	West	Poor	Green	0.07
747	First	B121B	Plaster Wall	North	Poor	White	0
748	First	B117	Wood Wall	South	Fair	White	0
749	First	B117	Plaster Wall	West	Intact	White	0
750	First	B117	Metal Cabinet	South	Fair	Yellow	0.24
751	First	B117	Plaster Column	East	Fair	White	0.01
752	First	B117	Metal Radiator	South	Intact	White	0.02
753	First	B117	Plaster Wall	North	Fair	White	0
755	First	B117	Drywall Wall	West	Intact	White	0.04
756	First	B121	Plaster Wall	East	Fair	White	0.5
757	First	B121	Plaster Wall	West	Fair	White	0.04
758	First	B121B	Plaster Wall	West	Fair	White	0.5
759	First	B121	Plaster Wall	North	Fair	White	0.06
762	First	B121A	Plaster Wall	South	Intact	White	0.5
763	First	A105	Plaster Wall	South	Intact	White	0.4
764	First	A105	Plaster Wall	East	Intact	White	0.06
766	First	A105	Metal Radiator	South	Fair	White	0.01
767	First	B122B	Plaster Wall	South	Intact	White	0.6
768	First	B122B	Plaster Wall	North	Intact	White	0
770	First	B122B	Plaster Column	North	Intact	White	0.5
771	First	B122B	Metal Floor	NA	Intact	Green	0.01
772	First	A102A	Plaster Wall	South	Intact	White	0
773	First	A103B	Plaster Wall	North	Intact	White	0.7
775	First	A103B	Metal Radiator	North	Intact	White	1.3
776	First	A101D	Plaster Wall	East	Intact	White	0
777	First	A101D	Plaster Wall	East	Intact	White	0
778	First	A101F	Metal Radiator	North	Intact	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
780	First	Corridor Outside C122a	Plaster Wall	West	Intact	White	0
781	First	C-129	Drywall Wall	East	Intact	White	0
783	First	C123	Plaster Wall	West	Intact	White	0
784	First	Corridor Outside C123	Drywall Wall	West	Intact	Multi	0
785	First	Corridor Outside C122A	Metal Door Casing	West	Intact	Pink	0
786	First	Corridor Outside C121	Plaster Wall	North	Intact	Multi	0
787	First	C104B	Plaster Wall	East	Intact	White	0
788	First	Corridor Outside C104b	Plaster Wall	South	Intact	White	1.7
789	First	C116	Plaster Wall	North	Intact	White	0.05
790	First	C116	Metal Swinging Screen Assoc. With Window	North	Intact	White	0.06
791	First	C116	Plaster Column	West	Intact	White	0
792	First	C116	Metal Radiator	North	Fair	White	0.07
793	First	C116	Plaster Ceiling	NA	Fair	White	0.5
794	First	C116	Metal Door Casing	South	Fair	Pink	0
795	First	C116	Metal Door	South	Intact	Beige	0
796	First	Corridor Outside C113	Plaster Wall	West	Intact	Multi	2.5
797	First	Corridor Outside C113	Plaster Wall	South	Intact	Multi	1.7
798	First	C113	Plaster Wall	North	Intact	Multi	0.03
799	First	C113	Plaster Wall	South	Intact	White	0.02
800	First	C113	Plaster Wall	West	Intact	Pink	0.4
801	First	C112	Plaster Wall	West	Fair	Blue	0
802	First	C112	Plaster Wall	South	Fair	White	0.4
803	First	C112	Wood Cabinet	South	Fair	White	0
804	First	C112	Plaster Wall	North	Intact	White	0.05
805	First	Corridor Outside C112	Plaster Wall	South	Intact	Multi	2.3
807	First	Stair 3-3	Plaster Wall	South	Intact	Multi	0.01
808	First	Stair 3-3	Metal Door	South	Cracked	Beige	2.6
809	First	Stair 3-3	Wood Door Casing	South	Cracked	Beige	6
811	First	Stair 3-3	Plaster Wall	East	Poor	White	0.01
812	First	Stair 3-3	Plaster Ceiling	NA	Fair	White	0.04
813	First	Stair 3-3	Metal Handrail	South	Intact	Black	0.14
814	First	A136	Plaster Column	South	Intact	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
815	First	A136	Plaster Wall	East	Intact	White	2.5
822	First	C130	Plaster Wall (Exterior)	North	Fair	Pink	0.3
823	First	C130	Metal Radiator	North	Intact	Pink	0.3
824	First	C130	Plaster Column	West	Intact	Pink	0.4
825	Sixth	C624B	Brick Wall (Exterior)	South	Cracked	White	0.02
826	Sixth	C624B	Concrete Wall (Exterior)	South	Cracked	White	0.6
827	Sixth	C624B	Drywall Wall (Interior)	North	Intact	White	0
829	Sixth	C624B	Concrete Window Sill	South	Cracked	White	0.01
830	Sixth	C624B	Metal Door	North	Fair	Beige	0
831	Sixth	C624B	Metal Door Casing	North	Fair	White	0.01
832	Sixth	C626-B	Metal Door Casing	South	Intact	White	0
833	Sixth	C626-B	Wood Door	South	Intact	Clear	0
834	Sixth	C626-B	Concrete Column	West	Intact	White	0.02
835	Sixth	C626-B	Brick Wall (Exterior)	West	Intact	White	0.02
836	Sixth	C626-B	Concrete Wall (Exterior)	West	Intact	White	0
837	Sixth	C626-B	Metal Duct	East	Intact	White	0.25
838	Sixth	CRA603	Metal Door	East	Intact	Beige	0.01
839	Sixth	Stair 3-3	Metal Tread	West	Intact	Brown	0
840	Sixth	Stair 3-3	Metal Handrail	South	Intact	Brown	0
841	Sixth	Stair 3-3	Metal Stringer	South	Intact	Brown	0
842	Sixth	Stair 3-3	Plaster Wall (Interior)	East	Intact	Brown	0
844	Sixth	Stair 3-3	Plaster Wall (Exterior)	West	Fair	White	0.01
845	Sixth	A-626	Plaster Wall (Interior)	South	Intact	White	0.09
848	Sixth	A-626A	Plaster Wall (Exterior)	North	Intact	White	0
849	Sixth	A-626A	Metal Door Casing	South	Cracked	White	0.12
850	Sixth	A-626A	Plaster Wall (Interior)	East	Intact	White	0.02
851	Sixth	A-619	Plaster Column	South	Intact	White	0
852	Sixth	A-619	Plaster Wall (Exterior)	South	Intact	White	0.16
853	Sixth	A-619	Metal Radiator	South	Intact	White	0.1

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
854	Sixth	A-619	Metal Window Casing	South	Intact	White	0.04
855	Sixth	A-619	Metal Window Sill	South	Intact	White	0.1
856	Sixth	Corridor Outside A-606	Metal Window Sill	South	Cracked	White	0.01
857	Sixth	Corridor Outside A-606	Metal Window Return	South	Fair	White	0.01
858	Sixth	A-604	Plaster Wall (Interior)	South	Intact	White	0.09
860	Sixth	A-604	Plaster Wall (Exterior)	North	Fair	White	0.03
862	Sixth	A-604	Plaster Wall (Interior)	West	Intact	White	0.04
863	Sixth	A-604	Metal Door Casing	West	Intact	White	0.04
865	Sixth	A-604A	Plaster Wall (Interior)	South	Intact	White	0.04
867	Sixth	Corridor Outside A615A	Drywall Wall (Interior)	North	Intact	Multi	0.01
868	Fifth	A-502	Wood Wall (Exterior)	North	Intact	White	0
869	Fifth	Corridor Outside A-502	Metal Door	North	Intact	Beige	0
870	Fifth	Corridor Outside A-502	Metal Door Casing	North	Intact	Pink	0
871	Fifth	A-502	Metal Window Sill	North	Intact	White	0.06
872	Fifth	A-502	Metal Radiator	North	Fair	White	0.01
873	Fifth	A-502	Wood Infill at Air Conditioner	North	Intact	Brown	0
874	Fifth	Corridor Outside A-502	Plaster Wall (Interior)	North	Intact	Pink	0
875	Fifth	Corridor Outside A-502	Plaster Wall (Interior)	North	Intact	Pink	2
876	Fifth	ST1A-501	Metal Escutcheon Plate At Sprinkler Main	North	Intact	Yellow	0.03
877	Fifth	ST1A-501	Metal Sprinkler Main	North	Fair	Red	16.6
878	Fifth	ST1A-501	Plaster Wall (Interior)	North	Intact	Yellow	0.06
879	Fifth	Corridor Outside	Drywall Wall (Interior)	North	Intact	Multi	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
		B-522A					
880	Fifth	Corridor Outside B-520A	Plaster Wall (Interior)	North	Intact	Multi	2
883	Fifth	Corridor Outside B522A	Metal Radiator	East	Intact	Blue	0.06
884	Fifth	Corridor Outside B522A	Metal Radiator	East	Intact	Blue	0.3
885	Fifth	Corridor Outside B522A	Metal Window Sill	East	Fair	Blue	2.7
886	Fifth	Corridor Outside B522A	Metal Window Casing	East	Fair	Blue	1.9
887	Fifth	Stair 2-3	Plaster Wall (Exterior)	South	Fair	Beige	0.08
888	Fifth	Stair 2-3	Plaster Wall (Interior)	West	Intact	Beige	0.06
889	Fifth	Stair 2-3	Metal Handrail	South	Intact	Black	1.4
890	Fifth	Stair 2-3	Concrete Floor	South	Fair	Gray	0.07
891	Fifth	Stair 2-3	Concrete Tread	South	Fair	Gray	0.08
893	Fifth	Stair 2-3	Plaster Trim	South	Intact	Gray	0.09
895	Fifth	Stair 2-3	Plaster Wall (Interior)	South	Intact	Beige	0.15
896	Fifth	Stair 2-3	Metal Sprinkler Main	North	Intact	Beige	13
897	Fifth	Corridor Outside ST-2-B-501	Metal Door	South	Intact	Blue	0.06
898	Fifth	Corridor Outside ST-2-B-501	Metal Door Casing	South	Intact	Blue	0.22
899	Fifth	B-524	Plaster Wall (Exterior)	South	Intact	White	0.07
900	Fifth	B-524	Plaster Column	North	Intact	White	0.02
901	Fifth	B-524	Metal Door Casing	North	Fair	White	0.07
902	Fifth	B-524	Wood Trim	North	Intact	Beige	0.17
905	Fifth	Corridor Outside B-514	Plaster Wall (Exterior)	East	Intact	Multi	1.7
907	Fifth	Corridor Outside B-514	Metal Door Casing	West	Fair	Yellow	0.02
911	Fifth	B512A	Plaster Wall (Interior)	North	Intact	White	0.05

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
912	Fifth	B512A	Metal Window Sill	East	Intact	White	3
913	Fifth	B512A	Metal Radiator	East	Intact	White	0.09
914	Fifth	B507	Metal Frame	South	Fair	Yellow	0.16
915	Fifth	B-511	Plaster Wall (Interior)	South	Intact	White	0.13
916	Fifth	B-511	Plaster Wall (Exterior)	East	Fair	White	0.03
917	Fifth	B-511	Metal Window Sill	East	Fair	White	2.2
918	Fifth	B-511	Metal Window Casing	East	Fair	White	2
919	Fifth	B-511	Plaster Wall (Interior)	West	Intact	White	0.12
922	Fifth	Corridor Outside B512	Plaster Wall (Interior)	East	Intact	Multi	2.4
923	Fifth	B-501	Plaster Wall (Interior)	South	Intact	White	0.02
924	Fifth	B-501	Plaster Wall (Exterior)	North	Cracked	White	0.11
926	Fifth	B-501	Metal Window Sill	North	Cracked	White	2.8
927	Fifth	B-501	Metal Window Casing	North	Cracked	White	2.1
929	Fifth	B-501	Metal Door Casing	South	Intact	White	0.04
930	Fifth	Corridor Outside A504	Plaster Wall (Interior)	North	Intact	Multi	0
932	Fifth	Corridor Outside A504	Plaster Wall (Interior)	North	Intact	Multi	2.6
933	Fifth	C510	Plaster Wall (Exterior)	North	Intact	White	0
934	Fifth	C510	Metal Window Casing	North	Intact	White	1.5
935	Fifth	C510	Wood Chair Rail	South	Intact	White	0
936	Fifth	C510	Plaster Wall (Interior)	South	Intact	White	0.01
938	Fifth	C510	Plaster Wall (Interior)	South	Intact	White	0
939	Fifth	C510	Plaster Wall (Interior)	South	Intact	White	0.04
940	Fifth	Corridor Outside C510	Plaster Wall (Interior)	North	Intact	Multi	2
941	Fifth	Corridor Outside C510	Metal Door Casing	North	Intact	Pink	0.03
942	Fifth	Corridor Outside C510	Wood Door	North	Intact	Clear	0



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
945	Fifth	C512	Plaster Wall (Interior)	East	Intact	White	0.21
946	Fifth	C512	Plaster Wall (Exterior)	North	Intact	Multi	0.03
947	Fifth	C512	Plaster Wall (Exterior)	North	Intact	Multi	0.04
948	Fifth	C512	Plaster Wall (Exterior)	North	Intact	Multi	0.08
949	Fifth	Corridor Outside A514	Metal Door	South	Fair	Pink	0
950	Fifth	A514	Plaster Column	South	Intact	Multi	0.1
951	Fifth	A514	Metal Radiator	South	Intact	Pink	0.12
952	Fifth	A514	Metal Window Casing	South	Intact	Pink	0.02
953	Fifth	A514	Plaster Wall (Interior)	South	Intact	Multi	2.6
954	Fifth	A514	Metal Door Casing	South	Intact	Pink	0.14
956	Fifth	Corridor Outside C513	Plaster Wall (Interior)	West	Intact	Multi	2.5
957	Fifth	Corridor Outside C517	Plaster Wall (Interior)	East	Intact	Multi	1.9
959	Fourth	Stair 1-3	Plaster Wall (Interior)	North	Intact	Green	0.02
960	Fourth	Corridor Outside A402	Plaster Wall (Interior)	North	Intact	Beige	2.4
963	Fourth	Corridor Outside A402	Plaster Wall (Interior)	North	Intact	Beige	0
964	Fourth	A-420a	Drywall Wall (Exterior)	South	Intact	Gray	0
965	Fourth	A-421	Drywall Wall (Interior)	East	Intact	Gray	0
966	Fourth	A-418	Metal Radiator	North	Intact	Beige	0
968	Fourth	A-427	Drywall Wall (Interior)	East	Intact	Green	0
969	Fourth	Corridor Outside Stair 4-3	Plaster Wall (Interior)	West	Intact	White	0.17
970	Fourth	Corridor Outside Stair 4-3	Metal Door Casing	South	Intact	White	0.08
971	Fourth	Corridor Outside Stair 4-3	Drywall Wall (Interior)	West	Intact	Green	0
972	Fourth	Stair 4-3	Metal Door	South	Intact	White	0.01
973	Fourth	Stair 4-3	Metal Fence	East	Fair	White	7.9

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
974	Fifth	PHD-03	Brick Wall (Exterior)	North	Poor	Yellow	0
975	Fifth	PHD-03	Concrete Wall (Exterior)	North	Poor	Yellow	0.03
976	Fifth	PHD-03	Concrete Column	North	Poor	Yellow	0
977	Fifth	PHD-03	Metal Pipe	North	Poor	Gray	0.4
978	Fourth	Corridor Outside A-417	Metal Door Casing	East	Intact	Beige	0
979	Fourth	Corridor Outside A-434	Drywall Wall (Interior)	West	Intact	Gray	0
980	Fourth	A412	Drywall Wall (Exterior)	East	Intact	White	0
990	Fourth	400F	Plaster Wall (Interior)	South	Fair	White	0
991	Fourth	400F	Metal Window Sill	West	Intact	White	0.12
992	Fourth	400F	Metal Window Casing	West	Intact	White	0.12
993	Fourth	400F	Metal Radiator	West	Intact	White	0
995	Fourth	C-410D	Plaster Wall (Exterior)	North	Intact	White	0.05
996	Fourth	C-410D	Drywall Wall (Interior)	West	Intact	White	0
997	Fourth	C-410D	Metal Radiator	North	Intact	White	0.25
998	Fourth	C-410D	Metal Pipe Chase	North	Intact	White	0.6
999	Fourth	C-410D	Metal Door Casing	South	Intact	White	0.19
1000	Fourth	C-410D	Drywall Wall (Interior)	South	Intact	White	0
1001	Fourth	Corridor Outside C-410d	Drywall Wall (Interior)	North	Intact	Green	0
1004	Fourth	C-408	Metal Privacy Partition	West	Intact	Blue	0.13
1008	Fourth	Corridor Outside C-411	Plaster Wall (Interior)	North	Intact	Green	0.7
1013	Fourth	C-408	Drywall Wall (Exterior)	West	Intact	White	0
1014	Fourth	Corridor Outside C-421	Metal Window Casing	North	Intact	Green	0.02
1015	Fourth	C-417A	Plaster Wall (Interior)	East	Intact	White	0.02
1016	Fourth	C-417	Metal Door Casing	South	Intact	White	0.04
1017	Fourth	B-401	Plaster Wall (Exterior)	North	Intact	White	0.3

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1019	Fourth	B-401	Plaster Column	North	Intact	White	0.7
1020	Fourth	B-401	Metal Radiator	North	Intact	White	0.04
1021	Fourth	B-401	Metal Window Casing	North	Intact	White	0.02
1024	Fourth	B-401	Metal Window Sill	North	Intact	White	0
1025	Fourth	Corridor Outside B-401	Plaster Wall (Interior)	North	Intact	White	2.5
1027	Fourth	Corridor Outside B-401	Plaster Wall (Interior)	North	Intact	White	0
1028	Fourth	Corridor Outside B-401	Metal Door Casing	North	Intact	White	0
1031	Fourth	B-415A	Wood Door	North	Intact	Clear	0.01
1032	Fourth	B-415	Plaster Wall (Interior)	West	Intact	White	0.7
1033	Fourth	B-415	Metal Door Casing	North	Intact	White	0.11
1034	Fourth	Corridor Outside B-415	Plaster Wall (Interior)	East	Intact	White	2.3
1036	Fourth	Corridor Outside B-415	Plaster Wall (Interior)	East	Intact	White	0
1037	Second	Construction Area	Plaster Column	South	Intact	White	0.03
1038	Second	Construction Area	Plaster Column	East	Intact	White	0.02
1039	Second	Construction Area	Metal Window Casing	East	Intact	White	0.05
1040	Second	Construction Area	Plaster Wall (Exterior)	East	Intact	White	0.06
1041	Second	Construction Area	Metal Radiator	East	Intact	White	0.03
1042	Second	Construction Area	Metal Window Return	East	Intact	Gray	0.09
1043	Second	Construction Area	Metal Window Casing	West	Intact	Red	0
1044	Second	Construction Area	Plaster Wall (Interior)	East	Intact	Multi	0.08
1045	Second	Construction Area	Metal Door Casing	South	Intact	Gray	0.18
1046	Second	C-205	Plaster Wall (Exterior)	South	Intact	Gray	0.03
1048	Second	C-211	Plaster Wall (Exterior)	North	Intact	Blue	0.02
1049	Second	C-211	Metal Door Casing	East	Intact	White	0.03
1050	Second	C-211	Metal Window Sill	North	Fair	Blue	0.02

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1053	Second	C-211	Plaster Wall (Interior)	South	Intact	White	0.6
1054	Second	C-211	Wood Shelf	South	Intact	White	0
1057	Second	C212	Metal Window Sash	North	Intact	Black	0.24
1059	Second	C-214	Plaster Wall (Exterior)	North	Intact	Pink	0.5
1060	Second	C-214	Plaster Column	North	Intact	White	0
1062	Second	C-214	Plaster Column	North	Intact	White	0
1136	Second	A-237	Plaster Wall (Interior)	South	Intact	White	0.03
1137	Second	A-237	Plaster Wall (Exterior)	North	Intact	White	0.03
1138	Second	A-237	Metal Window Casing	North	Intact	White	0.05
1139	Second	A-237	Metal Window Sash	North	Intact	Brown	0.27
1141	Second	A-237	Plaster Wall (Interior)	North	Intact	White	0.7
1142	Second	B-201	Plaster Column	North	Intact	White	0.02
1143	Second	B-201	Metal Window Sill	North	Poor	Beige	0.08
1144	Second	Corridor Outside B-201	Plaster Wall (Interior)	North	Intact	White	0
1145	Second	Corridor Outside B-201	Plaster Wall (Interior)	North	Intact	White	0.5
1146	Second	B-213	Plaster Wall (Interior)	South	Intact	White	0.5
1147	Second	B-213	Plaster Wall (Interior)	South	Fair	White	0.04
1148	Second	B-213	Window Glazing (X-Ray Control Room)	South	Fair	White	68.9
1149	Second	B-213a	Plaster Wall (Interior)	North	Intact	White	0.5
1150	Second	B-213	Metal Cabinet	East	Intact	Gray	6
1151	Second	B-213	Plaster Wall (Interior)	West	Intact	White	0.06
1152	Second	B-219	Drywall Wall (Interior)	North	Intact	White	45.1
1153	Second	B-219	Plaster Wall (Interior)	East	Intact	Green	0.03
1159	Second	B-225	Plaster Wall (Exterior)	South	Fair	White	0
1160	Second	B-225	Plaster Wall (Interior)	East	Intact	Blue	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1161	Second	Corridor Outside B-225	Drywall Wall (Interior)	South	Intact	White	0
1162	Second	B-205	Drywall Wall (Interior)	East	Intact	White	8.4
1165	Second	B-207	Metal Window Casing	East	Intact	White	0.07
1166	Second	B-207	Metal Radiator	East	Intact	White	0.17
1167	Second	B-207	Plaster Wall (Interior)	West	Intact	White	2.8
1169	Second	B-209	Metal Door Casing	West	Intact	White	0.07
1170	Second	A-215	Plaster Window Casing	South	Intact	Beige	0.01
1173	Second	A-215	Wood Wall (Exterior)	South	Intact	Beige	0
1174	Second	A-215	Wood Trim	South	Intact	Black	0
1175	Second	A-215	Drywall Column	South	Intact	Beige	0
1176	Second	A-215e	Plaster Wall (Interior)	South	Intact	White	0.01
1177	Second	A-215e	Plaster Wall (Interior)	North	Intact	White	1.1
1181	Second	A-215e	Wood Door Casing	West	Intact	White	0.1
1182	Second	A-226	Metal Door Casing	East	Fair	White	0
1185	First	Stair 1-3	Wood Door	South	Fair	Blue	4.3
1186	First	Stair 1-3	Wood Door Casing	South	Fair	Blue	6.3
1187	First	Stair 1-3	Plaster Wall (Exterior)	South	Poor	Blue	0.02
1188	Basement	A-001	Brick Wall (Interior)	West	Intact	White	0.04
1189	Basement	A-001	Concrete Column	South	Intact	White	0.01
1190	Basement	B-006b	Concrete Column	South	Intact	Yellow	0.01
1192	Basement	B-006b	Metal Door	South	Fair	Yellow	0
1193	Basement	B-006b	Metal Door Casing	South	Fair	Yellow	0
1194	Basement	B-006b	Concrete Wall (Interior)	West	Fair	Yellow	0
1195	Basement	A-006	Drywall Wall (Interior)	North	Fair	Yellow	0
1196	Basement	B-006c	Concrete Floor	Na	Poor	Green	0.01
1197	Basement	B-006c	Concrete Wall (Interior)	East	Poor	Green	0
1198	Basement	B-006c	Concrete Column	East	Poor	Beige	0.01
1199	Basement	B-006	Concrete Floor Stripe	Na	Fair	Red	0.12

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1200	Basement	Corridor Outside B006	Metal Door Casing	North	Fair	Beige	0.01
1201	Basement	Corridor Outside B006	Metal Door	South	Fair	Beige	0
1202	Basement	A-026	Wood Wall (Interior)	East	Fair	Beige	0
1203	Basement	A-026	Drywall Wall (Interior)	East	Fair	White	0
1204	Basement	A-026	Metal Window Casing	North	Fair	Pink	0
1205	Basement	A-003	Plaster Wall (Interior)	South	Intact	White	0.05
1206	Basement	A-003	Metal Radiator	North	Intact	White	0.08
1207	Basement	A-003	Metal Door Casing	West	Intact	White	0.04
1208	Basement	A-003	Metal Radiator	West	Intact	White	0.01
1211	Basement	Corridor Outside A-003A	Metal Door	South	Intact	Beige	0
1212	Basement	C-014	Plaster Column	North	Fair	Beige	0
1213	Basement	C-014	Metal Window Casing	South	Fair	White	0
1215	Basement	C-005	Drywall Wall (Interior)	North	Intact	White	0
1216	Basement	A-012A	Brick Wall (Interior)	North	Intact	White	0.05
1217	Basement	A-012A	Concrete Column	South	Intact	White	0
1218	Basement	A-012A	Concrete Wall (Exterior)	South	Intact	White	0
1220	Basement	Corridor Outside A-018	Concrete Wall (Exterior)	West	Intact	White	0.09
1221	Basement	Corridor Outside A-018	Metal Radiator	West	Intact	White	0.11
1222	Basement	Corridor Outside A-018	Metal Window Sash	East	Intact	Brown	0.6
1225	Basement	Corridor Outside A-018	Metal Window Casing	West	Intact	Brown	0
1226	Exterior	Exterior	Metal Vent	North	Intact	Gray	4.4
1227	Exterior	Exterior	Metal Door Casing	East	Intact	Brown	0
1228	Exterior	Exterior	Metal Window Well Security Grate	South	Fair	Black	3
1229	Exterior	Exterior	Metal Handrail	South	Fair	Black	0
1230	Exterior	Exterior	Wood Door	South	Poor	Brown	20.5
1231	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	21.3

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 3**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1232	Exterior	Exterior	Metal Door	East	Intact	Brown	0.01
1233	Exterior	Exterior	Metal Handrail	South	Poor	Black	0.5
1234	Exterior	Exterior	Metal Trim	South	Poor	Yellow	0.05
1238	Exterior	Exterior	Metal Bollard	South	Intact	Yellow	0.5

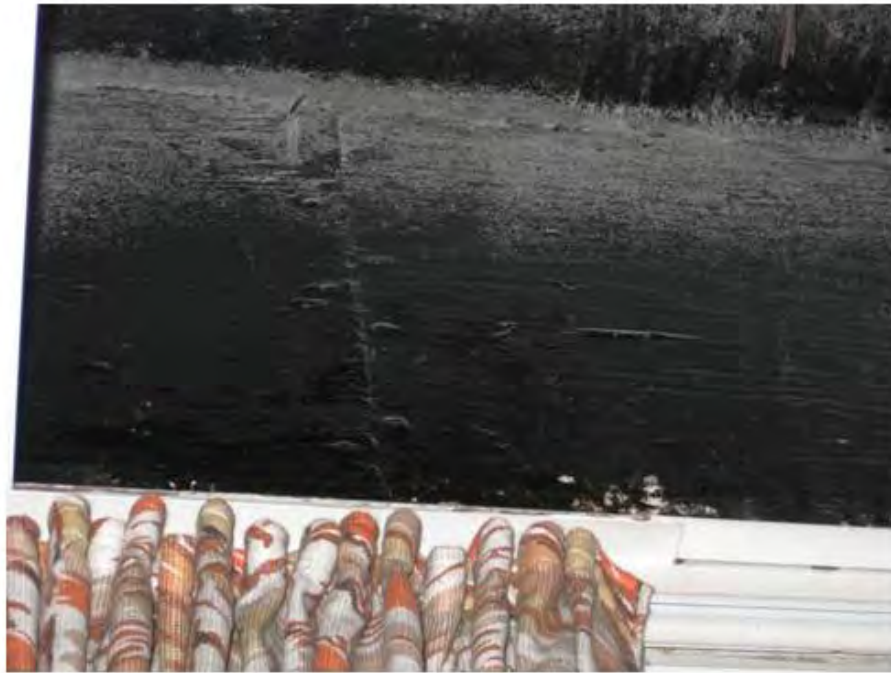
Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM





BlackDamp Proofing, Sample 7A



Window Caulk, Sample 8A



Black Ebony Board, Sample 9A



Transite Heater Panel, Sample 13A



4" Pipe Insulation, Sample 17A



Black Cork Pipe Insulation, Sample 22A



9"x9" Floor Tile-Type I, Sample 29A



12"x12" Floor Tile and Mastic (6<sup>th</sup> Floor Old), Samples 31A and 32A





SheetFlooring-Type I (Old), Sample 34A



12"x12" Floor Tile and Mastic (5<sup>th</sup> Floor New), Samples 39A and 40A



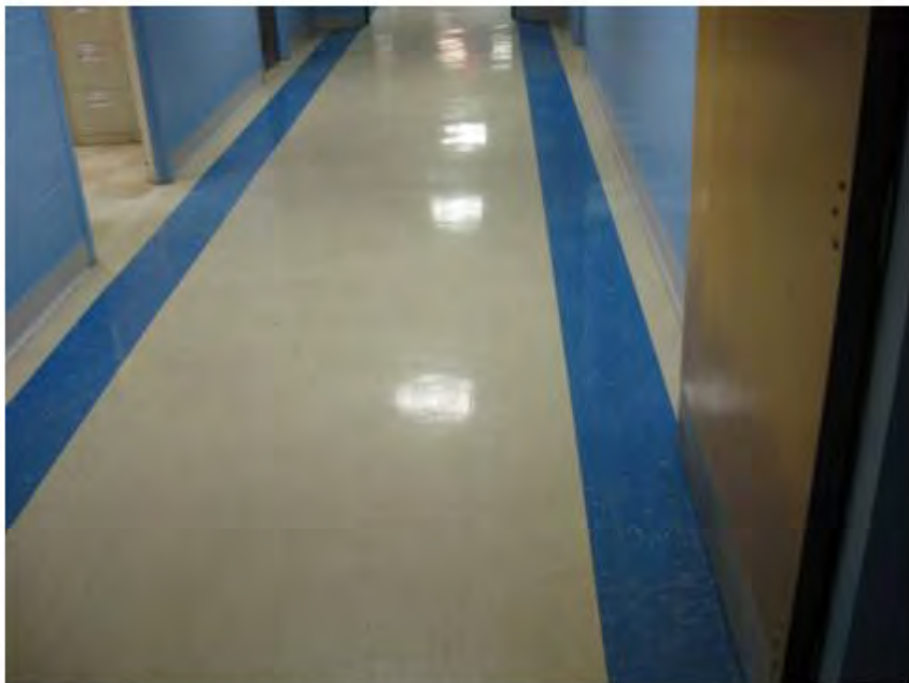
12"x12" Floor Tile and Mastic (5<sup>th</sup> Floor Old), Samples 41A and 42A



12"x12" Floor Tile and Mastic (4<sup>th</sup> Floor Old), Samples 45A and 46A



Sheet Flooring- Type II Adhesive (4<sup>th</sup> Floor New), Sample 48A



12"x12" Floor Tile and Mastic (3<sup>rd</sup> Floor Old), Samples 51A and 52A



9"x9" Floor Tile- Type II, Sample 53A



12"x12" Floor Tile (2<sup>nd</sup> Floor Old), Sample 55A





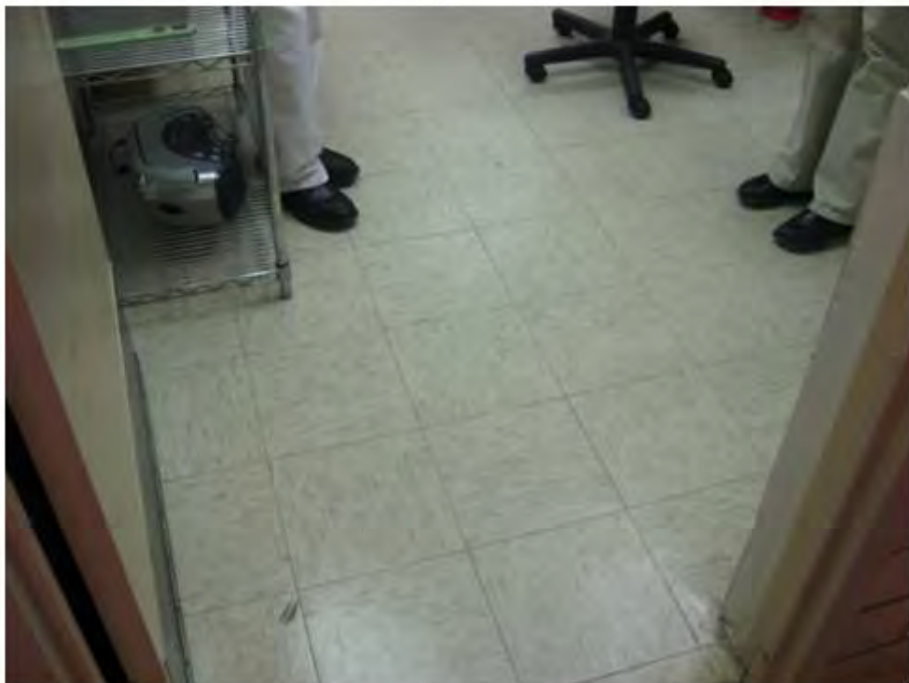
12"x12" Floor Tile Mastic (1<sup>st</sup> Floor Old), Sample 60A



Sheet Flooring-Type II (Old), Sample 62A



2<sup>nd</sup> Layer of Floor Tile and Mastic under 12"x12" Floor Tile and Mastic (5<sup>th</sup> Floor Old),  
Samples 64 and 65



12"x12" Floor Tile Mastic (Basement Old), Sample 67B



12"x12" Floor Tile Mastic (Basement new), Sample 69A



Door Frame Caulking, Sample 71A



Expansion Joint Caulk, Sample 72A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Plaster Wall, Reading 617



Metal Sprinkler Pipe, Reading 877



Metal Window Casing and Sill, Readings 885 and 886



Metal Fence, Reading 973



Metal Window Well Security Gate, Reading 1228



**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 4**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 149 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 11 of the collected samples contained asbestos greater than or equal to 1%.**
- 174 XRF analyzer measurements of building surfaces were taken in this building.
- **35 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 4 was a three-story Nursing Home built in 1955 and occupied approximately 117,608 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 4			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 4**

Brookton VA Medical Center, Building 1							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
2A	C-032	Conference Room and Soiled Linen Room	4" Pipe Insulation	40% Chrysotile 5% Amosite	100 LF	Good	4
2B							
2C	B-005						
27A	A-039	Office	9"x9" Green Floor Tile Mastic	2% Chrysotile	230 SF	Good	4
27B							
29A	B-005	Conference Room	12"x12" Light Brown Floor Tile	2% Chrysotile	375 SF	Good	4
29B							
30A	B-005	Conference Room	12"x12" Light Brown Floor Tile Mastic	10% Chrysotile		Good	4
30B							
31A	A-001	Wood Working Shop	12"x12" Tan Floor Tile	5% Chrysotile	1,600 SF	Good	4
31B							
32A	A-001	Wood Working Shop	12"x12" Tan Floor Tile Mastic	10% Chrysotile		Good	4
32B							
36A	C-022F	Day Care	12"x12" Gray Floor Tile Mastic Type II	2% Chrysotile	1,200 SF	Good	4
36B	C-022B						
40A	Exterior	Perimeter of Doors	Door Caulk	16.65% Anthophyllite <sup>1</sup> 0.83% Chrysotile <sup>1</sup>	180 LF	Good	4
42A	A-103	Office	9"x9" Tan Floor Tile	15% Chrysotile	160 SF	Good	4
42B							
42C							
44A	A-202	Office Under Carpet	12"x12" Floor Tile	20% Chrysotile	700 SF	Good	4
44B							
44C							
47A	A-018	Arts and Crafts Room	12"x12" Light Green with Brown Spots Floor Tile Mastic	10% Chrysotile	900 SF	Good	4
47B							
47C							
Footnotes:							
1 – Analyzed by TEM				SF – Square Feet LF – Linear Feet			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as



a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary Of Positive XRF Measurements Brockton VA Medical Center, Building 4							
Reading No.	Floor	Location	Substrate And Component	Side	Condition	Color	Results (Mg/Cm <sup>2</sup> )
1424	First	B-015	Plaster Wall (Exterior)	South	Intact	White	0.12
1425	First	B-015	Metal Pipe	South	Poor	White	0.3
1428	First	B-015	Metal Radiator	South	Intact	White	0.13
1439	First	Corridor Outside B-013	Wood Door	West	Fair	Pink	5.9

Table 3 - Summary Of Positive XRF Measurements Brockton VA Medical Center, Building 4							
Reading No.	Floor	Location	Substrate And Component	Side	Condition	Color	Results (Mg/Cm <sup>2</sup> )
1440	Basement	Corridor Outside FC-B-001	Metal Door	North	Poor	Red	4.6
1446	Basement	Stair 2-4	Concrete Riser	West	Poor	Red	0.17
1447	Basement	Stair 2-4	Metal Handrail	West	Poor	Black	8.4
1449	Basement	Stair 2-4	Plaster Wall (Interior)	West	Intact	White	0.4
1459	Basement	Corridor Outside A-018	Metal Door Casing	South	Fair	Beige	0.23
1464	Basement	Outside A-019	Wood Door Casing	West	Intact	Brown	1.1
1466	Basement	A-001	Metal Radiator	West	Fair	White	0.21
1471	Basement	A-001	Metal Window Casing	West	Cracked	White	0.5
1474	Basement	A-001	Metal Pipe	North	Intact	Gray	0.5
1482	Basement	C-024	Plaster Wall (Interior)	West	Intact	Pink	0.3
1486	Basement	C-024	Wood Door	East	Fair	White	6.1
1488	Basement	C-024	Metal Privacy Partition	North	Poor	Brown	0.3
1491	Basement	Corridor Outside C-024	Wood Door	South	Poor	Beige	4.1
1502	First	A-104	Metal Radiator	West	Intact	Blue	0.21
1503	First	A-104	Metal Window Sash	North	Intact	Brown	0.23
1512	First	C-113	Metal Radiator	South	Intact	White	0.13
1524	First	C-137	Metal Radiator	North	Intact	White	0.5
1530	First	B-107	Metal Window Casing	West	Intact	Brown	0.6
1537	First	Fc-101	Plaster Wall (Interior)	North	Intact	Red	0.17
1544	First	Stair 2-4	Plaster Wall (Exterior)	North	Fair	Blue	0.6
1548	First	Stair 2-4	Metal Door	West	Intact	Beige	0.17
1553	First	Stair 2-4	Concrete Floor	Na	Poor	Red	0.22
1558	Second	B-200	Metal Radiator	South	Fair	Pink	0.26
1560	Second	B-200	Plaster Wall (Exterior)	South	Intact	Multi	0.18
1566	Second	C-238	Metal Radiator	North	Intact	Beige	0.12
1570	Second	C-207	Metal Radiator	South	Fair	Blue	0.21
1601	Penthouse	PHA-03	Concrete Column	North	Fair	Yellow	0.17
1602	Penthouse	PHA-03	Brick Wall (Exterior)	East	Fair	Yellow	0.13
1607	Penthouse	Intermed. Landing Stair 1-4	Metal Handrail	North	Fair	Gray	0.11
1616	Exterior	Exterior	Metal Vent	West	Poor	Brown	4.1
1621	Exterior	Exterior	Metal Lintel	South	Intact	Brown	22.3

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos

Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 4	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	5,165 SF
Pipe Insulation	100 LF
Door Caulking	180 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	B-211A	-	Red fire stop	NAD	-	-	-
1B	B-213	-	Red fire stop	NAD	-	-	-
1C	111A	-	Red fire stop	NAD	-	-	-
2A	C-032	Soiled Linen Room	4" Pipe insulation	40% Chrysotile 5% Amosite	100 LF	Good	4
2B	C-032		4" Pipe insulation	Stop Positive See 2A			
2C	B-005	Conference Room	4" Pipe insulation	Stop Positive See 2A			
3A	B-200	-	Sink undercoat	NAD	-	-	-
3B	B-124	-	Sink undercoat	NAD	-	-	-
3C	C-124	-	Sink undercoat	NAD	-	-	-
4A	Corridor	-	2'x2' Ceiling tile (fissured)	NAD	-	-	-
4B	Corridor	-	2'x2' Ceiling tile (fissured)	NAD	-	-	-
4C	Corridor	-	2'x2' Ceiling tile (fissured)	NAD	-	-	-
5A	A-204	-	2'x2' Ceiling tile (rough texture)	NAD	-	-	-
5B	A-204	-	2'x2' Ceiling tile (rough texture)	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5C	A-204	-	2'x2' Ceiling tile (rough texture)	NAD	-	-	-
6A	A-202	-	2'x4' Ceiling tile (fissured)	NAD	-	-	-
6B	C-125	-	2'x4' Ceiling tile (fissured)	NAD	-	-	-
6C	B-005	-	2'x4' Ceiling tile (fissured)	NAD	-	-	-
7A	Penthouse	-	Drywall	NAD	-	-	-
7B	C-239	-	Drywall	NAD	-	-	-
7C	B-225	-	Drywall	NAD	-	-	-
7D	B-200	-	Drywall	NAD	-	-	-
7E	Corridor	-	Drywall	NAD	-	-	-
7F	Corridor	-	Drywall	NAD	-	-	-
7G	Corridor	-	Drywall	NAD	-	-	-
8A	Penthouse	-	Joint compound	NAD	-	-	-
8B	C-239	-	Joint compound	NAD	-	-	-
8C	B-225	-	Joint compound	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
8D	B-200	-	Joint compound	NAD	-	-	-
8E	Corridor	-	Joint compound	NAD	-	-	-
8F	Corridor	-	Joint compound	NAD	-	-	-
8G	Corridor	-	Joint compound	NAD	-	-	-
9A	B-240	-	Wall plaster - base coat	NAD	-	-	-
9B	Corridor	-	Wall plaster - base coat	NAD	-	-	-
9C	Corridor	-	Wall plaster - base coat	NAD	-	-	-
9D	Corridor	-	Wall plaster - base coat	NAD	-	-	-
9E	Corridor	-	Wall plaster - base coat	NAD	-	-	-
9F	Lobby	-	Wall plaster - base coat	NAD	-	-	-
9G	Loading Dock	-	Wall plaster - base coat	NAD	-	-	-
10A	B-240	-	Wall plaster - finish coat	NAD	-	-	-
10B	Corridor	-	Wall plaster - finish coat	NAD	-	-	-
10C	Corridor	-	Wall plaster - finish coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
10D	Corridor	-	Wall plaster - finish coat	NAD	-	-	-
10E	Corridor	-	Wall plaster - finish coat	NAD	-	-	-
10F	Lobby	-	Wall plaster - finish coat	NAD	-	-	-
10G	Loading dock	-	Wall plaster - finish coat	NAD	-	-	-
11A	Stairwell 1-4	-	Ceiling plaster - base coat	NAD	-	-	-
11B	Stairwell 3-4	-	Ceiling plaster - base coat	NAD	-	-	-
11C	Stairwell 2-4	-	Ceiling plaster - base coat	NAD	-	-	-
11D	Stairwell 1-4	-	Ceiling plaster - base coat	NAD	-	-	-
11E	Stairwell 3-4	-	Ceiling plaster - base coat	NAD	-	-	-
12A	Stairwell 1-4	-	Ceiling plaster - finish coat	NAD	-	-	-
12B	Stairwell 3-4	-	Ceiling plaster - finish coat	NAD	-	-	-
12C	Stairwell 2-4	-	Ceiling plaster - finish coat	NAD	-	-	-
12D	Stairwell 1-4	-	Ceiling plaster - finish coat	NAD	-	-	-
12E	Stairwell 3-4	-	Ceiling plaster - finish coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
13A	PHA-03	-	HVAC flex connector	NAD	-	-	-
13B	A-017	-	HVAC flex connector	NAD	-	-	-
13C	A-017	-	HVAC flex connector	NAD	-	-	-
14A	Corridor	-	4" Cove base adhesive	NAD	-	-	-
14B	Corridor	-	4" Cove base adhesive	NAD	-	-	-
14C	Corridor	-	4" Cove base adhesive	NAD	-	-	-
15A	C-239	-	6" Cove base adhesive	NAD	-	-	-
15B	Corridor	-	6" Cove base adhesive	NAD	-	-	-
15C	Corridor	-	6" Cove base adhesive	NAD	-	-	-
16A	B-235	-	Ceramic tile adhesive	NAD	-	-	-
16B	B-135	-	Ceramic tile adhesive	NAD	-	-	-
16C	C-134	-	Ceramic tile adhesive	NAD	-	-	-
17A	B-200	-	Window caulk - interior	NAD	-	-	-
17B	Stairwell 3-2	-	Window caulk - interior	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
17C	C-108	-	Window caulk - interior	NAD	-	-	-
18A	B-100	-	Metal/paper heater panel	NAD	-	-	-
18B	C-100	-	Metal/paper heater panel	NAD	-	-	-
18C	B-100	-	Metal/paper heater panel	NAD	-	-	-
19A	C-239	-	Carpet adhesive	NAD	-	-	-
19B	C-108	-	Carpet adhesive	NAD	-	-	-
19C	B-013	-	Carpet adhesive	NAD	-	-	-
20A	Corridor	-	12"x12" Gray floor tile	NAD	-	-	-
20B	C-100	-	12"x12" Gray floor tile	NAD	-	-	-
20C	A-001D	-	12"x12" Gray floor tile	NAD	-	-	-
21A	Corridor	-	12"x12" Gray floor tile mastic	NAD	-	-	-
21B	C-100	-	12"x12" Gray floor tile mastic	NAD	-	-	-
21C	A-001D	-	12"x12" Gray floor tile mastic	NAD	-	-	-
22A	Lobby	-	12"x12" Dark gray floor tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
22B	Lobby	-	12"x12" Dark gray floor tile	NAD	-	-	-
22C	Lobby	-	12"x12" Dark gray floor tile	NAD	-	-	-
23A	Lobby	-	12"x12" Dark gray floor tile mastic	Trace <sup>1</sup>	-	-	-
23B	Lobby	-	12"x12" Dark gray floor tile mastic	NAD	-	-	-
23C	Lobby	-	12"x12" Dark gray floor tile mastic	NAD <sup>1</sup>	-	-	-
24A	Stairwell 1-4	-	12"x12" Beige floor tile	NAD	-	-	-
24B	Stairwell 1-4	-	12"x12" Beige floor tile	NAD	-	-	-
24C	Stairwell 1-4	-	12"x12" Beige floor tile	NAD	-	-	-
25A	Stairwell 1-4	-	12"x12" Beige floor tile mastic	NAD	-	-	-
25B	Stairwell 1-4	-	12"x12" Beige floor tile mastic	NAD	-	-	-
25C	Stairwell 1-4	-	12"x12" Beige floor tile mastic	NAD	-	-	-
26A	A-039	-	9"x9" Green floor tile	NAD	-	-	-
26B	A-039	-	9"x9" Green floor tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
27A	A-039	Office	9"x9" Green floor tile mastic	2% Chrysotile	230 SF	Good	4
27B	A-039		9"x9" Green floor tile mastic	Stop Positive See 27A			
28A	A-001	-	Textured ceiling paint	NAD			
28B	A-001	-	Textured ceiling paint	NAD	-	-	-
28C	A-001	-	Textured ceiling paint	NAD	-	-	-
29A	B-005	Conference Room	12"x12" Light brown floor tile	2% Chrysotile	375 SF	Good	4
29B	B-005		12"x12" Light brown floor tile	Stop Positive See 29A			
30A	B-005	Conference Room	12"x12" Light brown floor tile mastic	10% Chrysotile	375 SF	Good	4
30B	B-005		12"x12" Light brown floor tile mastic	Stop Positive See 30A			
31A	A-001	Wood Working Shop	12"x12" Tan floor tile	5% Chrysotile	1,600SF	Good	4
31B	A-001		12"x12" Tan floor tile	Stop Positive See 31A			
32A	A-001	Wood Working Shop	12"x12" Tan floor tile mastic	10% Chrysotile	1,600SF	Good	4
32B	A-001		12"x12" Tan floor tile mastic	Stop Positive See 31A			
33A	C-022	-	12"x12" White floor tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
33B	B-009E	-	12"x12" White floor tile	NAD	-	-	-
34A	C-022	-	12"x12" White floor tile mastic	NAD	-	-	-
34B	B-009E	-	12"x12" White floor tile mastic	NAD <sup>1</sup>	-	-	-
35A	C-022F	-	12"x12" Gray floor tile - Type II	NAD	-	-	-
35B	C-022B	-	12"x12" Gray floor tile - Type II	NAD	-	-	-
36A	C-022F	Day Care	12"x12" Gray floor tile mastic - Type II	2% Chrysotile	1,200 SF	Good	4
36B	C-022B		12"x12" Gray floor tile mastic - Type II	Stop Positive See 36A			
37A	Corridor	-	Door caulk - interior	NAD	-	-	-
37B	Corridor	-	Door caulk - interior	NAD	-	-	-
38A	Chase B-213	-	Duct seam sealant	NAD	-	-	-
38B	Chase B-213	-	Duct seam sealant	NAD	-	-	-
39A	Exterior	-	Window caulk	NAD	-	-	-
39B	Exterior	-	Window caulk	NAD	-	-	-
39C	Exterior	-	Window caulk	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
40A	Exterior	North side	Door caulk	16.65% Anthophyllite <sup>1</sup> 0.83% Chrysotile <sup>1</sup>	180 LF	Good	4
40B	Exterior	East side	Door caulk	NAD	-	-	-
40C	Exterior	South side	Door caulk	NAD	-	-	-
41A	Exterior	-	Expansion joint caulk	NAD	-	-	-
41B	Exterior	-	Expansion joint caulk	NAD	-	-	-
41C	Exterior	-	Expansion joint caulk	NAD	-	-	-
42A	A-103	Office	9"x9" Tan Floor Tile	15% Chrysotile	160 SF	Good	4
42B	A-103	Office	9"x9" Tan Floor Tile	Stop Positive See 42A			
42C	A-103	Office	9"x9" Tan Floor Tile	Stop Positive See 42A			
43A	A-103	-	9"x9" Tan Floor Tile Mastic	NAD	-	-	-
43B	A-103	-	9"x9" Tan Floor Tile Mastic	NAD	-	-	-
43C	A-103	-	9"x9" Tan Floor Tile Mastic	NAD	-	-	-
44A	A-202	Office	12"x12" Floor Tile (Under Carpet)	20% Chrysotile	700 SF	Good	4
44B	A-202	Office	12"x12" Floor Tile (Under Carpet)	Stop Positive See 44A			



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 4**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
44C	A-202	Office	12"x12" Floor Tile (Under Carpet)	Stop Positive See 44A			
45A	A-202	-	12"x12" Floor Tile Mastic (Under Carpet)	NAD	-	-	-
45B	A-202	-	12"x12" Floor Tile Mastic (Under Carpet)	NAD	-	-	-
45C	A-202	-	12"x12" Floor Tile Mastic (Under Carpet)	NAD	-	-	-
46A	A-018	-	12"x12" Light Green With Brown Spots Floor Tile	NAD	-	-	-
46B	A-018	-	12"x12" Light Green With Brown Spots Floor Tile	NAD	-	-	-
46C	A-018	-	12"x12" Light Green With Brown Spots Floor Tile	NAD	-	-	-
47A	A-018	Arts and Crafts Room	12"x12" Light Green With Brown Spots Floor Tile Mastic	10% Chrysotile	900 SF	Good	4
47B	A-018	Arts and Crafts Room	12"x12" Light Green With Brown Spots Floor Tile Mastic	Stop Positive See 47A			
47C	A-018	Arts and Crafts Room	12"x12" Light Green With Brown Spots Floor Tile Mastic	Stop Positive See 47A			
Footnotes:				NAD – No Asbestos Detected			
1 – Analyzed by TEM				SF – Square Feet			
				LF – Linear Feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1424	First	B-015	Plaster Wall (Exterior)	South	Intact	White	0.12
1425	First	B-015	Metal Pipe	South	Poor	White	0.3
1426	First	B-015	Plaster Column	South	Intact	White	0.06
1427	First	B-015	Metal Window Casing	South	Intact	Brown	0
1428	First	B-015	Metal Radiator	South	Intact	White	0.13
1429	First	B-015	Metal Door Casing	North	Intact	White	0.03
1430	First	B-015	Metal Door	North	Intact	Beige	0
1431	First	Corridor Outside B-015	Plaster Wall (Interior)	South	Intact	Beige	0.01
1432	First	Corridor Outside B-015	Metal Door Casing	North	Fair	Beige	0
1433	First	B-013E	Plaster Wall (Exterior)	South	Intact	White	0
1434	First	B-013E	Metal Window Sill	South	Intact	White	0.06
1435	First	B-013E	Metal Radiator	South	Intact	White	0.04
1436	First	B-013G	Metal Door Casing	East	Intact	White	0.01
1437	First	B-013C	Wood Door Casing	East	Fair	White	0
1438	First	Corridor Outside B-014	Drywall Wall (Interior)	West	Intact	White	0
1439	First	Corridor Outside B-013	Wood Door	West	Fair	Pink	5.9
1440	Basement	Corridor Outside FC-B-001	Metal Door	North	Poor	Red	4.6
1442	Basement	Fc-B-001	Wood Shelf	North	Intact	Red	0.01
1443	Basement	FC-B-001	Plaster Wall (Interior)	North	Intact	Red	0.09
1444	Basement	B-009	Metal Door Casing	East	Intact	Beige	0.05
1445	Basement	Corridor Outside B-009	Metal Door	South	Fair	Beige	0.01
1446	Basement	Stair 2-4	Concrete Riser	West	Poor	Red	0.17
1447	Basement	Stair 2-4	Metal Handrail	West	Poor	Black	8.4
1448	Basement	Stair 2-4	Concrete Floor	Floor	Poor	Red	0.04

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1449	Basement	Stair 2-4	Plaster Wall (Interior)	West	Intact	White	0.4
1450	Basement	Stair 2-4	Metal Door Casing	West	Fair	White	0.02
1451	Basement	Stair 2-4	Metal Door	West	Intact	Gray	0
1452	Basement	Stair 2-4	Metal Sprinkler Pipe	East	Intact	Red	0
1453	Basement	A-018	Plaster Wall (Exterior)	South	Intact	Blue	0.09
1457	Basement	A-018	Plaster Column	South	Poor	White	0.07
1458	Basement	Corridor Outside A-018	Metal Door	South	Fair	Beige	0.02
1459	Basement	Corridor Outside A-018	Metal Door Casing	South	Fair	Beige	0.23
1461	Basement	A-019	Metal Radiator	South	Intact	White	0.09
1464	Basement	Outside A-019	Wood Door Casing	West	Intact	Brown	1.1
1466	Basement	A-001	Metal Radiator	West	Fair	White	0.21
1467	Basement	A-001	Metal Panel On Radiator	West	Fair	White	0.09
1468	Basement	A-001	Drywall Wall (Interior)	South	Intact	White	0
1469	Basement	A-001	Metal Window Casing	South	Intact	Brown	0
1471	Basement	A-001	Metal Window Casing	West	Cracked	White	0.5
1472	Basement	A-001	Metal Local Ventilation Duct	North	Intact	Yellow	0
1473	Basement	A-001	Plaster Column	North	Intact	Yellow	0
1474	Basement	A-001	Metal Pipe	North	Intact	Gray	0.5
1475	Basement	Corridor Outside A-017	Metal Floor	Na	Poor	Black	0
1476	Basement	C036B	Concrete Column	North	Intact	Black	0.01
1477	Basement	C036B	Concrete Wall (Exterior)	East	Intact	White	0.01
1478	Basement	C036B	Concrete Wall (Exterior)	East	Intact	White	0.07
1479	Basement	C036B	Metal Door Casing	East	Intact	White	0
1480	Basement	C036B	Metal Door	East	Intact	White	0.01
1481	Basement	ST4C001	Concrete Wall (Exterior)	North	Intact	Yellow	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1482	Basement	C-024	Plaster Wall (Interior)	West	Intact	Pink	0.3
1483	Basement	C-024	Metal Lockers	West	Intact	Blue	0
1484	Basement	C-024	Metal Window Casing	South	Fair	White	0.02
1485	Basement	C-024	Metal Radiator	South	Fair	White	0.03
1486	Basement	C-024	Wood Door	East	Fair	White	6.1
1487	Basement	C-024	Metal Door Casing	East	Fair	White	0.02
1488	Basement	C-024	Metal Privacy Partition	North	Poor	Brown	0.3
1489	Basement	C-024A	Plaster Wall (Interior)	West	Poor	White	0.05
1490	Basement	C-024A	Plaster Wall (Exterior)	South	Fair	Black	0.04
1491	Basement	Corridor Outside C-024	Wood Door	South	Poor	Beige	4.1
1500	First	A-104	Plaster Wall (Exterior)	West	Intact	Blue	0.01
1501	First	A-104	Plaster Wall (Exterior)	West	Intact	Blue	0
1502	First	A-104	Metal Radiator	West	Intact	Blue	0.21
1503	First	A-104	Metal Window Sash	North	Intact	Brown	0.23
1504	First	C-107	Metal Door Casing	West	Poor	Pink	0
1505	First	C-107	Plaster Window Casing	East	Fair	Pink	0.05
1506	First	C-107	Metal Radiator	East	Fair	Pink	0.1
1507	First	C-107	Plaster Wall (Exterior)	South	Intact	Pink	0
1508	First	C-107	Plaster Column	South	Intact	Pink	0
1509	First	Corridor Outside FC-C-101	Metal Door	North	Intact	White	0
1512	First	C-113	Metal Radiator	South	Intact	White	0.13
1513	First	Stair 3-4	Metal Handrail	South	Intact	Gray	0.09
1514	First	Stair 3-4	Plaster Wall (Interior)	South	Intact	White	0.04
1515	First	Stair 3-4	Concrete Tread	NA	Fair	Red	0.08
1516	First	Stair 3-4	Concrete Riser	NA	Fair	Red	0.08
1517	First	Stair 3-4	Metal Window Sill	North	Intact	White	0.09
1518	First	Stair 3-4	Metal Pipe	West	Intact	Red	0
1519	First	Stair 3-4	Metal Door	South	Intact	Blue	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1522	First	C-137A	Drywall Wall (Interior)	East	Intact	White	0
1523	First	C-137A	Metal Door Casing	East	Intact	White	0
1524	First	C-137	Metal Radiator	North	Intact	White	0.5
1525	First	C-137	Plaster Window Sill	North	Intact	White	0
1528	First	B-107	Plaster Wall (Exterior)	West	Intact	Pink	0
1529	First	B-107	Metal Window Sill	West	Intact	White	0
1530	First	B-107	Metal Window Casing	West	Intact	Brown	0.6
1532	First	B-107	Drywall Wall (Interior)	North	Intact	Multi	0
1533	First	B-107	Plaster Wall (Exterior)	South	Intact	Multi	0.08
1534	First	B-107	Metal Radiator	West	Fair	Pink	0.07
1535	First	Corridor Outside FC-101	Wood Door	North	Intact	Red	0.01
1536	First	Corridor Outside FC-101	Metal Door Casing	North	Intact	White	0.09
1537	First	FC-101	Plaster Wall (Interior)	North	Intact	Red	0.17
1538	First	FC-101	Wood Shelf	North	Fair	Red	0.1
1539	First	Corridor Outside B-124	Plaster Wall (Interior)	North	Intact	Multi	0
1540	First	Corridor Outside B-124	Metal Door Casing	North	Intact	Pink	0
1542	First	B-112	Metal Radiator	South	Intact	White	0
1543	First	B-112	Metal Window Sash	South	Intact	Brown	0
1544	First	Stair 2-4	Plaster Wall (Exterior)	North	Fair	Blue	0.6
1545	First	Stair 2-4	Metal Door	North	Intact	Beige	0
1546	First	Stair 2-4	Metal Door Casing	North	Intact	Beige	0
1547	First	Stair 2-4	Metal Handrail	North	Fair	Black	0.08
1548	First	Stair 2-4	Metal Door	West	Intact	Beige	0.17
1549	First	Stair 2-4	Metal Door Casing	West	Intact	Beige	0.06

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1550	First	Stair 2-4	Metal Sprinkler Pipe	East	Intact	Red	0
1551	First	Stair 2-4	Concrete Tread	NA	Poor	Red	0.05
1552	First	Stair 2-4	Concrete Riser	NA	Poor	Red	0.05
1553	First	Stair 2-4	Concrete Floor	NA	Poor	Red	0.22
1554	First	Stair 2-4	Metal Radiator	East	Fair	Beige	0.06
1555	Second	B-236	Plaster Wall (Interior)	South	Fair	White	0
1556	Second	B-236	Metal Door Casing	South	Fair	White	0
1557	Second	B-236	Wood Door	South	Fair	Clear	0
1558	Second	B-200	Metal Radiator	South	Fair	Pink	0.26
1559	Second	B-200	Metal Window Casing	South	Fair	Pink	0
1560	Second	B-200	Plaster Wall (Exterior)	South	Intact	Multi	0.18
1562	Second	C-200	Plaster Wall (Exterior)	South	Intact	Multi	0
1563	Second	C-200	Plaster Column	South	Intact	Multi	0.08
1564	Second	C-200	Metal Radiator	South	Fair	Pink	0.05
1565	Second	C-238	Drywall Wall (Exterior)	North	Fair	Beige	0
1566	Second	C-238	Metal Radiator	North	Intact	Beige	0.12
1568	Second	Corridor Outside C-238	Drywall Wall (Interior)	North	Intact	Beige	0
1569	Second	Corridor Outside C-238	Metal Door Casing	North	Intact	Blue	0
1570	Second	C-207	Metal Radiator	South	Fair	Blue	0.21
1571	Second	C-207	Metal Window Sill	South	Fair	Blue	0.01
1572	Second	C-207	Plaster Wall (Exterior)	West	Intact	Multi	0.02
1573	Second	C-207	Metal Window Casing	South	Intact	Brown	0
1574	Second	C-207	Metal Window Sash	South	Intact	Brown	0
1576	Second	C-207	Metal Door Casing	North	Fair	Blue	0.01
1577	Second	Corridor Outside A-207	Metal Door Casing	East	Intact	Blue	0
1578	Second	Corridor Outside A-207	Metal Door	East	Fair	Blue	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1579	Second	Corridor Outside FC-A-201	Wood Door	West	Fair	Red	0.09
1580	Second	Corridor Outside FC-A-201	Metal Door Casing	West	Intact	Beige	0.02
1581	Second	FC-A-201	Plaster Wall (Interior)	West	Intact	Red	0.09
1582	Second	FC-A-201	Wood Shelf	West	Intact	Red	0.03
1583	Second	A-204	Plaster Column	East	Intact	Blue	0.01
1584	Second	A-204	Plaster Wall (Interior)	West	Intact	White	0.04
1585	Second	A-204	Wood Door	West	Fair	Gray	0.06
1586	Penthouse	PHC-04	Concrete Column	North	Fair	Green	0.01
1587	Penthouse	PHC-04	Concrete Wall (Exterior)	South	Poor	Green	0.02
1588	Penthouse	PHC-04	Metal Door	South	Intact	Brown	0
1589	Penthouse	PHC-04	Metal Door Casing	South	Intact	Brown	0
1590	Penthouse	PHC-04	Brick Wall (Exterior)	North	Fair	Green	0.04
1591	Penthouse	PHC-04	Metal Window Casing	North	Intact	Black	0
1592	Penthouse	PHC-04	Metal Window Sash	North	Intact	Black	0
1593	Penthouse	PHC-04	Metal Door Casing	East	Poor	Green	0.04
1594	Penthouse	PHC-04	Wood Door	East	Poor	Green	0.01
1595	Penthouse	PHC-04	Concrete Floor	Floor	Poor	Gray	0.02
1596	Penthouse	PHA-03	Wood Door	West	Fair	Clear	0.03
1597	Penthouse	PHA-03	Metal Handrail	East	Fair	Red	0.01
1598	Penthouse	PHA-03	Metal Stringer	East	Fair	Red	0.02
1599	Penthouse	PHA-03	Concrete Wall (Interior)	South	Fair	Yellow	0.04
1600	Penthouse	PHA-03	Concrete Wall (Interior)	South	Fair	Yellow	0.08
1601	Penthouse	PHA-03	Concrete Column	North	Fair	Yellow	0.17
1602	Penthouse	PHA-03	Brick Wall (Exterior)	East	Fair	Yellow	0.13
1603	Penthouse	PHA-03	Concrete Floor	Floor	Fair	Gray	0.04
1604	Penthouse	Intermed. Landing Stair 1-4	Metal Security Gate	North	Fair	Black	0



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 4**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1605	Penthouse	Intermed. Landing Stair 1-4	Plaster Wall (Exterior)	North	Poor	Blue	0.04
1606	Penthouse	Intermed. Landing Stair 1-4	Plaster Wall (Exterior)	North	Poor	Blue	0.02
1607	Penthouse	Intermed. Landing Stair 1-4	Metal Handrail	North	Fair	Gray	0.11
1608	First	Intermed. Landing Stair 1-4	Concrete Tread	North	Fair	Gray	0.04
1609	First	Intermed. Landing Stair 1-4	Plaster Wall (Interior)	East	Fair	Gray	0.05
1615	Exterior	Exterior	Metal Safety Grate	North	Poor	Black	0.05
1616	Exterior	Exterior	Metal Vent	West	Poor	Brown	4.1
1617	Exterior	Exterior	Metal Door	East	Intact	Brown	0
1618	Exterior	Exterior	Metal Door Casing	East	Intact	Brown	0
1619	Exterior	Exterior	Metal Trim	South	Fair	Yellow	0.02
1620	Exterior	Exterior	Pressed Paper Ceiling	South	Poor	White	0.05
1621	Exterior	Exterior	Metal Lintel	South	Intact	Brown	22.3
<p><u>Font Color Annotation:</u></p> <p>Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup></p> <p>Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup></p> <p>Red – Greater than 1.0 mg/cm<sup>2</sup></p>							

## Appendix C

### Relevant Photographs of ACM



Pipe Insulation, Samples 2A and 2B



Pipe Insulation, Sample 2C



Mastic Associated with 9"x9" Green Floor Tile, Sample 27A



12"x12" Light Brown Floor Tile and Mastic, Samples 29A and 30A



12"x12" Tan Floor Tile and Mastic, Samples 31A and 32A



Mastic Associated with 12"x12" Gray Floor Tile Type II, Sample 36A



Exterior Door Caulk, Sample 40A



9"x9" Tan Floor Tile, Sample 42A





12"x12" Floor Tile Underneath Carpet, Sample 44A



Mastic Associated with 12"x12" Light Green with Brown Spots Floor Tile, Sample, 47A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Metal Handrail, Readings 1447



Metal Vent, Reading 1616

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 5**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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Appendix B – Table 6, Summary of XRF Measurements
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 91 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 9 of the collected samples contained asbestos greater than or equal to 1%.**
- 222 XRF analyzer measurements of building surfaces were taken in this building.
- **50 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 5 was a three-story Outpatient/Psychiatry Building built in 1955 and occupied approximately 81,489 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 5			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.



**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 5**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15A	Basement	Corridor	12"x12" Pink Floor Tile Mastic	3% Chrysotile	800 SF	Good	4
15B							
15C							
17B	Basement	Corridor	12"x12" Flat White Floor Tile Mastic	2% Chrysotile		Good	4
17C							
20A	Exterior	Doors	Door Caulking	5% Chrysotile	160 LF	Good	4
20B							
20C							
21A	Exterior	Windows	Window Caulking	10% Chrysotile	4,500 LF	Good	4
21B							
21C							
22A	Exterior	Expansion Joint	Caulking Material	5% Chrysotile	120 LF	Good	4
22B							
22C							
23A	Exterior	Vents Along Basemen Wall	Subbasement Vent Caulking	5% Chrysotile	180 LF	Good	4
23B							
23C							
24C	Exterior	Doors	White Door Caulking	2.68% Chrysotile <sup>1</sup> 16.10% Anthophyllite <sup>1</sup>	160 LF	Good	4
25	Exterior	Exterior Wall	Penetration Caulking	10% Chrysotile	1 SF	Good	4
26A	B-211	2nd Floor Closet and Conference Room	9"x9" Gray Floor Tile	5% Chrysotile	1,675 SF	Good	4
26B							
26C							
NA	NA	Set Into Walls at Radiator Locations	Transite Panel	Identified in Previous Survey and Verified in the Field	230 EA	Good	4
Footnotes: 1 – Analyzed by TEM				SF – Square Feet LF – Linear Feet EA – Each NA – Not Applicable			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating

assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 5							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
210	Exterior	Exterior	Metal Vent	East	Poor	Brown	14.1
211	Exterior	Exterior	Wood Door	South	Poor	Brown	16
212	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	20.6
2268	Basement	C-006	Wood Door Casing	South	Poor	Blue	0.11
2271	Basement	C-006	Metal Radiator	North	Intact	Blue	0.2
2272	Basement	C-006	Metal Window Blind Frame	North	Intact	Blue	4.3
2275	Basement	C-006	Concrete Window Sill	North	Intact	Blue	0.13
2277	Basement	C-006	Brick Wall (Exterior)	North	Intact	Blue	1.1
2279	Basement	C-006	Concrete Wall (Exterior)	North	Intact	Blue	1.4
2292	Basement	C-009	Metal Pipe	East	Poor	Green	0.6
2304	Basement	Corridor Outside FC-C-001	Wood Door	South	Fair	Red	4.7
2307	Basement	Corridor Outside FC-C-001	Metal Door Casing	South	Fair	Beige	0.11
2308	Basement	C005	Concrete Column	East	Intact	Green	2.2
2310	Basement	C005	Metal Pipe	South	Fair	Green	35
2321	Basement	Corridor Outside C006c	Wood Door	South	Fair	Gray	0.3
2323	Basement	Corridor Outside C005f	Metal Window Blind Frame	North	Intact	Blue	3.2
2327	Basement	Corridor Outside C005F	Concrete Window Sill	North	Fair	Blue	0.12
2328	Basement	C005A	Metal Radiator	East	Poor	Green	0.27
2329	Basement	C005A	Brick Wall (Exterior)	North	Intact	Green	1.4
2330	Basement	C005A	Wood Door Casing	North	Fair	Green	0.13
2331	Basement	C005A	Wood Door	North	Fair	Brown	0.28
2337	Basement	C001	Metal Pipe	East	Fair	Gray	0.15
2343	Basement	Stair 1-5	Wood Door Casing	North	Fair	White	3.3
2344	Basement	Stair 1-5	Wood Door	North	Fair	White	3.8
2347	Basement	Stair 1-5	Plaster Wall (Interior)	North	Intact	White	0.22
2353	Basement	Stair 1-5	Metal Door Casing	West	Intact	White	0.4
2354	Basement	Stair 1-5	Metal Door	West	Intact	White	0.17
2356	Basement	A-003	Metal Window Blind Frame	North	Fair	White	1.9

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 5							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2362	Basement	A-002	Wood Window Casing	South	Fair	Beige	0.7
2367	Basement	B-001	Metal Ladder	East	Fair	Yellow	2.9
2377	Basement	B-004C	Metal Radiator	South	Intact	Green	0.28
2379	Basement	B-004C	Wood Door	West	Fair	Green	6.1
2380	Basement	B-004C	Metal Door Casing	West	Fair	Green	0.14
2382	Basement	B-004	Metal Exhaust Duct	East	Fair	Yellow	1.3
2395	Basement	Corridor Outside B-002	Concrete Column	East	Intact	White	0.18
2396	Basement	Corridor Outside B-002	Concrete Wall (Exterior)	West	Intact	White	0.2
2400	Basement	CS1	Metal Handrail	North	Poor	Gray	6.4
2402	First	Stair 1-5	Metal Radiator	North	Intact	Beige	0.27
2406	First	Stair 1-5	Plaster Wall (Interior)	West	Fair	White	0.3
2417	First	C110	Metal Column Between Windows	East	Fair	White	0.18
2422	First	Stair 3-5	Wood Door	South	Intact	Orange	4
2423	First	Stair 3-5	Wood Door Casing	South	Intact	White	4.5
2426	First	Stair 3-5	Concrete Floor	Na	Fair	Gray	0.12
2430	First	Stair 3-5	Metal Radiator	North	Intact	White	0.18
2431	First	Stair 3-5	Plaster Wall (Exterior)	South	Fair	White	0.23
2442	First	A119	Plaster Column	South	Fair	White	0.7
2445	First	A119	Metal Door Casing	North	Fair	White	0.26
2453	First	B123	Metal Window Casing	South	Fair	White	0.28
2475	Second	Corridor Outside C-229	Metal Radiator	South	Fair	White	0.18
2483	Second	C210	Metal Radiator	East	Intact	White	0.12
2516	Second	Corridor Outside FC-B-201	Metal Door Casing	West	Fair	Yellow	0.13
2519	Second	B-211	Metal Window Sill	West	Cracked	Beige	0.13
2520	Second	B-211	Metal Radiator	West	Fair	Beige	0.11
2523	Penthouse	PHA-05	Metal Pipe	Calibrate	Intact	White	0.4
2524	Penthouse	PHA-05	Brick Wall (Exterior)	South	Intact	White	0.5
2525	Penthouse	PHA-05	Concrete Wall (Exterior)	South	Intact	White	0.4

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors

involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 5</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	2,475 SF
Window Caulking	4,500 LF
Door Caulking	320 LF
Penetration, Vent and Expansion Joint Caulking	301 LF
Transite Panel at Radiators	230 EA
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures



## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	004B	-	Drywall	NAD	-	-	-
1B	B144	-	Drywall	NAD	-	-	-
1C	Corridor	-	Drywall	NAD	-	-	-
1D	A202	-	Drywall	NAD	-	-	-
1E	C149	-	Drywall	NAD	-	-	-
2A	004B	-	Joint Compound	NAD	-	-	-
2B	B144	-	Joint Compound	NAD	-	-	-
2C	Corridor	-	Joint Compound	NAD	-	-	-
2D	A202	-	Joint Compound	NAD	-	-	-
2E	C149	-	Joint Compound	NAD	-	-	-
3A	004B	-	Black penetration caulking	NAD	-	-	-
3B	004B	-	Black penetration caulking	NAD	-	-	-
3C	004B	-	Black penetration caulking	NAD	-	-	-
4A	B-004B	-	Plaster base coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
4B	A-215	-	Plaster base coat	NAD	-	-	-
4C	B-217	-	Plaster base coat	NAD	-	-	-
4D	C-202	-	Plaster base coat	NAD	-	-	-
4E	A-102	-	Plaster base coat	NAD	-	-	-
4F	Corridor	-	Plaster base coat	NAD	-	-	-
4G	A-114	-	Plaster base coat	NAD	-	-	-
5A	B-004B	-	Plaster finish coat	NAD	-	-	-
5B	A-215	-	Plaster finish coat	NAD	-	-	-
5C	B-217	-	Plaster finish coat	NAD	-	-	-
5D	C-202	-	Plaster finish coat	NAD	-	-	-
5E	A-102	-	Plaster finish coat	NAD	-	-	-
5F	Corridor	-	Plaster finish coat	NAD	-	-	-
5G	A-114	-	Plaster finish coat	NAD	-	-	-
6A	B003	-	2'x2' Ceiling tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6B	Corridor	-	2'x2' Ceiling tile	NAD	-	-	-
6C	Corridor	-	2'x2' Ceiling tile	NAD	-	-	-
7A	Corridor	-	12"x12" White floor tile	NAD	-	-	-
7B	A-202	-	12"x12" White floor tile	NAD	-	-	-
7C	A-121	-	12"x12" White floor tile	NAD	-	-	-
8A	Corridor	-	12"x12" White floor tile mastic	NAD	-	-	-
8B	A-202	-	12"x12" White floor tile mastic	NAD	-	-	-
8C	A-121	-	12"x12" White floor tile mastic	NAD	-	-	-
9A	Corridor	-	12"x12" Tan floor tile with brown spots	NAD	-	-	-
9B	Corridor	-	12"x12" Tan floor tile with brown spots	NAD	-	-	-
9C	Corridor	-	12"x12" Tan floor tile with brown spots	NAD	-	-	-
10A	Corridor	-	12"x12" Tan floor tile with brown spots mastic	NAD <sup>1</sup>	-	-	-
10B	Corridor	-	12"x12" Tan floor tile with brown spots mastic	Trace <sup>1</sup>	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
10C	Corridor	-	12"x12" Tan floor tile with brown spots mastic	Trace <sup>1</sup>	-	-	-
11A	B-003	-	12"x12" Gold floor tile	NAD	-	-	-
11B	B-003	-	12"x12" Gold floor tile	NAD	-	-	-
11C	B-004	-	12"x12" Gold floor tile	NAD	-	-	-
12A	B-005	-	12"x12" Gold floor tile mastic	NAD	-	-	-
12B	B-006	-	12"x12" Gold floor tile mastic	NAD	-	-	-
12C	B-007	-	12"x12" Gold floor tile mastic	NAD	-	-	-
13A	A-102	-	Red fire stop	NAD	-	-	-
13B	A-102	-	Red fire stop	NAD	-	-	-
13C	A-102	-	Red fire stop	NAD	-	-	-
14A	Corridor	-	12"x12" Pink floor tile	NAD	-	-	-
14B	Corridor	-	12"x12" Pink floor tile	NAD	-	-	-
14C	Corridor	-	12"x12" Pink floor tile	NAD	-	-	-
15A	Basement	Corridor	12"x12" Pink floor tile mastic	1.95% Chrysotile <sup>1</sup>	800 SF	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15B	Basement	Corridor	12"x12" Pink floor tile mastic	3% Chrysotile			
15C	Basement	Corridor	12"x12" Pink floor tile mastic	Stop Positive See 15B			
16A	Corridor	-	12"x12" Flat white floor tile	NAD <sup>1</sup>	-	-	-
16B	Corridor	-	12"x12" Flat white floor tile	NAD <sup>1</sup>	-	-	-
16C	Corridor	-	12"x12" Flat white floor tile	NAD <sup>1</sup>	-	-	-
17A	Corridor	-	12"x12" Flat white floor tile mastic	Trace	-	-	-
17B	Basement	Corridor	12"x12" Flat white floor tile mastic	2% Chrysotile	800 SF	Good	4
17C	Basement	Corridor	12"x12" Flat white floor tile mastic	Stop Positive See 17B			
18A	Penthouse	-	Duct mastic	NAD	-	-	-
18B	Penthouse	-	Duct mastic	NAD	-	-	-
18C	Penthouse	-	Duct mastic	NAD	-	-	-
19A	A Stairwell	-	6" Gray cove base mastic	NAD	-	-	-
19B	Corridor	-	6" Gray cove base mastic	NAD	-	-	-
19C	B-118	-	6" Gray cove base mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
20A	Exterior	Doors	Door caulking	5% Chrysotile	160 LF	Good	4
20B	Exterior	Doors	Door caulking	Stop Positive See 20A			
20C	Exterior	Doors	Door caulking	Stop Positive See 20A			
21A	Exterior	Windows	Window caulking	10% Chrysotile	4,500 LF	Good	4
21B	Exterior	Windows	Window caulking	Stop Positive See 21A			
21C	Exterior	Windows	Window caulking	Stop Positive See 21A			
22A	Exterior	Expansion joint	Caulking Material	5% Chrysotile	120 LF	Good	4
22B	Exterior	Expansion joint	Caulking Material	Stop Positive See 22A			
22C	Exterior	Expansion joint	Caulking Material	Stop Positive See 22A			
23A	Exterior	Vents Along Basement Wall	Subbasement vent caulking	5% Chrysotile	180 LF	Good	4
23B	Exterior	Vents Along Basement Wall	Subbasement vent caulking	Stop Positive See 23A			
23C	Exterior	Vents Along Basement Wall	Subbasement vent caulking	Stop Positive See 23A			
24A	Exterior	-	White door caulking	NAD <sup>1</sup>	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 5**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
24B	Exterior	-	White door caulking	NAD <sup>1</sup>	-	-	-
24C	Exterior	Perimeter of Doors	White door caulking	2.68% Chrysotile <sup>1</sup> 16.1% Anthophyllite <sup>1</sup>	160 LF	Good	4
25	Exterior	Exterior Wall	Penetration caulking	10% Chrysotile	1 SF	Good	4
26A	B-211	2nd Floor Closet and Conference Room	9"x9" Gray Floor Tile	5% Chrysotile	1,675 SF	Good	4
26B	B-211	2nd Floor Closet and Conference Room	9"x9" Gray Floor Tile	Stop Positive See 26A			
26C	B-211	2nd Floor Closet and Conference Room	9"x9" Gray Floor Tile	Stop Positive See 26A			
27A	B-211	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
27B	B-211	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
27C	B-211	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet			



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
208	Exterior	Exterior	Metal Security Bars Over Windows	South	Poor	Black	0
209	Exterior	Exterior	Metal Security Bars Over Windows	South	Poor	Black	0
210	Exterior	Exterior	Metal Vent	East	Poor	Brown	14.1
211	Exterior	Exterior	Wood Door	South	Poor	Brown	16
212	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	20.6
2268	Basement	C-006	Wood Door Casing	South	Poor	Blue	0.11
2269	Basement	C-006	Metal Door	South	Fair	Beige	0.07
2271	Basement	C-006	Metal Radiator	North	Intact	Blue	0.2
2272	Basement	C-006	Metal Window Blind Frame	North	Intact	Blue	4.3
2273	Basement	C-006	Metal Window Casing	North	Intact	Blue	0.04
2275	Basement	C-006	Concrete Window Sill	North	Intact	Blue	0.13
2277	Basement	C-006	Brick Wall (Exterior)	North	Intact	Blue	1.1
2279	Basement	C-006	Concrete Wall (Exterior)	North	Intact	Blue	1.4
2280	Basement	C-006	Wood Pipe Chase Along Floor	North	Poor	Blue	0.01
2281	Basement	C-007	Drywall Wall (Exterior)	South	Intact	Green	0
2283	Basement	C-007	Wood Window Casing	South	Intact	Green	0
2284	Basement	C-009	Metal Handrail	North	Intact	Yellow	0
2285	Basement	C-009	Metal Stringer	North	Intact	Yellow	0.03
2286	Basement	C-009	Metal Riser	North	Fair	Yellow	0
2287	Basement	C-009	Wood Door Casing	East	Fair	White	0
2288	Basement	C-009	Drywall Wall (Interior)	East	Intact	White	0
2290	Basement	C-009	Concrete Column	South	Intact	White	0.01
2291	Basement	C-009A	Wood Privacy Partition	West	Intact	Blue	0
2292	Basement	C-009	Metal Pipe	East	Poor	Green	0.6
2293	Basement	C-009	Concrete Wall (Exterior)	East	Poor	Green	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2299	Basement	C-009D	Concrete Floor	Floor	Intact	Gray	0.05
2300	Basement	C-009	Concrete Trim	NA	Intact	Yellow	0.01
2301	Basement	Corridor Outside C009	Metal Door Casing	South	Intact	Beige	0
2302	Basement	Corridor Outside C009	Metal Door	South	Intact	Beige	0
2304	Basement	Corridor Outside FC-C-001	Wood Door	South	Fair	Red	4.7
2306	Basement	Fc-C-001	Plaster Wall (Interior)	South	Intact	Red	0.09
2307	Basement	Corridor Outside FC-C-001	Metal Door Casing	South	Fair	Beige	0.11
2308	Basement	C005	Concrete Column	East	Intact	Green	2.2
2309	Basement	C005	Wood Cabinet	South	Poor	Gray	0.02
2310	Basement	C005	Metal Pipe	South	Fair	Green	35
2311	Basement	C006B	Wood Door Casing	West	Fair	Green	0.09
2312	Basement	C006B	Wood Door	West	Fair	Gray	0.02
2319	Basement	C006C	Concrete Wall (Interior)	East	Intact	Blue	0.07
2320	Basement	C006C	Wood Door Casing	North	Fair	Blue	0.03
2321	Basement	Corridor Outside C006C	Wood Door	South	Fair	Gray	0.3
2322	Basement	Corridor Outside C006C	Drywall Wall (Interior)	South	Intact	Blue	0
2323	Basement	Corridor Outside C005F	Metal Window Blind Frame	North	Intact	Blue	3.2
2324	Basement	Corridor Outside C005F	Metal Window Casing	North	Intact	Blue	0.08
2325	Basement	Corridor Outside C005F	Metal Window Sash	North	Intact	Brown	0
2327	Basement	Corridor Outside C005F	Concrete Window Sill	North	Fair	Blue	0.12
2328	Basement	C005A	Metal Radiator	East	Poor	Green	0.27
2329	Basement	C005A	Brick Wall (Exterior)	North	Intact	Green	1.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2330	Basement	C005A	Wood Door Casing	North	Fair	Green	0.13
2331	Basement	C005A	Wood Door	North	Fair	Brown	0.28
2333	Basement	C005A	Concrete Ceiling	Ceiling	Fair	White	0.04
2335	Basement	C001	Brick Wall (Exterior)	North	Fair	Gray	0.05
2337	Basement	C001	Metal Pipe	East	Fair	Gray	0.15
2338	Basement	A-004B	Metal Door	North	Fair	Beige	0.05
2339	Basement	Corridor Outside A-004A	Drywall Wall (Interior)	East	Fair	Beige	0
2340	Basement	Corridor Outside A-004A	Metal Radiator	West	Fair	Beige	0.05
2341	Basement	Corridor Outside A-004A	Metal Door Casing	North	Fair	Beige	0
2342	Basement	Corridor Outside A-004A	Wood Door Casing	North	Fair	Brown	0.01
2343	Basement	Stair 1-5	Wood Door Casing	North	Fair	White	3.3
2344	Basement	Stair 1-5	Wood Door	North	Fair	White	3.8
2347	Basement	Stair 1-5	Plaster Wall (Interior)	North	Intact	White	0.22
2348	Basement	Stair 1-5	Metal Handrail	North	Intact	Gray	0
2350	Basement	Stair 1-5	Concrete Riser	West	Intact	Gray	0.04
2351	Basement	Stair 1-5	Concrete Tread	NA	Intact	Gray	0.03
2352	Basement	Stair 1-5	Concrete Floor	Floor	Fair	Gray	0.08
2353	Basement	Stair 1-5	Metal Door Casing	West	Intact	White	0.4
2354	Basement	Stair 1-5	Metal Door	West	Intact	White	0.17
2355	Basement	A-003	Metal Radiator	North	Fair	Blue	0.03
2356	Basement	A-003	Metal Window Blind Frame	North	Fair	White	1.9
2360	Basement	A-003	Concrete Column	West	Intact	Blue	0.02
2361	Basement	A-002	Brick Wall (Interior)	East	Intact	White	0.02
2362	Basement	A-002	Wood Window Casing	South	Fair	Beige	0.7
2363	Basement	A-002	Concrete Wall (Exterior)	South	Fair	White	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2364	Basement	A-002	Concrete Floor	Floor	Fair	Gray	0.08
2365	Basement	A-002	Metal Door Casing	South	Fair	Beige	0.08
2366	Basement	Corridor Outside A-002	Metal Door	South	Fair	Beige	0
2367	Basement	B-001	Metal Ladder	East	Fair	Yellow	2.9
2368	Basement	B-001	Metal Handrail	East	Fair	Yellow	0
2369	Basement	B-001	Wood Trim	East	Fair	Yellow	0
2372	Basement	B-007	Concrete Wall (Interior)	West	Poor	Blue	0.04
2373	Basement	B-007	Metal Door	South	Fair	Beige	0
2375	Basement	B-007	Metal Door Casing	East	Fair	Beige	0
2377	Basement	B-004C	Metal Radiator	South	Intact	Green	0.28
2378	Basement	B-004C	Metal Swinging Screen	South	Fair	Green	0.04
2379	Basement	B-004C	Wood Door	West	Fair	Green	6.1
2380	Basement	B-004C	Metal Door Casing	West	Fair	Green	0.14
2382	Basement	B-004	Metal Exhaust Duct	East	Fair	Yellow	1.3
2383	Basement	B-004	Concrete Ceiling	Ceiling	Intact	White	0.01
2386	Basement	B-004	Concrete Wall (Exterior)	North	Poor	White	0.01
2388	Basement	B-004	Plaster Wall (Exterior)	North	Poor	White	0.08
2389	Basement	B-002	Concrete Floor	Floor	Intact	Green	0.09
2390	Basement	B-002	Concrete Floor	Floor	Fair	Yellow	0.07
2391	Basement	B-002E	Concrete Wall (Exterior)	West	Fair	Yellow	0.09
2392	Basement	Corridor Outside B-002E	Wood Door	West	Poor	Green	0
2393	Basement	Corridor Outside B-002E	Brick Door Casing	West	Fair	Green	0
2394	Basement	Corridor Outside B-002	Wood Tread	South	Fair	Gray	0
2395	Basement	Corridor Outside B-002	Concrete Column	East	Intact	White	0.18

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2396	Basement	Corridor Outside B-002	Concrete Wall (Exterior)	West	Intact	White	0.2
2397	Basement	Corridor Outside B-002D	Drywall Wall (Interior)	East	Fair	White	0
2398	Basement	Corridor Outside B-002D	Drywall Wall (Interior)	East	Fair	Blue	0
2399	Basement	Corridor Outside B-008	Metal Floor	Floor	Poor	Green	0.02
2400	Basement	CS1	Metal Handrail	North	Poor	Gray	6.4
2401	First	Stair 1-5	Metal Sprinkler Main	North	Intact	Red	0
2402	First	Stair 1-5	Metal Radiator	North	Intact	Beige	0.27
2403	First	Stair 1-5	Metal Window Casing	North	Fair	White	0.04
2404	First	Stair 1-5	Metal Window Sill	North	Intact	White	0.1
2405	First	Stair 1-5	Metal Handrail	West	Fair	Gray	0
2406	First	Stair 1-5	Plaster Wall (Interior)	West	Fair	White	0.3
2407	First	Corridor Outside C-119	Plaster Wall (Exterior)	East	Fair	White	0
2408	First	Corridor Outside C-119	Metal Window Casing	East	Intact	White	0.04
2409	First	Corridor Outside C-119	Metal Window Sash	East	Intact	Brown	0
2410	First	Corridor Outside C-119	Metal Window Sill	East	Fair	White	0.08
2411	First	Corridor Outside C-119	Metal Radiator	East	Fair	White	0.01
2412	First	Corridor Outside C-121	Metal Door Casing	South	Fair	White	0
2413	First	Corridor Outside C-121	Drywall Wall (Interior)	South	Fair	White	0
2414	First	Corridor Outside C-121	Wood Door	South	Intact	Clear	0
2415	First	C-121	Metal Radiator	South	Fair	White	0.04
2416	First	C110	Metal Column Between Windows	East	Fair	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2417	First	C110	Metal Column Between Windows	East	Fair	White	0.18
2418	First	C110	Plaster Wall (Exterior)	East	Intact	White	0.07
2420	First	C115	Metal Privacy Partition	North	Intact	Gray	0
2421	First	Corridor Outside C-115	Drywall Wall (Interior)	North	Intact	White	0
2422	First	Stair 3-5	Wood Door	South	Intact	Orange	4
2423	First	Stair 3-5	Wood Door Casing	South	Intact	White	4.5
2426	First	Stair 3-5	Concrete Floor	Floor	Fair	Gray	0.12
2427	First	Stair 3-5	Concrete Tread	South	Fair	Gray	0.05
2428	First	Stair 3-5	Concrete Riser	South	Fair	Gray	0.05
2429	First	Stair 3-5	Metal Handrail	North	Intact	Gray	0
2430	First	Stair 3-5	Metal Radiator	North	Intact	White	0.18
2431	First	Stair 3-5	Plaster Wall (Exterior)	South	Fair	White	0.23
2433	First	Corridor Outside C131	Metal Door Casing	South	Fair	White	0.04
2434	First	Corridor Outside C131	Plaster Wall (Interior)	East	Intact	White	0
2436	First	Corridor Outside C128	Metal Column	South	Intact	White	0
2438	First	A119	Plaster Wall (Exterior)	South	Intact	White	0.08
2440	First	A119	Metal Window Sill	South	Fair	White	0
2441	First	A119	Metal Window Casing	South	Fair	White	0.04
2442	First	A119	Plaster Column	South	Fair	White	0.7
2445	First	A119	Metal Door Casing	North	Fair	White	0.26
2446	First	B116	Plaster Column	North	Intact	White	0.03
2448	First	B116	Plaster Wall (Exterior)	North	Intact	White	0.05
2449	First	B116	Metal Window Sill	North	Poor	White	0.08
2450	First	B116	Metal Radiator	North	Intact	White	0.09
2451	First	B116	Drywall Wall (Exterior)	North	Fair	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2453	First	B123	Metal Window Casing	South	Fair	White	0.28
2454	First	B123	Metal Window Casing	South	Fair	White	0.05
2456	First	B141	Metal Window Sill	West	Fair	White	0.06
2457	First	B-127	Metal Door Casing	Lower	Fair	White	0.06
2458	First	B-101	Plaster Wall (Exterior)	South	Intact	White	0
2459	First	B-101	Plaster Column	West	Intact	White	0
2460	First	B-101	Metal Closet	South	Intact	White	0
2462	First	Corridor Outside Suite 101	Metal Door Casing	West	Intact	White	0
2467	Second	Corridor Outside C-223	Metal Door Casing	East	Fair	White	0.06
2468	Second	Corridor Outside C-223	Plaster Wall (Interior)	East	Intact	White	0
2470	Second	C-233	Plaster Wall (Exterior)	West	Poor	White	0.09
2471	Second	C-233	Metal Window Sill	West	Fair	White	0.07
2472	Second	C-233	Metal Window Casing	West	Fair	White	0.02
2473	Second	C-233	Metal Window Sill	West	Fair	Brown	0
2474	Second	C-233	Metal Radiator	West	Fair	White	0.04
2475	Second	Corridor Outside C-229	Metal Radiator	South	Fair	White	0.18
2476	Second	Corridor Outside C-229	Metal Radiator	South	Intact	White	0.02
2477	Second	Corridor Outside C-229	Metal Window Sill	South	Intact	White	0
2478	Second	Corridor Outside C-229	Metal Window Sash	South	Intact	White	0.08
2479	Second	C210	Metal Column Between Windows	West	Intact	White	0.05
2480	Second	C210	Metal Window Sill	West	Fair	White	0



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2481	Second	C210	Drywall Column	North	Intact	White	0
2482	Second	C210	Metal Column Between Windows	East	Intact	White	0.06
2483	Second	C210	Metal Radiator	East	Intact	White	0.12
2484	Second	C216	Plaster Wall (Exterior)	East	Intact	White	0
2485	Second	C216	Metal Radiator	North	Intact	White	0
2486	Second	C216	Metal Window Sill	North	Intact	White	0.1
2487	Second	C216	Metal Window Sash	North	Intact	Brown	0
2488	Second	C216	Metal Window Casing	North	Intact	White	0.02
2489	Second	Corridor Outside C-216	Wood Spindle	East	Intact	Clear	0
2490	Second	Corridor Outside C-216	Metal Door Casing	East	Intact	White	0
2492	Second	Corridor Outside FC-A-201	Drywall Wall (Interior)	West	Intact	Blue	0
2493	Second	C-205	Metal Door Casing	East	Intact	White	0
2494	Second	C-205	Metal Door	East	Intact	White	0
2495	Second	C-203	Plaster Wall (Interior)	South	Fair	White	0.01
2496	Second	C-203	Metal Door Casing	South	Fair	White	0.01
2498	Second	Corridor Outside C-203	Plaster Wall (Interior)	North	Intact	White	0
2499	Second	A209A	Plaster Wall (Exterior)	South	Poor	White	0.03
2500	Second	A209A	Metal Window Casing	South	Fair	White	0.03
2501	Second	A209A	Plaster Column	North	Fair	White	0.04
2502	Second	A209A	Plaster Wall (Interior)	North	Poor	White	0.06
2504	Second	A206	Metal Radiator	North	Intact	White	0.06
2505	Second	B204A	Metal Radiator	South	Poor	White	0
2508	Second	B204A	Metal Window Casing	South	Intact	Black	0.09
2509	Second	B204A	Metal Door Casing	West	Intact	White	0.07

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 5**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2510	Second	B204	Metal Radiator	South	Intact	White	0.02
2513	Second	Corridor Outside FC-B-201	Wood Door	West	Intact	Red	0
2515	Second	Corridor Outside FC-B-201	Plaster Wall (Interior)	West	Intact	White	0.01
2516	Second	Corridor Outside FC-B-201	Metal Door Casing	West	Fair	Yellow	0.13
2517	Second	Corridor Outside FC-B-201	Metal Door	West	Intact	Yellow	0
2518	Second	B-214	Metal Door Casing	East	Intact	Yellow	0.04
2519	Second	B-211	Metal Window Sill	West	Cracked	Beige	0.13
2520	Second	B-211	Metal Radiator	West	Fair	Beige	0.11
2521	Second	B-211	Plaster Wall (Exterior)	East	Poor	Beige	0
2522	Second	B-211	Plaster Column	West	Intact	Beige	0.06
2523	Penthouse	PHA-05	Metal Pipe	Calibrate	Intact	White	0.4
2524	Penthouse	PHA-05	Brick Wall (Exterior)	South	Intact	White	0.5
2525	Penthouse	PHA-05	Concrete Wall (Exterior)	South	Intact	White	0.4
2526	Penthouse	PHA-05	Metal Stringer	East	Intact	Gray	0
2527	Penthouse	PHA-05	Metal Handrail	North	Intact	White	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Mastic Associated with 9"x9" Flat White and Pink Floor Tile, Samples 15B and 17B



Exterior Door Caulking, Sample 20A



Exterior Window Caulking, Sample 21A



Expansion Joint Caulking, Sample 22A





Sub-basement Vent Caulking, Sample 23A



White Door Caulking (Exterior), Sample 24C



Penetration Caulking, Sample 25



9"x9" Gray Floor Tile, Sample 26A



Transite Panel Above Door – Identified in previous survey and verified in the field



## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal Vent, Reading 210



Wood Door and Wood Door Casing, Readings 211 and 212



Wood Door and Wood Door Casing, Readings 2343 and 2344



Metal Ladder, Reading 2367



Metal Handrail, Reading 2400

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 7**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint



## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 93 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 5 of the collected samples contained asbestos greater than or equal to 1%.**
- 126 XRF analyzer measurements of building surfaces were taken in this building.
- **21 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 7 was a three-story Domiciliary Building, which is currently leased, built in 1955 and occupied approximately 113,504 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 7			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 7							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
8A	8	Throughout Basement, First and Second Floors	12"x12" Tan With Brown Spots Floor Tile Mastic	10% Chrysotile	54,000 SF	Good	4
8B	B101						
8C	4						
13B	A106		12"x12" Brown Marble Floor Tile	10% Chrysotile		Good	4
13C							
28A	A106		12"x12" Brown Floor Tile Mastic	10% Chrysotile		Good	4
28B	Hallway						
28C	Lobby						
31B	Exterior	East Side Expansion Joints	Caulking Material	5% Chrysotile	1,200 LF	Good	4
31C	Exterior						
32C	Greenhouse	Greenhouse Windows	Interior Window Glazing	5% Chrysotile	2,100 LF	Good	4

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas

containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 7							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1922	Basement	C-005	Metal Pipe	North	Poor	Yellow	2.6
1935	Basement	Corridor Outside FC-C-001	Wood Door	South	Fair	Red	3.6
1936	Basement	FC-C-001	Plaster Wall (Interior)	South	Fair	Red	0.12
1942	Basement	C-001	Metal Pipe	West	Fair	Clear	0.27
1954	Basement	A-001	Metal Handrail	West	Poor	Beige	0.4
1958	Basement	A-001	Metal Ladder	West	Poor	Black	5.2
1966	Basement	B-001	Metal Stringer	West	Fair	Gray	11
1968	Basement	B-001	Concrete Wall (Exterior)	South	Poor	Yellow	0.16
1972	Basement	Corridor Outside FC-B-001	Wood Door	South	Fair	Red	6
1977	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.27
1978	Exterior	Exterior	Metal Vent	South	Fair	Gray	12.5
1984	Exterior	Exterior	Metal Trim	North	Intact	Black	2.5
2005	First	Corridor Outside FC-101	Plaster Wall (Interior)	South	Intact	Red	0.13
2006	First	Corridor Outside FC-101	Metal Door Casing	South	Intact	Beige	0.2

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 7							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2008	First	Corridor Outside ST-1-A-101	Metal Door Casing	South	Intact	Beige	0.14
2153	First	C-115	Metal Window Sash	North	Intact	Brown	0.6
2183	Second	C-209	Metal Window Casing	West	Intact	Brown	0.6
2184	Second	Stair 1-7	Metal Security Gate	South	Intact	White	2.9
2186	Penthouse	PH1	Brick Wall (Exterior)	West	Fair	Yellow	0.23
2188	Penthouse	PH1	Concrete Column	West	Fair	Yellow	1.4
2189	Penthouse	PH1	Concrete Wall (Exterior)	West	Fair	Yellow	0.19

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 7	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	54,000 SF
Window Glazing	2,100 LF
Building Caulking	1,200 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.



## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	SPC-004	-	12x12 White Floor Tile	NAD	-	-	-
1B	A-201	-	12x12 White Floor Tile	NAD	-	-	-
1C	C-004	-	12x12 White Floor Tile	NAD	-	-	-
2A	SPC-004	-	12x12 White Floor Tile Mastic	NAD	-	-	-
2B	A-201	-	12x12 White Floor Tile Mastic	NAD	-	-	-
2C	C-004	-	12x12 White Floor Tile Mastic	NAD	-	-	-
3A	SPC-004	-	Drywall	NAD	-	-	-
3B	Hallway	-	Drywall	NAD	-	-	-
3C	B101	-	Drywall	NAD	-	-	-
4A	SPC-004	-	Joint Compound	NAD	-	-	-
4B	Hallway	-	Joint Compound	NAD	-	-	-
4C	B101	-	Joint Compound	NAD	-	-	-
5A	SPC-004	-	6" Tan Cove Base Mastic	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	A-108A	-	6" Tan Cove Base Mastic	NAD	-	-	-
5C	B-109	-	6" Tan Cove Base Mastic	NAD	-	-	-
6A	8	-	6" Grey Cove Base Mastic	NAD	-	-	-
6B	A007	-	6" Grey Cove Base Mastic	NAD	-	-	-
6C	B-106	-	6" Grey Cove Base Mastic	NAD	-	-	-
7A	8	-	12x12 Tan w/ Brown Spots Floor Tile	NAD	-	-	-
7B	B101	-	12x12 Tan w/ Brown Spots Floor Tile	NAD	-	-	-
7C	4	-	12x12 Tan w/ Brown Spots Floor Tile	NAD	-	-	-
8A	8	<b>Throughout Basement, First and Second Floors</b>	<b>12x12 Tan w/ Brown Spots Floor Tile Mastic</b>	<b>10% Chrysotile</b>	<b>50,000 SF</b>	<b>Good</b>	<b>4</b>
8B	B101		<b>12x12 Tan w/ Brown Spots Floor Tile Mastic</b>	<b>Stop Positive See 8A</b>			
8C	4		<b>12x12 Tan w/ Brown Spots Floor Tile Mastic</b>	<b>Stop Positive See 8A</b>			
9A	9	-	2x2 Ceiling Tile	NAD	-	-	-
9B	B113	-	2x2 Ceiling Tile	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
9C	Hallway	-	2x2 Ceiling Tile	NAD	-	-	-
10A	C005	-	White Fire Stop	NAD	-	-	-
10B	C001	-	White Fire Stop	NAD	-	-	-
10C	C001	-	White Fire Stop	NAD	-	-	-
11A	C005	-	Red Fire Stop	NAD	-	-	-
11B	A002	-	Red Fire Stop	NAD	-	-	-
11C	A003	-	Red Fire Stop	NAD	-	-	-
12A	C012	-	12x12 Brown Marble Floor Tile	NAD	-	-	-
12B	C012	-	12x12 Brown Marble Floor Tile	NAD	-	-	-
12C	C012	-	12x12 Brown Marble Floor Tile	NAD	-	-	-
13A	C012	-	12x12 Brown Marble Floor Tile Mastic	NAD	-	-	-
13B	C012	<b>Basement and Second Floor</b>	<b>12x12 Brown Marble Floor Tile Mastic</b>	<b>10% Chrysotile</b>	<b>500 SF</b>	<b>Good</b>	<b>4</b>
13C	C012	<b>Basement and Second Floor</b>	<b>12x12 Brown Marble Floor Tile Mastic</b>	<b>Stop Positive See 13B</b>			
14A	C002	-	Plaster Base Coat	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
14B	Stairway MP-1	-	Plaster Base Coat	NAD	-	-	-
14C	ST-A101	-	Plaster Base Coat	NAD	-	-	-
15A	C002	-	Plaster Finish Coat	NAD	-	-	-
15B	Stairway MP-1	-	Plaster Finish Coat	NAD	-	-	-
15C	ST-A101	-	Plaster Finish Coat	NAD	-	-	-
16A	A002	-	Tan Fire Stop	NAD	-	-	-
16B	A002	-	Tan Fire Stop	NAD	-	-	-
16C	A002	-	Tan Fire Stop	NAD	-	-	-
17A	A002	-	Brown Fire Stop	NAD	-	-	-
17B	A003	-	Brown Fire Stop	NAD	-	-	-
17C	A002	-	Brown Fire Stop	NAD	-	-	-
18A	Stairway MP-1	-	6" Green Cove Base Mastic	NAD	-	-	-
18B	ST-A001	-	6" Green Cove Base Mastic	NAD	-	-	-
18C	Main Entry Lobby	-	6" Green Cove Base Mastic	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
19A	Stairway MP-1	-	Green Sheet Flooring	NAD	-	-	-
19B	ST-A001	-	Green Sheet Flooring	NAD	-	-	-
19C	Main Entry Lobby	-	Green Sheet Flooring	NAD	-	-	-
20A	Stairway MP-1	-	Green Sheet Flooring Mastic	NAD	-	-	-
20B	ST-A001	-	Green Sheet Flooring Mastic	NAD	-	-	-
20C	Main Entry Lobby	-	Green Sheet Flooring Mastic	NAD	-	-	-
21A	Sub Basement	-	Pipe Elbow Insulation	NAD	-	-	-
21B	Sub Basement	-	Pipe Elbow Insulation	NAD	-	-	-
22A	Sub Basement	-	Pipe Elbow Cement	NAD	-	-	-
22B	Sub Basement	-	Pipe Elbow Cement	NAD	-	-	-
23A	Sub Basement	-	Pipe Elbow Canvas	NAD	-	-	-
23B	Sub Basement	-	Pipe Elbow Canvas	NAD	-	-	-
24A	A1081	-	12x12 Cream w/ Tan Specks Floor Tile	NAD	-	-	-
24B	B100	-	12x12 Cream w/ Tan Specks Floor Tile	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
24C	B100	-	12x12 Cream w/ Tan Specks Floor Tile	NAD	-	-	-
25A	A1081	-	12x12 Cream w/ Tan Specks Floor Tile Mastic	NAD	-	-	-
25B	B100	-	12x12 Cream w/ Tan Specks Floor Tile Mastic	NAD	-	-	-
25C	B100	-	12x12 Cream w/ Tan Specks Floor Tile Mastic	NAD	-	-	-
26A	B133	-	Carpet Mastic	NAD	-	-	-
26B	B133	-	Carpet Mastic	NAD	-	-	-
26C	B133	-	Carpet Mastic	NAD	-	-	-
27A	A106	-	12x12 Brown Floor Tile	NAD	-	-	-
27B	Hallway	-	12x12 Brown Floor Tile	NAD	-	-	-
27C	Lobby	-	12x12 Brown Floor Tile	NAD	-	-	-
<b>28A</b>	<b>A106</b>	<b>Throughout Basement, First and Second Floors</b>	<b>12x12 Brown Floor Tile Mastic</b>	<b>10% Chrysotile</b>	<b>3,500 SF</b>	<b>Good</b>	<b>4</b>
<b>28B</b>	<b>Hallway</b>		<b>12x12 Brown Floor Tile Mastic</b>	<b>Stop Positive See 28A</b>			
<b>28C</b>	<b>Lobby</b>		<b>12x12 Brown Floor Tile Mastic</b>	<b>Stop Positive See 28A</b>			



**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 7**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
29A	Exterior-Southeast Corner	-	Window Caulk	NAD	-	-	-
29B	Exterior-North Side	-	Window Caulk	NAD	-	-	-
29C	Exterior-West Side	-	Window Caulk	NAD	-	-	-
30A	Exterior-South Side	-	Door Caulk	NAD	-	-	-
30B	Exterior-East Side	-	Door Caulk	NAD	-	-	-
30C	Exterior-Northeast Corner	-	Door Caulk	NAD	-	-	-
31A	Exterior-South Side	-	Expansion Joint Caulk	NAD	-	-	-
<b>31B</b>	<b>Exterior</b>	<b>Expansion Joints</b>	<b>Caulking Material</b>	<b>5% Chrysotile</b>	<b>1,200 LF</b>	<b>Good</b>	<b>4</b>
<b>31C</b>	<b>Exterior</b>			<b>Stop Positive See 31B</b>			
32A	Greenhouse South Side	-	Interior Window Glazing	NAD (TEM)	-	-	-
32B	Greenhouse West Side	-	Interior Window Glazing	NAD	-	-	-
<b>32C</b>	<b>Greenhouse South Side</b>	<b>Interior Greenhouse Windows</b>	<b>Interior Window Glazing</b>	<b>5% Chrysotile</b>	<b>2,100 LF</b>	<b>Good</b>	<b>4</b>

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 7**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1919	Basement	C-005	Brick Wall (Exterior)	North	Fair	Yellow	0.02
1920	Basement	C-005	Concrete Floor	Na	Fair	Gray	0.06
1921	Basement	C-005	Concrete Wall (Exterior)	North	Fair	Yellow	0.01
1922	Basement	C-005	Metal Pipe	North	Poor	Yellow	2.6
1923	Basement	C-005	Concrete Ceiling	Na	Poor	Yellow	0
1925	Basement	C-005	Metal Window Sash	North	Intact	Brown	0
1926	Basement	C-005	Metal Door	South	Fair	White	0.04
1927	Basement	Corridor Outside C-005	Metal Door Casing	North	Fair	Pink	0.02
1929	Basement	Corridor Outside C-005	Drywall Wall (Interior)	North	Fair	Beige	0
1930	Basement	Corridor Outside C-005	Metal Kick Plate	North	Poor	Black	0.04
1931	Basement	C-004	Glazed Block Wall (Interior)	North	Intact	Tan	1.5
1932	Basement	Corridor Outside C-004	Metal Door Casing	South	Poor	Pink	0.02
1933	Basement	C-006	Metal Radiator	East	Intact	Brown	0
1934	Basement	C-006	Metal Kick Plate	East	Fair	Black	0
1935	Basement	Corridor Outside FC-C-001	Wood Door	South	Fair	Red	3.6
1936	Basement	Fc-C-001	Plaster Wall (Interior)	South	Fair	Red	0.12
1937	Basement	FC-C-001	Metal Stand Pipe	South	Fair	Red	0
1938	Basement	FC-C-001	Metal Door Casing	South	Fair	Pink	0.02
1939	Basement	C-003A	Metal Pipe	NA	Fair	White	0
1941	Basement	C-003A	Wood Door	South	Fair	Clear	0
1942	Basement	C-001	Metal Pipe	West	Fair	Clear	0.27
1943	Basement	C013B	Plaster Wall (Interior)	East	Intact	White	0.04
1944	Basement	C013B	Metal Privacy Partitions	South	Intact	White	0.04
1946	Basement	C013C	Metal Locker	North	Intact	Blue	0.01
1947	Basement	Corridor Outside C-015	Metal Door Casing	West	Intact	Pink	0
1948	Basement	Corridor Outside A-005	Metal Door	North	Fair	Brown	0
1949	Basement	Corridor Outside A-005	Metal Door Casing	North	Poor	Tan	0
1952	Basement	A-006 Electrical	Concrete Floor	Na	Poor	Red	0.01
1953	Basement	A-006 Electrical	Brick Wall (Interior)	North	Intact	White	0.01
1954	Basement	A-001	Metal Handrail	West	Poor	Beige	0.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 7**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1955	Basement	A-001	Concrete Tread	West	Poor	Gray	0.03
1956	Basement	A-001	Concrete Riser	West	Poor	Gray	0.05
1957	Basement	A-001	Concrete Stringer	South	Fair	Gray	0.01
1958	Basement	A-001	Metal Ladder	West	Poor	Black	5.2
1959	Basement	A-001	Concrete Wall (Interior)	West	Fair	White	0.01
1961	Basement	Stair 1-7	Plaster Wall (Interior)	East	Fair	White	0.02
1962	Basement	Stair 1-7	Metal Handrail	South	Poor	Gray	0
1963	Basement	Stair 1-7	Metal Door	South	Intact	Gray	0
1964	Basement	B-006	Metal Column	West	Intact	Brown	0.01
1965	Basement	B-001	Metal Ladder	West	Intact	Black	0.06
1966	Basement	B-001	Metal Stringer	West	Fair	Gray	11
1967	Basement	B-001	Concrete Column	West	Fair	Yellow	0.07
1968	Basement	B-001	Concrete Wall (Exterior)	South	Poor	Yellow	0.16
1969	Basement	B-001	Wood Tread	North	Poor	Gray	0.03
1970	Basement	B-001	Wood Tread	North	Poor	Gray	0.05
1971	Basement	B-001	Wood Stringer	North	Poor	Gray	0.08
1972	Basement	Corridor Outside FC-B-001	Wood Door	South	Fair	Red	6
1973	Basement	B-005	Drywall Column	North	Intact	White	0
1974	Basement	B-005	Drywall Wall (Interior)	South	Intact	White	0
1975	Basement	B-005	Metal Door	South	Intact	White	0.01
1976	Basement	B-005	Metal Door Casing	South	Intact	Pink	0.05
1977	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.27
1978	Exterior	Exterior	Metal Vent	South	Fair	Gray	12.5
1979	Exterior	Exterior	Metal Door	South	Fair	Brown	0
1980	Exterior	Exterior	Metal Door Casing	South	Fair	Brown	0
1981	Exterior	Exterior	Metal Handrail	South	Poor	Black	0.07
1982	Exterior	Exterior	Metal Handrail	South	Intact	Black	0.01
1983	Exterior	Exterior	Metal Louver	North	Intact	Black	0
1984	Exterior	Exterior	Metal Trim	North	Intact	Black	2.5
1987	Exterior	Loading Dock	Plaster Ceiling	Na	Intact	White	0
1988	First	B-115	Drywall Wall (Exterior)	North	Intact	White	0
1990	First	B-116A	Metal Door Casing	East	Intact	White	0
1991	First	B-116A	Wood Door	East	Intact	Clear	0.01
1992	First	B-116A	Metal Closet	West	Intact	Beige	0
1993	First	Corridor Outside B-115	Drywall Wall (Interior)	North	Intact	Multi	0
1994	First	B-110	Drywall Column	North	Fair	Multi	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 7**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1995	First	Stair 2-7	Plaster Wall (Exterior)	South	Fair	White	0.03
1996	First	Stair 2-7	Metal Handrail	South	Poor	Pink	0.04
1997	First	Stair 2-7	Concrete Riser	East	Poor	Pink	0.06
1998	First	Corridor Outside ST-2-B-101	Metal Door Casing	West	Poor	White	0.03
1999	First	B-124	Drywall Wall (Exterior)	South	Intact	Green	0
2000	First	Corridor Outside B-107	Metal Door	East	Intact	White	0
2001	First	Corridor Outside B-107	Metal Door Casing	East	Intact	White	0
2003	First	B-130A	Drywall Wall (Interior)	East	Intact	White	0
2004	First	Corridor Outside FC-101	Wood Door	South	Intact	Red	0.02
2005	First	Corridor Outside FC-101	Plaster Wall (Interior)	South	Intact	Red	0.13
2006	First	Corridor Outside FC-101	Metal Door Casing	South	Intact	Beige	0.2
2008	First	Corridor Outside ST-1-A-101	Metal Door Casing	South	Intact	Beige	0.14
2009	First	Corridor Outside ST-1-A-101	Metal Door	South	Fair	Beige	0
2010	First	Vestibule	Metal Radiator	West	Fair	Brown	0
2011	First	Vestibule	Metal Door Casing	North	Intact	Brown	0
2012	First	A-102	Metal Window Sash	West	Intact	Brown	0
2148	First	A-108	Drywall Column	East	Intact	Multi	0
2149	First	C-118	Drywall Wall (Exterior)	North	Intact	Multi	0
2150	First	C-118	Metal Closet	East	Intact	Beige	0
2151	First	C-115	Metal Door Casing	North	Intact	Beige	0
2153	First	C-115	Metal Window Sash	North	Intact	Brown	0.6
2154	First	Corridor Outside C-115	Wood Door	North	Intact	Clear	0
2155	First	B-216	Metal Closet	West	Intact	Beige	0
2156	First	B-216	Metal Window Sash	North	Intact	Brown	0
2157	First	B-216	Drywall Wall (Exterior)	North	Intact	Blue	0
2158	First	Corridor Outside B-213	Metal Door Casing	North	Intact	Beige	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 7**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2159	First	Corridor Outside B-213	Wood Door	North	Intact	Clear	0
2160	Second	B212	Drywall Wall (Interior)	West	Intact	Orange	0
2162	Second	B208	Drywall Wall (Exterior)	North	Intact	Green	0
2163	Second	B209	Drywall Wall (Exterior)	North	Intact	Blue	0
2164	Second	B209	Metal Window Casing	North	Intact	Brown	0
2165	Second	Corridor Outside FCA201	Wood Door	South	Fair	Red	0.02
2166	Second	Corridor Outside FCA201	Metal Door Casing	North	Intact	Beige	0.03
2167	Second	FCA201	Metal Pipe	South	Intact	Red	0
2169	Second	FCA201	Plaster Wall (Interior)	South	Intact	Red	0.07
2170	Second	FCA201	Concrete Floor	NA	Poor	Red	0
2171	Second	A203	Drywall Wall (Interior)	West	Intact	Orange	0
2172	Second	C-229	Drywall Wall (Exterior)	South	Intact	Beige	0
2173	Second	C-229	Metal Window Sash	South	Intact	Brown	0
2174	Second	Corridor Outside C229	Metal Door Casing	South	Intact	Beige	0
2177	Second	Corridor Outside C229	Drywall Wall (Interior)	South	Intact	Beige	0
2178	Second	Stair 3-7	Plaster Wall (Interior)	East	Intact	White	0.03
2179	Second	Stair 3-7	Metal Handrail	East	Fair	Pink	0.03
2180	Second	Stair 3-7	Concrete Riser	West	Fair	Pink	0.1
2181	Second	Corridor Outside Stair 3	Metal Door	East	Intact	Beige	0.01
2182	Second	Corridor Outside Stair 3	Metal Door Casing	East	Intact	Beige	0.1
2183	Second	C-209	Metal Window Casing	West	Intact	Brown	0.6
2184	Second	Stair 1-7	Metal Security Gate	South	Intact	White	2.9
2186	Penthouse	PH1	Brick Wall (Exterior)	West	Fair	Yellow	0.23
2188	Penthouse	PH1	Concrete Column	West	Fair	Yellow	1.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 7**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2189	Penthouse	PH1	Concrete Wall (Exterior)	West	Fair	Yellow	0.19
2190	Penthouse	PH1	Metal Beam	West	Fair	Yellow	0.03
2191	Penthouse	PH1	Metal Window Sash	West	Intact	Brown	0
2192	Second	Stair 1-7	Plaster Wall (Exterior)	West	Poor	White	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM





Mastic Associated with 12"x12" Tan and Brown Floor Tile, Samples 8A and 28A



Mastic Associated with 12"x12" Brown Marble Floor Tile, Sample 13B



Exterior Expansion Joint, Sample 31B



Interior Window Glazing, Sample 32C

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal Pipe, Reading1922



Wood Door, Reading 1935



Metal Ladder, Reading 1958



Metal Vent, Reading 1978





Concrete Column, Reading 2188

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 8**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



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Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 126 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 12 of the collected samples contained asbestos greater than or equal to 1%.**
- 112 XRF analyzer measurements of building surfaces were taken in this building.
- **26 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 8 was a two-story Spinal Cord Injury Building built in 1955 and occupied approximately 75,422 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 8			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
2A	CRA101	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Shelter White Floor Tile	Trace <sup>1</sup>	25,000 SF	Good	4
2B	172A		12"x12" Shelter White Floor Tile	Trace <sup>1</sup>		Good	4
2C	A105		12"x12" Shelter White Floor Tile	Trace <sup>1</sup>		Good	4
3A	CRA101		12"x12" Shelter White Floor Tile Mastic	2% Chrysotile		Good	4
3B	172A						
3C	A105		12"x12" Black Floor Tile	5% Chrysotile		Good	4
13A	CRC102						
13B			12"x12" Black Floor Tile Mastic	5% Chrysotile		Good	4
13C	C166						
14A	CRC102		12"x12" Orange Floor Tile	2% Chrysotile		Good	4
14B							
14C	C166		12"x12" Orange Floor Tile Mastic	10% Chrysotile		Good	4
15A	CRC102						
15B	CRC101		12"x12" Light Brown Floor Tile	2% Chrysotile		Good	4
15C	C166						
16A	CRC102		12"x12" Light Brown Floor Tile Mastic	2% Chrysotile		Good	4
16B	CRC101						
16C	C166		12"x12" Light Brown Floor Tile Mastic	2% Chrysotile		Good	4
17A	CRC102						
17B	C163						
17C	C166						
18A	CRC102						
18B	C163						
18C	C166						
23A	Corridor	Basement Corridor	9"x9" White Floor Tile	5% Chrysotile	1,075 SF	Good	4
23B							
23C							
24A	Corridor		9"x9" White Floor Tile Mastic	5% Chrysotile		Good	
24B							
24C							
33A	C-009	Exercise Room	Pipe Insulation	10% Chrysotile	100 LF	Good	4
33B				10%			
33C				Amosite			

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 8							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
37A	Exterior	Doors	Door Caulk	2.20% Chrysotile <sup>2</sup> 6.60% Anthophyllite <sup>2</sup>	60 LF	Good	4
37B	Exterior		Door Caulk	2% Chrysotile		Good	
37C							
NA	NA	Set Into Walls at Radiator Locations	Transite Panels at Radiators	Identified in Previous Survey and Verified in the Field	100 EA	Good	4
Footnotes: 1 – Trace Floor Tile with Positive Mastic 2 – Analyzed by TEM				SF – Square feet LF – Linear Feet EA – Each NA – Not Applicable			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 8							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1691	First	ST1A101	Wood Door	West	Fair	Gray	4.7
1692	First	ST1A101	Wood Door Casing	West	Fair	Gray	3.1
1694	First	ST1A101	Plaster Wall (Exterior)	South	Fair	White	0.6
1697	First	ST1A101	Metal Door Casing	North	Fair	Pink	0.11
1698	First	ST1A101	Metal Handrail	West	Fair	Black	0.9
1807	Basement	A-006	Cork Pipe Insulation	NA	Poor	Gray	0.8
1808	Basement	A-006	Metal Pipe	NA	Poor	Gray	0.13
1814	Basement	A-006	Metal Pipe Storm Sewer	NA	Intact	Gray	0.4
1819	Basement	Corridor Outside FC-A-001	Wood Door	South	Fair	Red	3.8
1825	Basement	A-002	Metal Louver	South	Intact	Gray	0.4
1830	Basement	C-020	Metal Floor Plate	Floor	Fair	Gray	0.9
1832	Basement	C-009	Concrete Wall (Interior)	North	Fair	Blue	0.9
1834	Basement	C-009	Concrete Wall (Exterior)	West	Fair	White	0.16
1835	Basement	C-009	Metal Pipe	West	Cracked	White	0.29



Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 8							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1836	Basement	C-009	Pipe Insulation White Block Pipe Insulation	West	Cracked	White	1.3
1862	First	CRA101	Metal Floor Plate	Floor	Intact	Yellow	0.8
1864	First	CRB101	Metal Plate On Wall At Expansion Joint Wall (Interior)	South	Intact	Yellow	0.12
1881	First	A170	Metal Radiator	North	Fair	White	0.4
1886	First	A101	Metal Radiator	East	Intact	Gray	0.15
1900	First	CRC102	Wood Door Casing	East	Fair	Beige	4.3
1901	First	CRC102	Metal Door	East	Intact	Beige	3
1906	First	C166	Wood Door	North	Poor	Beige	6.9
1907	First	C166	Wood Door Casing	North	Fair	Blue	3.3
1912	Exterior	Exterior	Wood Door	North	Poor	Brown	24.2
1913	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	13
1914	Exterior	Covered Walkway	Metal Wall (Exterior)	South	Intact	Green	1.1
NA – Not Applicable							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted

this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 8	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	26,075 SF
Pipe Insulation	100 LF
Door Caulking	60 LF
Transite Panel at Radiators	100 EA
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	135	-	4" Base Cove Mastic	NAD	-	-	-
1B	139	-	4" Base Cove Mastic	NAD	-	-	-
1C	139	-	4" Base Cove Mastic	NAD	-	-	-
2A	CRA101	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Shelter White Floor Tile	Trace <sup>1</sup>	25,000 SF	Good	4
2B	172A		12"x12" Shelter White Floor Tile	Trace <sup>1</sup>	-	-	-
2C	A105		12"x12" Shelter White Floor Tile	Trace <sup>1</sup>	-	-	-
3A	CRA101	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Shelter White Floor Tile Mastic	2% Chrysotile	25,000 SF	Good	4
3B	172A		12"x12" Shelter White Floor Tile Mastic	Stop Positive See 3A			
3C	A105		12"x12" Shelter White Floor Tile Mastic	Stop Positive See 3A			
4A	A101	-	12"x12" Blue Floor Tile	NAD	-	-	-
4B	A101	-	12"x12" Blue Floor Tile	NAD	-	-	-
4C	A101	-	12"x12" Blue Floor Tile	NAD	-	-	-
5A	A101	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	A101	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
5C	A101	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
6A	A101	-	12"x12" Tan Speckled Floor Tile	NAD	-	-	-
6B	A101	-	12"x12" Tan Speckled Floor Tile	NAD	-	-	-
6C	A101	-	12"x12" Tan Speckled Floor Tile	NAD	-	-	-
7A	A101	-	12"x12" Tan Speckled Floor Tile Mastic	NAD	-	-	-
7B	A101	-	12"x12" Tan Speckled Floor Tile Mastic	NAD	-	-	-
7C	A101	-	12"x12" Tan Speckled Floor Tile Mastic	NAD	-	-	-
8A	A175	-	12"x12" Brown Floor Tile	NAD	-	-	-
8B	A176	-	12"x12" Brown Floor Tile	NAD	-	-	-
8C	A102	-	12"x12" Brown Floor Tile	NAD	-	-	-
9A	A175	-	12"x12" Brown Floor Tile Mastic	NAD	-	-	-
9B	A176	-	12"x12" Brown Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
9C	A102	-	12"x12" Brown Floor Tile Mastic	NAD	-	-	-
10A	A101	-	2'x2' Ceiling Tile	NAD	-	-	-
10B	A101	-	2'x2' Ceiling Tile	NAD	-	-	-
10C	A101	-	2'x2' Ceiling Tile	NAD	-	-	-
11A	CRB101	-	12"x12" Yellow Floor Tile	NAD	-	-	-
11B	CRB101	-	12"x12" Yellow Floor Tile	NAD	-	-	-
11C	CRB101	-	12"x12" Yellow Floor Tile	NAD	-	-	-
12A	CRB101	-	12"x12" Yellow Floor Tile Mastic	NAD	-	-	-
12B	CRB101	-	12"x12" Yellow Floor Tile Mastic	NAD	-	-	-
12C	CRB101	-	12"x12" Yellow Floor Tile Mastic	NAD	-	-	-
13A	102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Black Floor Tile	5% Chrysotile	25,000 SF	Good	4
13B	102		12"x12" Black Floor Tile	Stop Positive See 13A			
13C	166		12"x12" Black Floor Tile	Stop Positive See 13A			



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
14A	102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Black Floor Tile Mastic	5% Chrysotile	25,000 SF	Good	4
14B	102		12"x12" Black Floor Tile Mastic	Stop Positive See 14A			
14C	166		12"x12" Black Floor Tile Mastic	Stop Positive See 14A			
15A	CRC102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Orange Floor Tile	2% Chrysotile	25,000 SF	Good	4
15B	CRC101		12"x12" Orange Floor Tile	Stop Positive See 15A			
15C	C166		12"x12" Orange Floor Tile	Stop Positive See 15A			
16A	CRC102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Orange Floor Tile Mastic	10% Chrysotile	25,000 SF	Good	4
16B	CRC101		12"x12" Orange Floor Tile Mastic	Stop Positive See 16A			
16C	C166		12"x12" Orange Floor Tile Mastic	Stop Positive See 16A			
17A	CRC102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Light Brown Floor Tile	2% Chrysotile	25,000 SF	Good	4
17B	C163		12"x12" Light Brown Floor Tile	Stop Positive See 17A			
17C	C166		12"x12" Light Brown Floor Tile	Stop Positive See 17A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
18A	CRC102	Throughout First Floor Corridors and Basement and First Floor Rooms	12"x12" Light Brown Floor Tile Mastic	2% Chrysotile	25,000 SF	Good	4
18B	C163		12"x12" Light Brown Floor Tile Mastic	Stop Positive See 18A			
18C	C166		12"x12" Light Brown Floor Tile Mastic	Stop Positive See 18A			
19A	CRA101	-	6" Tan Cove Base Mastic	NAD	-	-	-
19B	CRA102	-	6" Tan Cove Base Mastic	NAD	-	-	-
19C	CRB103	-	6" Tan Cove Base Mastic	NAD	-	-	-
20A	A001	-	Red Fire Stop	NAD	-	-	-
20B	A001	-	Red Fire Stop	NAD	-	-	-
20C	A001	-	Red Fire Stop	NAD	-	-	-
21A	A001	-	Gray Fire Stop	NAD	-	-	-
21B	A001	-	Gray Fire Stop	NAD	-	-	-
21C	A001	-	Gray Fire Stop	NAD	-	-	-
22A	A001	-	Pink Fire Stop	NAD	-	-	-
22B	A001	-	Pink Fire Stop	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
22C	A001	-	Pink Fire Stop	NAD	-	-	-
23A	Corridor	Basement Corridor	9"x9" White Floor Tile	5% Chrysotile	1,075 SF	Good	4
23B	Corridor	Basement Corridor	9"x9" White Floor Tile	Stop Positive See 23A			
23C	Corridor	Basement Corridor	9"x9" White Floor Tile	Stop Positive See 23A			
24A	Corridor	Basement Corridor	9"x9" White Floor Tile Mastic	5% Chrysotile	1,075 SF	Good	4
24B	Corridor	Basement Corridor	9"x9" White Floor Tile Mastic	Stop Positive See 24A			
24C	Corridor	Basement Corridor	9"x9" White Floor Tile Mastic	Stop Positive See 24A			
25A	A101	-	6" Gray Cove Base Mastic	NAD	-	-	-
25B	A101	-	6" Gray Cove Base Mastic	NAD	-	-	-
25C	A101	-	6" Gray Cove Base Mastic	NAD	-	-	-
26A	A102	-	Drywall	NAD	-	-	-
26B	C102	-	Drywall	NAD	-	-	-
26C	B102	-	Drywall	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
26D	B-106	-	Drywall	NAD	-	-	-
26E	A-141	-	Drywall	NAD	-	-	-
26F	A-134	-	Drywall	NAD	-	-	-
26G	C-169A	-	Drywall	NAD	-	-	-
27A	A102	-	Joint Compound	NAD	-	-	-
27B	C102	-	Joint Compound	NAD	-	-	-
27C	B102	-	Joint Compound	Trace	-	-	-
27D	B-106	-	Joint Compound	NAD	-	-	-
27E	A-141	-	Joint Compound	NAD	-	-	-
27F	A-134	-	Joint Compound	NAD	-	-	-
27G	C-169A	-	Joint Compound	NAD	-	-	-
28A	A101	-	Plaster Base Coat	NAD	-	-	-
28B	C102	-	Plaster Base Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
28C	B102	-	Plaster Base Coat	NAD	-	-	-
28D	B-106	-	Plaster Base Coat	NAD	-	-	-
28E	A-141	-	Plaster Base Coat	NAD	-	-	-
28F	A-134	-	Plaster Base Coat	NAD	-	-	-
28G	C-169A	-	Plaster Base Coat	NAD	-	-	-
29A	A101	-	Plaster Skim Coat	NAD	-	-	-
29B	C102	-	Plaster Skim Coat	NAD	-	-	-
29C	B102	-	Plaster Skim Coat	NAD	-	-	-
29D	B-106	-	Plaster Skim Coat	NAD	-	-	-
29E	A-141	-	Plaster Skim Coat	NAD	-	-	-
29F	A-134	-	Plaster Skim Coat	NAD	-	-	-
29G	C-169A	-	Plaster Skim Coat	NAD	-	-	-
30	A136	-	Black Sink Base Coating	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
31	A136	-	Gray Sink Base Coating	NAD	-	-	-
32A	C009	-	Mudded Fitting	NAD	-	-	-
32B	C009	-	Mudded Fitting	NAD	-	-	-
32C	C009	-	Mudded Fitting	NAD	-	-	-
33A	C009	Exercise Room	Pipe Insulation	10% Chrysotile 10% Amosite	100 LF	Good	4
33B	C009	Exercise Room	Pipe Insulation	Stop Positive See 33A			
33C	C009	Exercise Room	Pipe Insulation	Stop Positive See 33A			
34A	C006	-	Cork Pipe Insulation	NAD	-	-	-
34B	C006	-	Cork Pipe Insulation	NAD	-	-	-
34C	C006	-	Cork Pipe Insulation	NAD	-	-	-
35A	Mechanical Room	-	Debris	NAD	-	-	-
35B	Mechanical Room	-	Debris	NAD	-	-	-
35C	Mechanical Room	-	Debris	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 8**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
36A	Exterior	-	Window Caulk	NAD	-	-	-
36B	Exterior	-	Window Caulk	NAD	-	-	-
36C	Exterior	-	Window Caulk	NAD	-	-	-
37A	Exterior	Doors	Door Caulk	2.20% Chrysotile <sup>2</sup> 6.60% Anthophyllite <sup>2</sup>	60 LF	Good	4
37B	Exterior	Doors	Door Caulk	2.76% Chrysotile <sup>2</sup> 0.69% Anthophyllite <sup>2</sup>	60 LF	Good	4
37C	Exterior	Doors	Door Caulk	Stop Positive See 37B			
38A	Exterior	-	Expansion Joint Caulk	NAD	-	-	-
38B	Exterior	-	Expansion Joint Caulk	NAD	-	-	-
38C	Exterior	-	Expansion Joint Caulk	NAD	-	-	-
NA	NA	Set Into Walls at Radiator Locations	Transite Panels at Radiators	Identified in Previous Survey and Verified in the Field	100 EA	Good	4
Footnotes: 1 – Trace Floor Tile with Positive Mastic 2 – Analyzed by TEM				SF – Square feet LF – Linear Feet EA – Each NA – Not Applicable			

## Appendix B

### Table 6 Summary of XRF Measurements



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 8**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1691	First	ST1A101	Wood Door	West	Fair	Gray	4.7
1692	First	ST1A101	Wood Door Casing	West	Fair	Gray	3.1
1693	First	ST1A101	Metal Radiator	South	Intact	White	0.06
1694	First	ST1A101	Plaster Wall (Exterior)	South	Fair	White	0.6
1695	First	ST1A101	Concrete Floor	Floor	Intact	Gray	0.07
1696	First	ST1A101	Metal Door	North	Intact	Gray	0
1697	First	ST1A101	Metal Door Casing	North	Fair	Pink	0.11
1698	First	ST1A101	Metal Handrail	West	Fair	Black	0.9
1700	First	A-005	Concrete Floor	Floor	Intact	Gray	0.02
1802	Basement	A-005	Wood Door	East	Fair	Gray	0.04
1803	Basement	Corridor Outside A-005	Metal Door Casing	South	Fair	Beige	0.01
1804	Basement	Corridor Outside A-005	Metal Door	South	Fair	Beige	0.1
1807	Basement	A-006	Cork Pipe Insulation	NA	Poor	Gray	0.8
1808	Basement	A-006	Metal Pipe	NA	Poor	Gray	0.13
1809	Basement	A-006	Drywall Wall (Interior)	South	Fair	White	0
1810	Basement	A-006	Metal Door	South	Poor	Beige	0
1811	Basement	A-006	Metal Door Casing	South	Poor	Beige	0
1812	Basement	A-006	Metal Security Cage	North	Intact	Black	0
1814	Basement	A-006	Metal Pipe-Storm Sewer	NA	Intact	Gray	0.4
1815	Basement	A-006	Concrete Wall (Exterior)	South	Fair	Beige	0
1816	Basement	A-006	Metal Handrail	South	Intact	Black	0
1817	Basement	A-006	Metal Door	East	Intact	Beige	0
1818	Basement	A-006	Metal Sprinkler Pipe	NA	Intact	Red	0.08
1819	Basement	Corridor Outside FC-A-001	Wood Door	South	Fair	Red	3.8
1820	Basement	FC-A-001	Plaster Wall (Interior)	South	Intact	Red	0.07

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 8**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1821	Basement	FC-A-001	Wood Shelf	South	Intact	Red	0.01
1823	Basement	A-002	Brick Wall (Exterior)	South	Intact	White	0.02
1824	Basement	A-002	Metal Louver Frame	South	Intact	Gray	0.1
1825	Basement	A-002	Metal Louver	South	Intact	Gray	0.4
1826	Basement	A-002	Concrete Wall (Exterior)	South	Intact	White	0.02
1827	Basement	A-002	Concrete Floor	Floor	Poor	Gray	0.04
1828	Basement	Corridor Outside A-002	Metal Door	South	Fair	Beige	0.01
1830	Basement	C-020	Metal Floor Plate	Floor	Fair	Gray	0.9
1832	Basement	C-009	Concrete Wall (Interior)	North	Fair	Blue	0.9
1834	Basement	C-009	Concrete Wall (Exterior)	West	Fair	White	0.16
1835	Basement	C-009	Metal Pipe	West	Cracked	White	0.29
1836	Basement	C-009	Pipe Insulation White Block Pipe Insulation	West	Cracked	White	1.3
1837	Basement	C-009	Concrete Window Sill	West	Poor	White	0.01
1838	Basement	C-009	Metal Radiator	West	Intact	White	0.04
1839	Basement	C-009	Concrete Wall (Interior)	East	Intact	White	0.01
1841	Basement	C-011A	Wood Door	West	Intact	Gray	0
1842	Basement	C-011A	Metal Door Casing	West	Intact	White	0
1843	Basement	C-011A	Concrete Floor	Floor	Intact	Gray	0.06
1844	Basement	C-011	Drywall Wall (Interior)	West	Intact	White	0
1845	Basement	C-011	Wood Door	West	Intact	White	0
1846	Basement	Corridor Outside C-011	Wood Door	North	Intact	Beige	0
1847	Basement	Corridor Outside C-016	Plaster Ceiling	Ceiling	Intact	White	0.06

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 8**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1848	First	Corridor Outside B-120	Metal Door	East	Intact	Gray	0
1849	First	Corridor Outside B-120	Metal Door Casing	East	Intact	Gray	0
1850	First	Corridor Outside B-120	Drywall Wall (Exterior)	East	Intact	White	0
1851	First	Corridor Outside B-120	Drywall Wall (Interior)	South	Intact	Beige	0
1852	First	Corridor Outside B-120	Metal Door Casing	South	Intact	Beige	0
1853	First	B-116	Metal Radiator	North	Intact	White	0
1855	First	B-112A	Metal Window Sash	East	Intact	Brown	0
1856	First	B-112A	Metal Window Casing	East	Intact	Brown	0.08
1857	First	B-112A	Metal Window Sill	East	Intact	White	0
1858	First	B-112A	Drywall Wall (Interior)	East	Intact	Beige	0
1859	First	CRB102	Metal Window Casing	North	Intact	White	0.07
1861	First	CRB101	Wood Door	West	Intact	Gray	0
1862	First	CRA101	Metal Floor Plate	Na	Intact	Yellow	0.8
1863	First	CRB101	Metal Door Casing	West	Intact	Yellow	0.02
1864	First	CRB101	Metal Plate On Wall At Expansion Joint Wall (Interior)	South	Intact	Yellow	0.12
1866	First	A135	Metal Window Casing	South	Intact	Brown	0.01
1867	First	A-135	Plaster Wall (Interior)	North	Intact	Multi	0
1868	First	A-135	Metal Door Casing	North	Intact	Beige	0.05
1869	First	Corridor Outside A-135	Wood Door	South	Intact	Beige	0.08
1870	First	A-135	Wood Trim	South	Intact	Beige	0
1871	First	A-136	Metal Radiator	East	Poor	White	0.07
1873	First	A-136	Plaster Wall (Exterior)	East	Intact	White	0
1874	First	A-136	Metal Radiator	West	Intact	White	0.01
1875	First	A-136	Plaster Column	South	Intact	Multi	0.04
1876	First	A-136	Wood Wall (Exterior)	South	Intact	Beige	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 8**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1877	First	Corridor Outside FC-A-101	Wood Door	North	Intact	Red	0.09
1878	First	Corridor Outside FC-A-101	Metal Door Casing	South	Intact	Red	0
1879	First	Corridor Outside FC-A-101	Metal Door Casing	North	Intact	Red	0.08
1880	First	Corridor Outside FC-A-101	Plaster Wall (Interior)	North	Fair	Red	0.08
1881	First	A170	Metal Radiator	North	Fair	White	0.4
1883	First	A170	Plaster Wall (Exterior)	North	Intact	White	0
1884	First	Corridor Outside A170	Wood Door	North	Intact	Beige	0
1885	First	Corridor Outside A170	Metal Door Casing	North	Intact	Beige	0
1886	First	A101	Metal Radiator	East	Intact	Gray	0.15
1887	First	A101	Metal Radiator	East	Intact	Gray	0.01
1888	First	Corridor Outside 102	Wood Door Casing	East	Intact	Beige	0
1889	First	Corridor Outside 102	Wood Door	East	Intact	Beige	0
1890	First	C158	Drywall Wall (Interior)	West	Intact	White	0
1891	First	C158	Wood Door Casing	West	Intact	Beige	0
1892	First	C158	Metal Door Casing	West	Intact	White	0.02
1893	First	C157	Concrete Floor	Floor	Intact	Gray	0
1894	First	Corridor Outside C158	Wood Door	North	Intact	Beige	0.03
1895	First	Corridor Outside C158	Metal Door Casing	North	Intact	Beige	0.01
1898	First	CRC102	Metal Window Casing	North	Fair	Beige	0.05
1899	First	CRC102	Wood Door	East	Fair	Beige	0.1
1900	First	CRC102	Wood Door Casing	East	Fair	Beige	4.3
1901	First	CRC102	Metal Door	East	Intact	Beige	3
1902	First	C149A	Plaster Wall (Exterior)	West	Fair	White	0
1904	First	C149A	Plaster Column	West	Poor	White	0
1905	First	C149A	Metal Radiator	South	Fair	White	0.08
1906	First	C166	Wood Door	North	Poor	Beige	6.9
1907	First	C166	Wood Door Casing	North	Fair	Blue	3.3

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 8**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1908	First	C166	Drywall Wall (Exterior)	North	Intact	White	0
1909	First	C166	Metal Cabinet	East	Intact	Red	0.01
1910	First	Corridor Outside C163	Metal Door Casing	West	Fair	Beige	0.04
1911	First	Corridor Outside C163	Wood Door	West	Fair	Beige	0
1912	Exterior	Exterior	Wood Door	North	Poor	Brown	24.2
1913	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	13
1914	Exterior	Covered Walkway	Metal Wall (Exterior)	South	Intact	Green	1.1
1915	Exterior	Exterior	Metal Door	South	Fair	Brown	0
1916	Exterior	Exterior	Metal Door Casing	South	Fair	Brown	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
 Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
 Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Mastic Associated with 12"x12" Shelter White Floor Tile, Sample 3A



12"x12" Black Floor Tile and Mastic, Samples 13A and 14A



12"x12" Orange Floor Tile and Mastic, Samples 15A and 16A



12"x12" Light Brown Floor Tile and Mastic, Samples 17A and 18A





9"x9" White Floor Tile and Mastic, Samples 23A and 24A



Pipe Insulation, Sample 33A



Exterior Door Caulk, Sample 37B



Transite Panel at Radiators

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door and Wood Door Casing, Readings 1691 and 1692



Pipe Insulation White Block Pipe Insulation, Reading 1836

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 20**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 134 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 16 of the collected samples contained asbestos greater than or equal to 1%.**
- 100 XRF analyzer measurements of building surfaces were taken in this building.
- **27 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 20 was a two-story Kitchen/Warehouse Building built in 1955 and occupied approximately 55,881 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 20			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
6A	102C	Computer Room in Warehouse, Rm 211, 211A, 211B	9"x9" White Floor Tile	2% Chrysotile	700 SF	Good	4
6B							
6C	211						
7A	102C	Computer Room in Warehouse, Rm 211, 211A, and 211B	9"x9" White Floor Tile	5% Chrysotile		Good	4
7B							
7C	211		Mastic				
10C	CR-201	1st Floor Bathroom In Warehouse and Reproduction Room	12"x12" With Gray Streaks Floor Tile Mastic	2% Chrysotile	600 SF	Good	4
22B	104	1st Floor Break Room	6" Black Cove Base Mastic	2% Chrysotile	100 SF	Good	4
22C							
23A	SP-105	1st Floor Mens Locker Room	12"x12" Light Blue Floor Tile	2% Chrysotile	450 SF	Good	4
23B							
23C							
24A	SP-105	1st Floor Mens Locker Room	12"x12" Light Blue Floor Tile Mastic	5% Chrysotile		Good	4
24B							
24C							
25A	SP-105A	1st Floor Mens Locker Room Bathroom	12"x12" Green Floor Tile	2% Chrysotile	60 SF	Good	4
25B							
25C							
26A	SP-105A	1st Floor Mens Locker Room Bathroom	12"x12" Green Floor Tile Mastic	10% Chrysotile		Good	4
26B							
26C							
27A	SP-107	Food Storage, 2nd Floor Room in Kitchen	9"x9" Gray Floor Tile	5% Chrysotile	360 SF	Good	4
27B							
27C	222						
35A	209	2nd Floor	12"x12" Red	2% Chrysotile	2500 SF	Good	4

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 20							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
35B		Cafeteria, Large Storage Area	Floor Tile				
35C							
36A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red Floor Tile Mastic	15% Chrysotile		Good	4
36B							
36C							
37A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright White Floor Tile	2% Chrysotile		Good	4
37B							
37C							
38A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright White Floor Tile Mastic	10% Chrysotile		Good	4
38B							
38C							
42C	Exterior	Under New Door Caulking	Door Caulking (Old)	2% Chrysotile	180 SF	Good	4
43B	Exterior	Doors	Door Caulking	1.32% Chrysotile <sup>1</sup> 5.26% Anthophyllite <sup>1</sup>	180 SF	Good	4
44A	Exterior	Windows	Window Caulking	5.47% Chrysotile <sup>1</sup> 10.94% Anthophyllite <sup>1</sup>	1680 SF	Good	4
44B							
44C							
NA	NA	Set Into Walls At Radiator Locations	Transite	Identified In Previous Survey and Verified in the Field	55 EA	Good	4
Footnotes: 1 – Analyzed by TEM				SF – Square Feet LF – Linear Feet EA – Each NA – Not Applicable			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 20							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
15	Basement	102	Metal Pipe	East	Poor	White	0.4
23	Basement	102	Metal Door Casing	North	Poor	Beige	0.28
26	Basement	115	Wood Door	East	Fair	Beige	5
27	Basement	115	Metal Door Casing	East	Intact	Beige	0.18
28	Basement	Corridor Outside FC-101	Wood Door	West	Fair	Red	4.3
29	Basement	Corridor Outside FC-101	Metal Door Casing	West	Fair	Red	0.6

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 20							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
32	Basement	106	Metal Door Casing	East	Fair	Beige	0.5
37	Basement	108A	Plaster Wall (Interior)	North	Fair	Yellow	0.6
40	Basement	Corridor Outside 111	Wood Door	East	Fair	Brown	17.8
41	Basement	Corridor Outside 111	Wood Door Casing	East	Fair	Brown	17.2
42	Basement	116 Loading Dock	Wood Safety Rails Over Window	East	Fair	Brown	2.1
45	Basement	ST1101	Plaster Wall (Interior)	East	Intact	White	0.11
49	Basement	ST1101	Metal Window Sill	East	Fair	White	0.16
50	First	ST1101	Metal Radiator	North	Fair	White	0.2
51	First	207	Metal Privacy Partition	West	Fair	Yellow	0.11
57	Second	209	Metal Stringer	East	Fair	Pink	0.25
58	Second	209	Metal Window Sill	East	Fair	Pink	0.4
59	Second	209	Metal Radiator	East	Fair	Pink	0.4
60	Second	209	Plaster Column	East	Fair	Multi	0.12
74	Second	210C	Metal Radiator	West	Intact	Beige	0.17
78	Second	211	Wood Door	West	Intact	Blue	3.8
596	Exterior	Exterior	Wood Trim	North	Poor	Brown	3
597	Exterior	Exterior	Wood Door Casing	West	Poor	Brown	2.3
598	Exterior	Exterior	Wood Door	West	Poor	Brown	1.5
2680	First	Corridor Outside 102B	Wood Door	East	Intact	Gray	3
2682	First	102A	Wood Door	East	Intact	Gray	4
2694	First	Corridor Outside 102D	Metal Door	West	Intact	Gray	0.11

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for

exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.



<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 20</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	4,770 SF
Cove Base Mastic	100 SF
Window Caulking	1680 LF
Door Caulking	360 LF
Transite Panel at Radiators	55 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential building are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	102	-	Drywall	NAD	-	-	-
1B	102	-	Drywall	NAD	-	-	-
1C	116F	-	Drywall	NAD	-	-	-
2A	102	-	Joint compound	NAD	-	-	-
2B	102	-	Joint compound	NAD	-	-	-
2C	116F	-	Joint compound	NAD	-	-	-
3A	102	-	Tank insulation	NAD	-	-	-
3B	102	-	Tank insulation	NAD	-	-	-
3C	102	-	Tank insulation	NAD	-	-	-
4A	102	-	12"x12" White floor tile	NAD	-	-	-
4B	CR-201	-	12"x12" White floor tile	NAD	-	-	-
4C	CR-201	-	12"x12" White floor tile	NAD	-	-	-
5A	102	-	12"x12" White floor tile mastic	NAD	-	-	-
5B	CR-201	-	12"x12" White floor tile mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
5C	CR-201	-	12"x12" White floor tile mastic	NAD	-	-	-
6A	102C	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile	2% Chrysotile	700 SF	Good	4
6B	102C	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile	Stop Positive See 6A			
6C	211	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile	Stop Positive See 6A			
7A	102C	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile mastic	5% Chrysotile	700 SF	Good	4
7B	102C	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile mastic	Stop Positive See 7A			
7C	211	Computer Room In Warehouse, Rm 211, 211A, and 211B	9"x9" White floor tile mastic	Stop Positive See 7A			
8A	102K	-	2'x2' Ceiling tile	NAD	-	-	-
8B	116F	-	2'x2' Ceiling tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
8C	CR-201	-	2'x2' Ceiling tile	NAD	-	-	-
9A	102K	-	12"x12" White with Gray streaks floor tile	NAD	-	-	-
9B	116F	-	12"x12" White with Gray streaks floor tile	NAD	-	-	-
9C	CR-201	-	12"x12" White with Gray streaks floor tile	NAD	-	-	-
10A	102K	-	12"x12" White with Gray streaks floor tile mastic	NAD	-	-	-
10B	116F	-	12"x12" White with Gray streaks floor tile mastic	NAD	-	-	-
10C	CR-201	1st Floor Bathroom in Warehouse and Reproduction Room	12"x12" White with Gray streaks floor tile mastic	2% Chrysotile	600 SF	Good	4
11A	102K	-	6" Tan cove base mastic	NAD	-	-	-
11B	SP107	-	6" Tan cove base mastic	NAD	-	-	-
11C	209	-	6" Tan cove base mastic	NAD	-	-	-
12A	102B	-	Plaster base coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
12B	101	-	Plaster base coat	NAD	-	-	-
12C	222	-	Plaster base coat	NAD	-	-	-
12D	223A	-	Plaster base coat	NAD	-	-	-
12E	CR-201	-	Plaster base coat	NAD	-	-	-
13A	102B	-	Plaster finish coat	NAD	-	-	-
13B	101	-	Plaster finish coat	NAD	-	-	-
13C	222	-	Plaster finish coat	NAD	-	-	-
13D	223A	-	Plaster finish coat	NAD	-	-	-
13E	CR-201	-	Plaster finish coat	NAD	-	-	-
14A	101	-	12"x12" Tan with brown speckled floor tile	NAD	-	-	-
14B	203	-	12"x12" Tan with brown speckled floor tile	NAD	-	-	-
14C	203	-	12"x12" Tan with brown speckled floor tile	NAD	-	-	-
15A	101	-	12"x12" Tan with brown speckled floor tile mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15B	203	-	12"x12" Tan with brown speckled floor tile mastic	NAD	-	-	-
15C	203	-	12"x12" Tan with brown speckled floor tile mastic	NAD	-	-	-
16A	2-103	-	12"x12" Light green with brown specs floor tile	NAD	-	-	-
16B	2-201	-	12"x12" Light green with brown specs floor tile	NAD	-	-	-
16C	2-201	-	12"x12" Light green with brown specs floor tile	NAD	-	-	-
17A	2-103	-	12"x12" Light green with brown specs floor tile mastic	NAD	-	-	-
17B	2-201	-	12"x12" Light green with brown specs floor tile mastic	NAD	-	-	-
17C	2-201	-	12"x12" Light green with brown specs floor tile mastic	NAD	-	-	-
18A	2-103	-	6" Gray cove base mastic	NAD	-	-	-
18B	202D	-	6" Gray cove base mastic	NAD	-	-	-
18C	CR-201	-	6" Gray cove base mastic	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
19A	116D	-	Fireproof panel hanger mastic	NAD	-	-	-
19B	116D	-	Fireproof panel hanger mastic	NAD	-	-	-
19C	116D	-	Fireproof panel hanger mastic	NAD	-	-	-
20A	104	-	12"x12" Tan speckled floor tile	NAD	-	-	-
20B	104	-	12"x12" Tan speckled floor tile	NAD	-	-	-
20C	104	-	12"x12" Tan speckled floor tile	NAD	-	-	-
21A	104	-	12"x12" Tan speckled floor tile mastic	NAD	-	-	-
21B	104	-	12"x12" Tan speckled floor tile mastic	NAD	-	-	-
21C	104	-	12"x12" Tan speckled floor tile mastic	NAD	-	-	-
22A	104	-	6" Black cove base mastic	Trace	-	-	-
22B	104	1st Floor Breakroom	6" Black cove base mastic	2% Chrysotile	100 SF	Good	4
22C	104	1st Floor Breakroom	6" Black cove base mastic	Stop Positive See 22B			
23A	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile	2% Chrysotile	450 SF	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
23B	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile	Stop Positive See 23A			
23C	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile	Stop Positive See 23A			
24A	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile mastic	5% Chrysotile	450 SF	Good	4
24B	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile mastic	Stop Positive See 24A			
24C	SP-105	1st Floor Mens Locker Room	12"x12" Light blue floor tile mastic	Stop Positive See 24A			
25A	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile	2% Chrysotile	60 SF	Good	4
25B	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile	Stop Positive See 25A			
25C	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile	Stop Positive See 25A			
26A	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile mastic	10% Chrysotile	60 SF	Good	4
26B	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile mastic	Stop Positive See 26A			
26C	SP-105	1st Floor Mens Room Bathroom	12"x12" Green floor tile mastic	Stop Positive See 26A			
27A	SP-107	Food Storage, 2nd Floor Room in Kitchen	9"x9" Gray floor tile	5% Chrysotile	360 SF	Good	4
27B	SP-107	Food Storage, 2nd Floor Room in Kitchen	9"x9" Gray floor tile	Stop Positive See 27A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
27C	222	Food Storage, 2nd Floor Room in Kitchen	9"x9" Gray floor tile	Stop Positive See 27A			
28A	SP-107	-	9"x9" Gray floor tile mastic	NAD	-	-	-
28B	SP-107	-	9"x9" Gray floor tile mastic	NAD	-	-	-
28C	222	-	9"x9" Gray floor tile mastic	NAD	-	-	-
29A	CR-203	-	1'x1' Ceiling tile	NAD	-	-	-
29B	CR-203	-	1'x1' Ceiling tile	NAD	-	-	-
29C	CR-203	-	1'x1' Ceiling tile	NAD	-	-	-
30A	CR-203	-	1'x1' Ceiling tile mastic	NAD	-	-	-
30B	CR-203	-	1'x1' Ceiling tile mastic	NAD	-	-	-
30C	CR-203	-	1'x1' Ceiling tile mastic	NAD	-	-	-
31A	202D	-	12"x12" Blue floor tile	NAD	-	-	-
31B	202D	-	12"x12" Blue floor tile	NAD	-	-	-
31C	202A	-	12"x12" Blue floor tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
32A	202D	-	12"x12" Blue floor tile mastic	NAD	-	-	-
32B	202D	-	12"x12" Blue floor tile mastic	NAD	-	-	-
32C	202A	-	12"x12" Blue floor tile mastic	NAD	-	-	-
33A	206	-	12"x12" Dark green floor tile	NAD	-	-	-
33B	206	-	12"x12" Dark green floor tile	NAD	-	-	-
33C	CR-101	-	12"x12" Dark green floor tile	NAD	-	-	-
34A	206	-	12"x12" Dark green floor tile mastic	NAD	-	-	-
34B	206	-	12"x12" Dark green floor tile mastic	NAD	-	-	-
34C	CR-101	-	12"x12" Dark green floor tile mastic	NAD	-	-	-
35A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile	2% Chrysotile	2500 SF	Good	4
35B	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile	Stop Positive See 35A			
35C	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile	Stop Positive See 35A			
36A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile mastic	15% Chrysotile	2500 SF	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
36B	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile mastic	Stop Positive See 36A			
36C	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Red floor tile mastic	Stop Positive See 36A			
37A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile	2% Chrysotile	2500 SF	Good	4
37B	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile	Stop Positive See 37A			
37C	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile	Stop Positive See 37A			
38A	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile mastic	10% Chrysotile	2500 SF	Good	4
38B	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile mastic	Stop Positive See 38A			
38C	209	2nd Floor Cafeteria, Large Storage Area	12"x12" Bright white floor tile mastic	Stop Positive See 38A			
39A	CR-202B	-	2'x2' Flat white ceiling tile	NAD	-	-	-
39B	CR-202C	-	2'x2' Flat white ceiling tile	NAD	-	-	-
39C	202E	-	2'x2' Flat white ceiling tile	NAD	-	-	-
40A	202B	-	2'x4' Ceiling tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
40B	202B	-	2'x4' Ceiling tile	NAD	-	-	-
40C	202B	-	2'x4' Ceiling tile	NAD	-	-	-
41A	202E	-	Red fire stop	NAD	-	-	-
41B	202E	-	Red fire stop	NAD	-	-	-
42A	Exterior	-	Door caulking (old)	Trace	-	-	-
42B	Exterior	-	Door caulking (old)	Trace	-	-	-
42C	Exterior	Exterior Doors, Under New Caulking	Door caulking (old)	2% Chrysotile	180 SF	Good	4
43A	Exterior	-	Door caulking	NAD	-	-	-
43B	Exterior	Exterior Doors	Door caulking	1.32% Chrysotile <sup>1</sup> 5.26% Anthophyllite <sup>1</sup>	180 SF	Good	4
44A	Exterior	Windows	Window caulking	5.47% Chrysotile <sup>1</sup> 10.94% Anthophyllite <sup>1</sup>	1680 SF	Good	4
44B	Exterior	Windows	Window caulking	Stop Positive See 44A			
44C	Exterior	Windows	Window caulking	Stop Positive See 44A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 20**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
NA	NA	Set Into Walls At Radiator Locations	Transite	Identified In Previous Survey and Verified in the Field	55 EA	Good	4
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet EA – Each NA – Not Applicable			

## Appendix B

### Table 6 Summary of XRF Measurements



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 20**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
9	Basement	102	Concrete Column	North	Fair	Yellow	0
10	Basement	102	Concrete Floor	Floor	Fair	Yellow	0
11	Basement	102	Concrete Column	West	Fair	White	0
12	Basement	102	Concrete Wall (Exterior)	West	Fair	White	0.01
13	Basement	102	Brick Wall (Exterior)	West	Fair	White	0.01
14	Basement	102	Concrete Wall (Interior)	West	Intact	Blue	0
15	Basement	102	Metal Pipe	East	Poor	White	0.4
16	Basement	102	Brick Wall (Exterior)	East	Intact	White	0.01
19	Basement	102	Concrete Ceiling	Ceiling	Intact	White	0
20	Basement	102	Metal Pipe	West	Intact	White	0.04
21	Basement	102	Metal Door Casing	North	Intact	Beige	0
22	Basement	102	Metal Door	North	Intact	Beige	0
23	Basement	102I	Metal Door Casing	North	Poor	Beige	0.28
26	Basement	115	Wood Door	East	Fair	Beige	5
27	Basement	115	Metal Door Casing	East	Intact	Beige	0.18
28	Basement	Corridor Outside FC-101	Wood Door	West	Fair	Red	4.3
29	Basement	Corridor Outside FC-101	Metal Door Casing	West	Fair	Red	0.6
30	Basement	Corridor Outside FC-101	Plaster Wall (Interior)	West	Fair	Red	0.08
32	Basement	106	Metal Door Casing	East	Fair	Beige	0.5
33	Basement	Corridor Outside 116	Metal Door	West	Fair	Beige	0.07
34	Basement	109	Metal Window Sill	North	Cracked	Beige	0.07

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 20**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
35	Basement	108	Metal Pipe	East	Fair	Yellow	0
36	Basement	108	Metal Privacy Partition	South	Fair	Green	0.04
37	Basement	108A	Plaster Wall (Interior)	North	Fair	Yellow	0.6
38	Basement	108A	Metal Locker	NA	Fair	Blue	0.01
39	Basement	108	Plaster Ceiling	Ceiling	Intact	White	0.05
40	Basement	Corridor Outside 111	Wood Door	East	Fair	Brown	17.8
41	Basement	Corridor Outside 111	Wood Door Casing	East	Fair	Brown	17.2
42	Basement	116 Loading Dock	Wood Safety Rails Over Window	East	Fair	Brown	2.1
43	Basement	ST1101	Concrete Tread	North	Intact	Gray	0.03
44	Basement	ST1101	Concrete Riser	North	Intact	Gray	0.01
45	Basement	ST1101	Plaster Wall (Interior)	East	Intact	White	0.11
46	Basement	ST1101	Metal Door	East	Fair	Gray	0.02
47	Basement	ST1101	Metal Door Casing	East	Fair	White	0
48	Basement	ST1101	Metal Window Casing	East	Fair	White	0.1
49	Basement	ST1101	Metal Window Sill	East	Fair	White	0.16
50	First	ST1101	Metal Radiator	North	Fair	White	0.2
51	First	207	Metal Privacy Partition	West	Fair	Yellow	0.11
53	First	Corridor Outside 207	Metal Door Casing	South	Intact	Blue	0.01
54	First	Corridor Outside 207	Wood Door	South	Intact	Clear	0
55	First	Corridor Outside 207	Plaster Wall (Interior)	South	Intact	Blue	0.01
56	Second	209	Plaster Wall (Exterior)	East	Fair	Multi	0.09
57	Second	209	Metal Stringer	East	Fair	Pink	0.25
58	Second	209	Metal Window Sill	East	Fair	Pink	0.4
59	Second	209	Metal Radiator	East	Fair	Pink	0.4
60	Second	209	Plaster Column	East	Fair	Multi	0.12

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 20**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
61	Second	209	Plaster Wall (Exterior)	East	Fair	Multi	0.09
67	Second	210C	Wood Column	East	Intact	Green	0.04
68	Second	ST3201	Metal Handrail	South	Intact	Brown	0
69	Second	ST3201	Metal Newel Post	South	Intact	Brown	0.03
70	Second	ST3201	Metal Stringer	South	Intact	Brown	0
71	Second	ST3201	Metal Pipe	East	Poor	Yellow	0
73	Second	210C	Plaster Wall (Exterior)	North	Intact	Multi	0.08
74	Second	210C	Metal Radiator	West	Intact	Beige	0.17
75	Second	211	Drywall Wall (Interior)	West	Intact	Pink	0
76	Second	211	Plaster Wall (Interior)	East	Intact	Pink	0.05
77	Second	211	Metal Door Casing	East	Intact	Pink	0.06
78	Second	211	Wood Door	West	Intact	Blue	3.8
82	Second	202	Plaster Wall (Exterior)	East	Intact	White	0.07
83	Second	202	Metal Swinging Screen	East	Intact	White	0.01
85	Second	202	Metal Radiator	East	Intact	White	0
86	Second	202	Metal Radiator	East	Intact	White	0.09
87	Second	202	Metal Door	South	Intact	Gray	0
88	Second	202	Metal Door Casing	South	Intact	Gray	0.04
89	Second	202	Drywall Wall (Interior)	South	Intact	Gray	0.01
90	Second	202E	Metal Door Casing	South	Fair	Yellow	0.01
92	Second	202E	Metal Door Casing	East	Intact	Yellow	0
94	Second	204	Metal Door	West	Intact	Yellow	0
596	Exterior	Exterior	Wood Trim	North	Poor	Brown	3
597	Exterior	Exterior	Wood Door Casing	West	Poor	Brown	2.3
598	Exterior	Exterior	Wood Door	West	Poor	Brown	1.5
599	Exterior	Exterior	Metal Handrail	South	Poor	Brown	0.06
600	Exterior	Exterior	Concrete Handrail	South	Poor	Gray	0
2676	First	102G	Concrete Wall (Exterior)	South	Poor	Yellow	0
2677	First	102G	Metal Door Casing	South	Poor	Brown	0.02
2678	First	102G	Metal Door	South	Poor	Brown	0
2680	First	Corridor Outside 102b	Wood Door	East	Intact	Gray	3
2681	First	102B	Metal Privacy Partition	North	Intact	Gray	0.05
2682	First	102A	Wood Door	East	Intact	Gray	4
2683	First	102A	Wood Door Casing	South	Poor	Beige	0.03
2684	First	102	Concrete Floor	Floor	Poor	Yellow	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 20**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2685	First	102E	Metal Shelving	West	Intact	Beige	0.04
2686	First	102E	Concrete Baseboard	West	Fair	Beige	0
2687	First	102C	Metal Door	West	Intact	Beige	0.03
2688	First	102C	Metal Door Casing	West	Intact	Blue	0.01
2689	First	102C	Plaster Wall (Exterior)	West	Intact	Blue	0.03
2690	First	102C	Plaster Wall (Interior)	West	Intact	White	0.03
2691	First	102C	Metal Swinging Screen	South	Intact	Blue	0.07
2692	First	Corridor Outside 102C	Metal Door Casing	West	Intact	Gray	0.03
2693	First	102D	Plaster Wall (Interior)	South	Intact	White	0.02
2694	First	Corridor Outside 102D	Metal Door	West	Intact	Gray	0.11
2695	First	Corridor Outside 102D	Metal Channel Assoc. With Chase	West	Fair	Beige	0.01
2696	First	102K	Brick Wall (Exterior)	West	Intact	White	0
2697	First	102K	Drywall Wall (Interior)	East	Intact	White	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



9"x9" White Floor Tile and Mastic, Samples 6A and 7A



Mastic Associated with 12"x12" White with Gray Streaks Floor Tile, Sample 10C



12"x12" Light Blue Floor Tile and Mastic, Samples 23A and 24A



12"x12" Green Floor Tile and Mastic, Samples 25A and 26A





9"x9" Gray Floor Tile, Sample 27A



12"x12" Red Floor Tile and Mastic, Samples 35A and 36A  
12"x12" Bright White Floor Tile and Mastic, Samples 37A and 38A





Exterior Door Caulking (Old), Sample 42C



Exterior Door Caulking, Sample 43B



Exterior Window Caulking, Sample 44A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door and Wood Door Casing, Readings 40 and 41



Wood Safety Rails Over Window, Reading 42



Wood Trim, Reading 596

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 22**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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### Appendices

Appendix A – Table 5, ACM Building Results
Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 110 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 11 of the collected samples contained asbestos greater than or equal to 1%.**
- 128 XRF analyzer measurements of building surfaces were taken in this building.
- **43 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 22 was a two-story Recreation/Library Building built in 1955 and occupied approximately 30,572 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 22			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
2A	Mechanical Room	Penthouse	Roof Drain Pipe Insulation	10% Chrysotile	10 LF	Good	4
2B							
2C							
11A	Exterior	East	Window Caulk	5.67% Chrysotile <sup>1</sup> 14.18% Anthophyllite <sup>1</sup>	1,680 LF	Good	4
11B		South					
11C		North					
12B	Exterior	West	Door Caulk	2% Chrysotile	105 LF	Good	4
12C		North					
13A	Hallway	Hallway Above Suspended Ceiling	Pipe Insulation	20% Chrysotile 10% Amosite	40 LF	Good	4
13B							
13C							
15A	Hallway	Outside Rm. 223	Interior Window Glazing	2% Chrysotile	2,520 LF	Good	4
15B		Outside Rm. 108					
15C							
16A	215	Transite Panels Inside Radiators Throughout Building	Transite Heater Panel	30% Chrysotile	76 EA	Good	4
16B	228						
16C	112E						
20A	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile	5% Chrysotile	175 SF	Good	4
20B	Stairwell 1A-22						
20C	Stairwell 1A-22						
21A	Stairwell 1A-22		12"x12" Brown Floor Tile Mastic	15% Chrysotile		Good	4
21B	Stairwell 1A-22						
21C	Stairwell 1A-22						
22A	214	2nd Floor Library, Rm 214, and 217	9"x9" Gray Floor Tile	10% Chrysotile	235 SF	Good	4
22B							
22C	217						
33	221	Room 221 (Kitchen)	Sink Coat	10% Chrysotile	1 EA	Good	4
34	Bowling Alley	Pin Set Up Area	Transite Peg Board	20% Chrysotile	600 SF	Good	4
Footnotes: 1 – Analyzed by TEM				SF – Square Feet LF – Linear Feet EA – Each			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 22							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
205	Exterior	Exterior	Metal Vent	East	Intact	Brown	13.4
206	Exterior	Exterior	Wood Door	East	Poor	Brown	17.8
207	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	11.4
2536	Basement	Corridor Outside 001	Metal Ladder	East	Poor	Black	2.1
2543	Basement	Corridor Outside 001	Concrete Tread	North	Fair	Gray	0.6
2547	First	112	Wood Door	West	Fair	Red	0.18
2548	First	112	Metal Door Casing	West	Fair	Blue	0.5
2549	First	112	Metal Radiator	West	Intact	Blue	0.13
2559	First	112E	Wood Door	West	Fair	Beige	3.8
2561	First	112E	Wood Screen Door	South	Fair	Beige	15.9
2562	First	112	Metal Blind Frame	West	Intact	Blue	0.15
2563	First	112	Metal Radiator	West	Intact	Blue	0.12
2567	First	115A	Wood Door	North	Fair	Gray	4.3
2578	First	Corridor Outside FC-101	Wood Door	North	Fair	Red	5.9
2579	First	FC-101	Plaster Wall (Interior)	North	Intact	Red	0.16
2581	First	Corridor Outside 103	Wood Door	North	Intact	Gray	4.4
2583	First	107	Plaster Column	East	Intact	White	0.15
2585	First	111	Wood Gutter	North	Intact	Red	0.29
2601	First	111	Metal Swinging Screen	South	Fair	White	0.19
2602	First	111	Metal Window Casing	South	Poor	White	0.28
2603	First	111	Metal Radiator	South	Intact	White	0.18
2604	First	111	Plaster Wall (Exterior)	South	Fair	White	0.12
2608	First	111	Peg Board Wall (Exterior)	South	Intact	White	0.3
2610	First	111	Plaster Wall (Interior)	West	Poor	Green	0.14
2611	First	Corridor Outside FC-101	Wood Door	East	Fair	Red	4.9
2612	First	2A-101	Plaster Wall (Interior)	East	Fair	Beige	0.4
2613	First	2A-101	Wood Door	East	Fair	Beige	0.27
2614	First	2A-101	Metal Door Casing	East	Fair	White	0.28
2615	First	2A-101	Metal Radiator	West	Poor	Blue	0.25
2619	First	2A-101	Metal Handrail	South	Poor	Black	0.11

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 22							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2620	First	Crawlspace SE Corner of Bldg	Metal Pipe	East	Fair	Gray	0.4
2624	Second	220	Wood Chair Rail	East	Fair	Blue	2.6
2632	Second	220	Wood Baseboard	West	Intact	Blue	4.9
2633	Second	220	Metal Window Casing	West	Fair	Blue	0.11
2636	Second	220	Plaster Wall (Interior)	North	Fair	Blue	0.6
2643	Second	221	Wood Door	West	Intact	Gray	5
2644	Second	221	Metal Door Casing	West	Intact	White	0.11
2650	Second	223	Metal Radiator	West	Intact	White	0.16
2654	Second	223	Wood Bookcase	East	Intact	Brown	0.16
2658	Second	ST-3A-201	Metal Handrail	South	Intact	Black	0.14
2666	Second	202	Metal Window Casing	North	Intact	White	0.5
2674	Second	PHA-22	Metal Ladder	North	Fair	Black	2.8
2675	Second	PHA-22	Metal Handrail	East	Poor	Black	3

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the



information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 22</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	410 SF
Roof Drain Pipe Insulation	10 LF
Pipe Insulation	40 LF
Window Caulking	1,680 LF
Window Glazing	2,520 LF
Door Caulking	105 LF
Sink Undercoat	1 EA
Transite Panel at Radiators	76 EA
Transite Peg Board	600 SF
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Mechanical Room	-	HVAC Flex Connector	NAD	-	-	-
1B	Mechanical Room	-	HVAC Flex Connector	NAD	-	-	-
1C	Mechanical Room	-	HVAC Flex Connector	NAD	-	-	-
2A	Mechanical Room	Mechanical Room - Penthouse	Roof Drain Pipe Insulation	10% Chrysotile	10 LF	Good	4
2B	Mechanical Room		Roof Drain Pipe Insulation	Stop Positive See 2A			
2C	Mechanical Room		Roof Drain Pipe Insulation	Stop Positive See 2A			
3A	Crawl Space	-	Blown-in Insulation	NAD	-	-	-
3B	Crawl Space	-	Blown-in Insulation	NAD	-	-	-
3C	Crawl Space	-	Blown-in Insulation	NAD	-	-	-
3D	Crawl Space	-	Blown-in Insulation	NAD	-	-	-
3E	Crawl Space	-	Blown-in Insulation	NAD	-	-	-
4A	220	-	Wall Panel	NAD	-	-	-
4B	220	-	Wall Panel	NAD	-	-	-
4C	220	-	Wall Panel	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5A	220	-	Wall Panel Adhesive	NAD	-	-	-
5B	220	-	Wall Panel Adhesive	NAD	-	-	-
5C	220	-	Wall Panel Adhesive	NAD	-	-	-
6A	220	-	6" Cove Base Adhesive	NAD	-	-	-
6B	226	-	6" Cove Base Adhesive	NAD	-	-	-
6C	Hallway	-	6" Cove Base Adhesive	NAD	-	-	-
7A	220	-	Wall Plaster Base Coat	NAD	-	-	-
7B	219	-	Wall Plaster Base Coat	NAD	-	-	-
7C	223	-	Wall Plaster Base Coat	NAD	-	-	-
7D	108	-	Wall Plaster Base Coat	NAD	-	-	-
7E	102A	-	Wall Plaster Base Coat	NAD	-	-	-
7F	118	-	Wall Plaster Base Coat	NAD	-	-	-
7G	117A	-	Wall Plaster Base Coat	NAD	-	-	-
8A	220	-	Wall Plaster Skim Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
8B	219	-	Wall Plaster Skim Coat	NAD	-	-	-
8C	223	-	Wall Plaster Skim Coat	NAD	-	-	-
8D	108	-	Wall Plaster Skim Coat	NAD	-	-	-
8E	102A	-	Wall Plaster Skim Coat	NAD	-	-	-
8F	118	-	Wall Plaster Skim Coat	NAD	-	-	-
8G	117A	-	Wall Plaster Skim Coat	NAD	-	-	-
9A	220	-	2'x2' Ceiling Tile (Large Fissured)	NAD	-	-	-
9B	220	-	2'x2' Ceiling Tile (Large Fissured)	NAD	-	-	-
9C	220	-	2'x2' Ceiling Tile (Large Fissured)	NAD	-	-	-
10A	204	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
10B	Hallway	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
10C	Elevator Lobby	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
11A	Exterior East	North, East, and South	Window Caulk	5.67% Chrysotile <sup>1</sup> 14.18% Anthophyllite <sup>1</sup>	1,680 LF	Good	4



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
11B	Exterior South		Window Caulk	Stop Positive See 11A			
11C	Exterior North	North, East, and South	Window Caulk	Stop Positive See 11A			
12A	Exterior East	-	Door Caulk	NAD	-	-	-
12B	Exterior West	North and West	Door Caulk	2% Chrysotile	105 LF	Good	4
12C	Exterior North		Door Caulk	Stop Positive See 12B			
13A	Hallway	Hallway Above Suspended Ceiling	Pipe Insulation	20% Chrysotile 10% Amosite	40 LF	Good	4
13B	Hallway		Pipe Insulation	Stop Positive See 13A			
13C	Hallway		Pipe Insulation	Stop Positive See 13A			
14A	111	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
14B	111	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
14C	111	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
15A	Hallway	Outside Rm. 223	Interior Window Glazing	2% Chrysotile	2,520 LF	Good	4
15B	Hallway	Outside Rm. 108	Interior Window Glazing	Stop Positive See 15A			
15C	112	112	Interior Window Glazing	Stop Positive See 15A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
16A	215	Inside radiators throughout building	Transite Heater Panel	30% Chrysotile	76 EA	Good	4
16B	228		Transite Heater Panel	Stop Positive See 16A			
16C	112E		Transite Heater Panel	Stop Positive See 16A			
17A	223B	-	2'x2' Ceiling Tile (Rough Texture)	NAD	-	-	-
17B	223	-	2'x2' Ceiling Tile (Rough Texture)	NAD	-	-	-
17C	223	-	2'x2' Ceiling Tile (Rough Texture)	NAD	-	-	-
18A	Hallway	-	12"x12" Gray Floor Tile	NAD	-	-	-
18B	Hallway	-	12"x12" Gray Floor Tile	NAD	-	-	-
18C	111	-	12"x12" Gray Floor Tile	NAD	-	-	-
19A	Hallway	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
19B	Hallway	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
19C	111	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
20A	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile	5% Chrysotile	175 SF	Good	4
20B	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile	Stop Positive See 20A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
20C	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile	Stop Positive See 20A			
21A	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile Mastic	15% Chrysotile	175 SF	Good	4
21B	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile Mastic	Stop Positive See 21A			
21C	Stairwell 1A-22	Landing	12"x12" Brown Floor Tile Mastic	Stop Positive See 21A			
22A	214	2nd Floor Library, Rooms 214 and 217	9"x9" Gray Floor Tile	10% Chrysotile		Good	4
22B	214		9"x9" Gray Floor Tile	Stop Positive See 22A			
22C	217		9"x9" Gray Floor Tile	Stop Positive See 22A			
23A	214	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
23B	214	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
23C	217	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
24A	112C	-	2'x4' Drywall Ceiling Tile	NAD	-	-	-
24B	112C	-	2'x4' Drywall Ceiling Tile	NAD	-	-	-
24C	112C	-	2'x4' Drywall Ceiling Tile	NAD	-	-	-
25A	112	-	12"x12" Gray With Gray Streaks Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
25B	112	-	12"x12" Gray With Gray Streaks Floor Tile	NAD	-	-	-
25C	112	-	12"x12" Gray With Gray Streaks Floor Tile	NAD	-	-	-
26A	112	-	12"x12" Gray With Gray Streaks Floor Tile Mastic	NAD	-	-	-
26B	112	-	12"x12" Gray With Gray Streaks Floor Tile Mastic	NAD	-	-	-
26C	112	-	12"x12" Gray With Gray Streaks Floor Tile Mastic	NAD	-	-	-
27A	214	-	Ceiling Plaster Base Coat	NAD	-	-	-
27B	214A	-	Ceiling Plaster Base Coat	NAD	-	-	-
27C	228	-	Ceiling Plaster Base Coat	NAD	-	-	-
27D	Stairwell 2A-22	-	Ceiling Plaster Base Coat	NAD	-	-	-
27E	117A	-	Ceiling Plaster Base Coat	NAD	-	-	-
28A	214	-	Ceiling Plaster Skim Coat	NAD	-	-	-
28B	214A	-	Ceiling Plaster Skim Coat	NAD	-	-	-
28C	228	-	Ceiling Plaster Skim Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
28D	Stairwell 2A-22	-	Ceiling Plaster Skim Coat	NAD	-	-	-
28E	117A	-	Ceiling Plaster Skim Coat	NAD	-	-	-
29A	212	-	Carpet Adhesive	NAD	-	-	-
29B	225	-	Carpet Adhesive	NAD	-	-	-
29C	206	-	Carpet Adhesive	NAD	-	-	-
30A	204	-	Ceramic Tile Adhesive	NAD	-	-	-
30B	104	-	Ceramic Tile Adhesive	NAD	-	-	-
30C	116	-	Ceramic Tile Adhesive	NAD	-	-	-
31A	117	-	Red Fire Stop	NAD	-	-	-
31B	117	-	Red Fire Stop	NAD	-	-	-
32A	117	-	Brown Fire Stop	NAD	-	-	-
32B	117	-	Brown Fire Stop	NAD	-	-	-
33	221	Room 221 (Kitchen)	Sink Coat	10% Chrysotile	1 EA	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 22**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
34	Bowling Alley	Pin Set Up Area	Transite Peg	20% Chrysotile	600 SF	Good	4
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet EA – Each			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 22**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
204	Exterior	Exterior	Metal Handrail	North	Poor	Black	0.07
205	Exterior	Exterior	Metal Vent	East	Intact	Brown	13.4
206	Exterior	Exterior	Wood Door	East	Poor	Brown	17.8
207	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	11.4
2528	Basement	1	Metal Door	South	Intact	Brown	0
2529	Basement	1	Metal Door Casing	South	Fair	Brown	0
2530	Basement	1	Concrete Wall (Exterior)	South	Poor	White	0
2531	Basement	1	Brick Wall (Interior)	West	Fair	White	0
2532	Basement	Corridor Outside 001	Metal Door	West	Fair	Gray	0
2533	Basement	Corridor Outside 001	Metal Door Casing	West	Fair	White	0.03
2534	Basement	Corridor Outside 001	Concrete Wall (Interior)	West	Fair	White	0
2535	Basement	Corridor Outside 001	Concrete Wall (Exterior)	South	Poor	White	0.01
2536	Basement	Corridor Outside 001	Metal Ladder	East	Poor	Black	2.1
2540	Basement	Corridor Outside 001	Concrete Ceiling	North	Intact	White	0.03
2541	Basement	Corridor Outside 001	Metal Handrail	East	Poor	Black	0.03
2542	Basement	Corridor Outside 001	Concrete Riser	North	Fair	Gray	0.03
2543	Basement	Corridor Outside 001	Concrete Tread	North	Fair	Gray	0.6
2544	First	112	Plaster Wall (Exterior)	West	Fair	Blue	0.02
2545	First	112	Plaster Column	West	Intact	Blue	0.06
2546	First	112	Wood Door Casing	West	Fair	Blue	0.08
2547	First	112	Wood Door	West	Fair	Red	0.18
2548	First	112	Metal Door Casing	West	Fair	Blue	0.5
2549	First	112	Metal Radiator	West	Intact	Blue	0.13
2550	First	112	Metal Window Sill	West	Intact	Blue	0.07
2551	First	112	Metal Window Casing	West	Intact	Blue	0.1
2552	First	112	Wood Panel Behind Radiator	West	Fair	Blue	0
2553	First	112	Metal Radiator	West	Fair	Blue	0
2554	First	112C	Drywall Wall (Interior)	East	Fair	Blue	0.01
2557	First	112E	Metal Door Casing	South	Fair	White	0



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 22**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2558	First	112E	Metal Door	South	Fair	White	0
2559	First	112E	Wood Door	West	Fair	Beige	3.8
2560	First	112E	Metal Door Casing	West	Fair	Beige	0.04
2561	First	112E	Wood Screen Door	South	Fair	Beige	15.9
2562	First	112	Metal Blind Frame	West	Intact	Blue	0.15
2563	First	112	Metal Radiator	West	Intact	Blue	0.12
2564	First	115A	Metal Window Sill	North	Intact	White	0.01
2565	First	115A	Metal Lockers	West	Intact	Gray	0.01
2566	First	115A	Metal Privacy Partition	South	Intact	Gray	0
2567	First	115A	Wood Door	North	Fair	Gray	4.3
2568	First	115A	Metal Door Casing	North	Fair	White	0
2572	First	117A	Metal Window Casing	North	Poor	Gray	0.01
2573	First	117A	Metal Radiator	North	Intact	White	0.07
2576	First	Corridor Outside ST-1A-101	Metal Door Casing	East	Intact	White	0.09
2577	First	Corridor Outside ST-1A-101	Metal Door	East	Fair	Gray	0.01
2578	First	Corridor Outside FC-101	Wood Door	North	Fair	Red	5.9
2579	First	FC-101	Plaster Wall (Interior)	North	Intact	Red	0.16
2580	First	Corridor Outside 102	Wood Door	West	Intact	Gray	0.02
2581	First	Corridor Outside 103	Wood Door	North	Intact	Gray	4.4
2582	First	107	Metal Radiator	East	Intact	White	0
2583	First	107	Plaster Column	East	Intact	White	0.15
2584	First	107	Metal Swinging Screen	East	Intact	White	0.06
2585	First	111	Wood Gutter	North	Intact	Red	0.29
2586	First	111	Wood Gutter Cap	North	Intact	White	0
2587	First	111	Wood Floor	Na	Intact	Clear	0
2588	First	111	Concrete Bench	North	Intact	Blue	0.03
2589	First	111	Plaster Column	North	Intact	White	0.08
2590	First	111	Wood Cabinet	North	Fair	White	0.07
2591	First	111	Metal Handrail	East	Fair	Red	0.06
2601	First	111	Metal Swinging Screen	South	Fair	White	0.19
2602	First	111	Metal Window Casing	South	Poor	White	0.28
2603	First	111	Metal Radiator	South	Intact	White	0.18

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 22**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2604	First	111	Plaster Wall (Exterior)	South	Fair	White	0.12
2605	First	111	Wood Wall (Interior) Half Wall	South	Fair	Red	0
2606	First	111	Plaster Column	South	Intact	White	0.02
2607	First	111	Plaster Wall (Exterior)	South	Fair	Blue	0.08
2608	First	111	Peg Board Wall (Exterior)	South	Intact	White	0.3
2610	First	111	Plaster Wall (Interior)	West	Poor	Green	0.14
2611	First	Corridor Outside FC-101	Wood Door	East	Fair	Red	4.9
2612	First	2A-101	Plaster Wall (Interior)	East	Fair	Beige	0.4
2613	First	2A-101	Wood Door	East	Fair	Beige	0.27
2614	First	2A-101	Metal Door Casing	East	Fair	White	0.28
2615	First	2A-101	Metal Radiator	West	Poor	Blue	0.25
2616	First	2A-101	Concrete Floor	Floor	Poor	Red	0.05
2617	First	2A-101	Concrete Riser	East	Poor	Red	0.07
2618	First	2A-101	Concrete Tread	East	Poor	Red	0.08
2619	First	2A-101	Metal Handrail	South	Poor	Black	0.11
2620	First	Crawlspace SE Corner Of Bldg	Metal Pipe	East	Fair	Gray	0.4
2621	Second	212	Plaster Wall (Exterior)	East	Intact	White	0.01
2622	Second	212	Metal Radiator	East	Intact	White	0
2623	Second	212	Metal Blind Frame	East	Intact	White	0
2624	Second	220	Wood Chair Rail	East	Fair	Blue	2.6
2625	Second	220	Plaster Wall (Interior)	North	Fair	Blue	0.02
2626	Second	220	Metal Radiator	South	Fair	Blue	0.01
2627	Second	220	Metal Radiator	South	Fair	Blue	0
2628	Second	220	Metal Window Sill	South	Fair	Blue	0
2629	Second	220	Metal Blind Frame	South	Fair	Blue	0.01
2630	Second	220	Wood Tectum Wall Panel	West	Fair	Blue	0
2631	Second	220	Plaster Wall (Interior)	West	Intact	Blue	0.04
2632	Second	220	Wood Baseboard	West	Intact	Blue	4.9
2633	Second	220	Metal Window Casing	West	Fair	Blue	0.11
2634	Second	220	Wood Blind Enclosure	South	Fair	Blue	0
2636	Second	220	Plaster Wall (Interior)	North	Fair	Blue	0.6

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 22**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2637	Second	220	Metal Grate - Exhaust	North	Intact	Blue	0.01
2638	Second	221	Wood Cabinet	South	Intact	Beige	0.05
2639	Second	221	Wood Cabinet	South	Intact	Beige	0
2640	Second	221	Plaster Ceiling	Ceiling	Poor	White	0.05
2643	Second	221	Wood Door	West	Intact	Gray	5
2644	Second	221	Metal Door Casing	West	Intact	White	0.11
2645	Second	227	Plaster Wall (Interior)	North	Fair	Green	0.02
2646	Second	227	Concrete Wall (Interior)	West	Intact	Green	0
2647	Second	227	Metal Door Casing	South	Intact	Green	0
2648	Second	223	Metal Swinging Screen	West	Intact	White	0.08
2650	Second	223	Metal Radiator	West	Intact	White	0.16
2651	Second	223	Plaster Wall (Exterior)	West	Intact	White	0.09
2652	Second	223	Metal Window Casing	West	Intact	White	0.08
2653	Second	223	Plaster Column	East	Intact	White	0.08
2654	Second	223	Wood Bookcase	East	Intact	Brown	0.16
2655	Second	Corridor Outside 223	Metal Door	South	Intact	Gray	0
2657	Second	ST-3A-201	Plaster Wall (Interior)	South	Poor	Green	0.05
2658	Second	ST-3A-201	Metal Handrail	South	Intact	Black	0.14
2662	Second	202	Metal Radiator	North	Intact	White	0.01
2663	Second	202	Metal Window Casing	North	Intact	White	0
2664	Second	202	Metal Blind Frame	North	Intact	White	0.01
2665	Second	202	Metal Window Sill	North	Intact	White	0.1
2666	Second	202	Metal Window Casing	North	Intact	White	0.5
2670	Second	PHA-22	Ceramic Tile Column	East	Fair	White	0.02
2672	Second	PHA-22	Metal Duct	South	Intact	White	0.05
2673	Second	PHA-22	Brick Wall (Exterior)	South	Intact	White	0.01
2674	Second	PHA-22	Metal Ladder	North	Fair	Black	2.8
2675	Second	PHA-22	Metal Handrail	East	Poor	Black	3

**Font Color Annotation:**

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Pipe Insulation, Sample 2A



Exterior Window Caulk, Sample 11A



Exterior Door Caulk, Sample 12B



2" Pipe Insulation, Sample 13A





Interior Window Glazing, Sample 15A



Transite Covering Inside Radiator, Sample 16A



12"x12" Brown Floor Tile and Mastic, Samples 20A and 21A

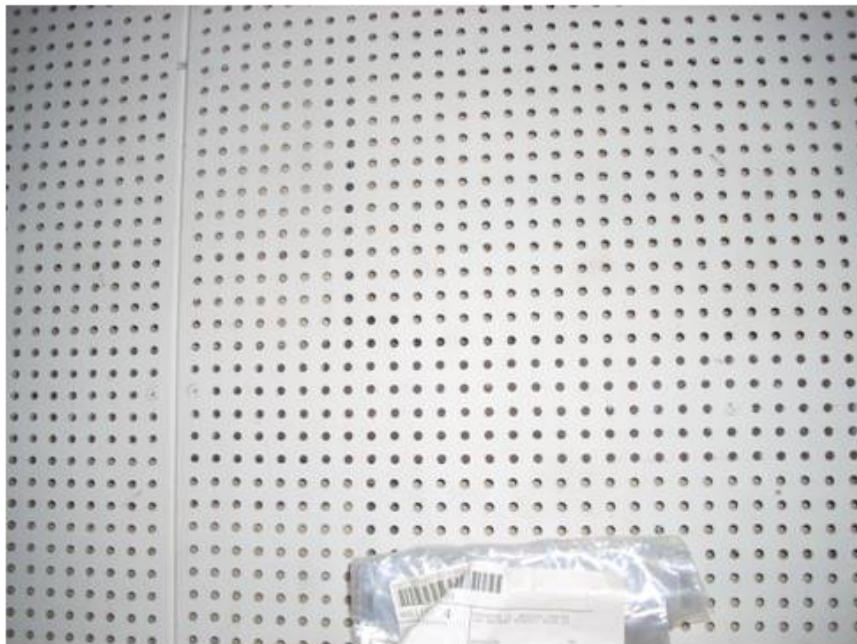


9"x9" Gray Floor Tile, Sample 22A





Sink Undercoating, Sample 33



Transite Peg Board, Sample 34

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door Casing, Reading 207



Metal Ladder, Reading 2536



Wood Screen Door, Reading 2561



Wood Door, Reading 2567



Wood Chair Rail, Reading 2624



Metal Handrail, Reading 2675

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 23**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



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### Appendices

Appendix A – Table 5, ACM Building Results
Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 52 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 4 of the collected samples contained asbestos greater than or equal to 1%.**
- 63 XRF analyzer measurements of building surfaces were taken in this building.
- **23 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 23 was a one-story Gym/Pool Building built in 1955 and occupied approximately 40,957 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 23			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 23**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*	
1A	Gym	Perimeter Wall to Ceiling Mounted Heaters	Pipe Insulation	20% Chrysotile 20% Amosite	800 LF	Good	4	
1B								
1C								
2A	Gym	Perimeter Wall to Ceiling Mounted Heaters	Fitting Insulation	40% Chrysotile	50 Fittings	Good	4	
2B								
2C								
3A	114	1st Floor Hallway and Offices	9"x9" White Floor Tile	2% Chrysotile	1,500 SF	Good	4	
3B	104							
3C	Corridor 109							
4A	114		9"x9" White Floor Tile Mastic	5% Chrysotile		Good	4	
4B	104							
4C	Corridor 109							
NA	NA	Set into Walls at Radiator Locations	Transite Panel	Identified In Previous Survey and Verified in the Field	23 EA	Good	4	
NA – Not Applicable SF – Square Feet LF – Linear Feet EA – Each								

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 23							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
188	Exterior	Exterior	Metal Door Casing	North	Intact	Brown	2.5
2194	First	Corridor Outside Basketball Court	Metal Door Casing	West	Fair	Brown	0.11
2199	First	101 Basketball Court	Metal Channel At Floor	West	Poor	Beige	0.12
2207	First	101 Basketball Court	Metal Window Casing	West	Fair	Beige	5.7
2215	First	106	Wood Door	North	Intact	Beige	5.3
2217	First	110	Metal Door Casing	North	Intact	Green	0.14

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 23							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2218	First	110a	Wood Door	South	Fair	Beige	4.6
2225	First	109	Concrete Floor	Na	Poor	Red	0.11
2226	First	109	Metal Privacy Partition	South	Intact	Green	0.15
2228	First	Corridor Outside 109	Wood Door	South	Intact	Beige	4.9
2230	First	Corridor Outside FC-101	Wood Door	South	Fair	Red	5
2233	First	FC-101	Plaster Wall (Interior)	South	Fair	Red	0.16
2238	First	Corridor Outside 111	Metal Door	North	Intact	Beige	0.28
2239	Gallery	201	Metal Handrail	North	Poor	Beige	4.8
2244	Gallery	201	Plaster Ceiling	Ceiling	Fair	Green	0.5
2247	Gallery	201	Wood Door	West	Intact	Green	2.9
2249	Gallery	PH1	Brick Wall (Interior)	South	Intact	Yellow	0.17
2250	Gallery	PH1	Concrete Wall (Interior)	North	Intact	Yellow	0.19
2251	Gallery	PH1	Metal Pipe	North	Poor	Yellow	0.3
2252	Gallery	PH1	Metal Ladder	South	Poor	Gray	4.1
2253	Gallery	PH1	Metal Storm Sewer	South	Fair	Green	16
2255	Gallery	Ph1	Metal Duct	South	Intact	Green	0.3
2259	Service Room Floor	Corridor Outside 223	Metal Handrail	East	Poor	Gray	1.3

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.



Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 23	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	1,500 SF
Fitting Insulation	50 EA
Pipe Insulation	800 LF
Transite Panel at Radiators	23 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 23**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Gym	Perimeter Wall to Ceiling Mounted Heaters	Pipe Insulation	20% Chrysotile 20% Amosite	800 LF	Good	4
1B	Gym	Perimeter Wall to Ceiling Mounted Heaters	Pipe Insulation	Stop Positive See 1A			
1C	Gym	Perimeter Wall to Ceiling Mounted Heaters	Pipe Insulation	Stop Positive See 1A			
2A	Gym	Perimeter Wall to Ceiling Mounted Heaters	Fitting Insulation	40% Chrysotile	50 Fittings	Good	4
2B	Gym	Perimeter Wall to Ceiling Mounted Heaters	Fitting Insulation	Stop Positive See 2A			
2C	Gym	Perimeter Wall to Ceiling Mounted Heaters	Fitting Insulation	Stop Positive See 2A			
3A	114	1st Floor Hallway and Offices	9"x9" White Floor Tile	2% Chrysotile	1,500 SF	Good	4
3B	104	2nd Floor Hallway and Offices	9"x9" White Floor Tile	Stop Positive See 3A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 23**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
3C	Corridor 109	3rd Floor Hallway and Offices	9"x9" White Floor Tile	Stop Positive See 3A			
4A	114	1st Floor Hallway, Office and Under Weight Room Floor	9"x9" White Floor Tile Mastic	5% Chrysotile	1,500 SF	Good	4
4B	104	2nd Floor Hallway, Office and Under Weight Room Floor	9"x9" White Floor Tile Mastic	Stop Positive See 4A			
4C	Corridor 109	3rd Floor Hallway, Office and Under Weight Room Floor	9"x9" White Floor Tile Mastic	Stop Positive See 4A			
5A	Corridor 101	-	2"x2" Ceiling Tile	NAD	-	-	-
5B	104	-	2"x2" Ceiling Tile	NAD	-	-	-
5C	Corridor 109	-	2"x2" Ceiling Tile	NAD	-	-	-
6A	Corridor 101	-	Plaster Base Coat	NAD	-	-	-
6B	Corridor 101	-	Plaster Base Coat	NAD	-	-	-
6C	114	-	Plaster Base Coat	NAD	-	-	-
6D	107	-	Plaster Base Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 23**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6E	115	-	Plaster Base Coat	NAD	-	-	-
7A	Corridor 101	-	Plaster Skim Coat	NAD	-	-	-
7B	Corridor 101	-	Plaster Skim Coat	NAD	-	-	-
7C	114	-	Plaster Skim Coat	NAD	-	-	-
7D	107	-	Plaster Skim Coat	NAD	-	-	-
7E	115	-	Plaster Skim Coat	NAD	-	-	-
8A	102	-	Window Glazing	NAD	-	-	-
8B	102	-	Window Glazing	NAD	-	-	-
8C	102	-	Window Glazing	NAD	-	-	-
9A	104	-	Drywall	NAD	-	-	-
9B	105A	-	Drywall	NAD	-	-	-
9C	Corridor 109	-	Drywall	NAD	-	-	-
10A	104	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 23**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
10B	105A	-	Joint Compound	NAD	-	-	-
10C	Corridor 109	-	Joint Compound	NAD	-	-	-
11A	Basement Service Room	-	Hanger Adhesive	NAD	-	-	-
11B	Basement Service Room	-	Hanger Adhesive	NAD	-	-	-
11C	Basement Service Room	-	Hanger Adhesive	NAD	-	-	-
12A	Pool Area	-	Interior Window Caulking	NAD	-	-	-
12B	Pool Area	-	Interior Window Caulking	NAD	-	-	-
12C	Pool Area	-	Interior Window Caulking	NAD	-	-	-
13A	ADJ 110A	-	Grey Interior Door Caulking	NAD	-	-	-
13B	ADJ 110A	-	Grey Interior Door Caulking	NAD	-	-	-
13C	ADJ 110A	-	Grey Interior Door Caulking	NAD	-	-	-
14A	Exterior	-	Door/Window Caulking	NAD	-	-	-
14B	Exterior	-	Door/Window Caulking	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 23**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
14C	Exterior	-	Door/Window Caulking	NAD	-	-	-
15A	Pool Area	-	Black Interior Door Caulking	NAD	-	-	-
15B	Pool Area	-	Black Interior Door Caulking	NAD	-	-	-
15C	Pool Area	-	Black Interior Door Caulking	NAD	-	-	-
16A	Exterior	-	Expansion Joint Caulking	NAD	-	-	-
16B	Exterior	-	Expansion Joint Caulking	NAD	-	-	-
16C	Exterior	-	Expansion Joint Caulking	NAD	-	-	-
NA	NA	Set into Walls at Radiator Locations	Transite Panel	Identified in Previous Survey and Verified in the Field	23 EA	Good	4

NAD – No Asbestos Detected  
 NA – Not Applicable  
 SF – Square Feet  
 LF – Linear Feet  
 EA – Each



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 23**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
188	Exterior	Exterior	Metal Door Casing	North	Intact	Brown	2.5
602	Exterior	Exterior	Metal Door	North	Poor	Brown	0
2193	First	Corridor Outside Basketball Court	Metal Door	West	Fair	Brown	0
2194	First	Corridor Outside Basketball Court	Metal Door Casing	West	Fair	Brown	0.11
2195	First	101 Basketball Court	Metal Door Casing	West	Fair	Beige	0
2196	First	101 Basketball Court	Metal Door	West	Fair	Brown	0
2199	First	101 Basketball Court	Metal Channel at Floor	West	Poor	Beige	0.12
2200	First	101 Basketball Court	Wood Floor	Na	Intact	Clear	0
2201	First	101 Basketball Court	Concrete Wall (Exterior)	East	Intact	White	0
2205	First	101 Basketball Court	Brick Column	East	Intact	White	0.02
2206	First	101 Basketball Court	Metal Security Gate	East	Intact	Gray	0
2207	First	101 Basketball Court	Metal Window Casing	West	Fair	Beige	5.7
2208	First	103	Plaster Wall (Exterior)	West	Poor	Beige	0.07
2210	First	103	Concrete Window Sill	West	Poor	Beige	0.07
2211	First	103	Metal Radiator	West	Fair	Beige	0.06
2212	First	102	Concrete Wall (Exterior)	West	Fair	Green	0
2213	First	103	Metal Door Casing	South	Poor	Beige	0
2215	First	106	Wood Door	North	Intact	Beige	5.3
2216	First	106	Metal Door Casing	West	Intact	Beige	0.07
2217	First	110	Metal Door Casing	North	Intact	Green	0.14
2218	First	110A	Wood Door	South	Fair	Beige	4.6
2220	First	110	Concrete Floor	Floor	Intact	Green	0
2221	First	110A	Metal Radiator	East	Intact	Green	0.04
2225	First	109	Concrete Floor	Na	Poor	Red	0.11
2226	First	109	Metal Privacy Partition	South	Intact	Green	0.15
2227	First	109	Metal Radiator	North	Intact	Green	0.08
2228	First	Corridor Outside 109	Wood Door	South	Intact	Beige	4.9

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 23**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2229	First	Corridor Outside 109	Metal Door Casing	South	Fair	Green	0.09
2230	First	Corridor Outside FC-101	Wood Door	South	Fair	Red	5
2233	First	FC-101	Plaster Wall (Interior)	South	Fair	Red	0.16
2234	First	FC-101	Metal Door Casing	South	Intact	Red	0.08
2235	First	Corridor Outside 110	Plaster Wall (Interior)	North	Intact	White	0.07
2236	First	Corridor Outside 110	Plaster Ceiling	Ceiling	Fair	White	0.09
2237	First	Corridor Outside 110	Wood Countertop	North	Intact	Beige	0.03
2238	First	Corridor Outside 111	Metal Door	North	Intact	Beige	0.28
2239	Gallery	201	Metal Handrail	North	Poor	Beige	4.8
2240	Gallery	201	Concrete Floor	Floor	Fair	Gray	0.04
2244	Gallery	201	Plaster Ceiling	Ceiling	Fair	Green	0.5
2245	Gallery	201	Wood Door	South	Fair	Beige	0.05
2246	Gallery	201	Metal Door Casing	South	Fair	Beige	0.05
2247	Gallery	201	Wood Door	West	Intact	Green	2.9
2248	Gallery	201	Metal Door	South	Intact	Green	0.1
2249	Gallery	PH1	Brick Wall (Interior)	South	Intact	Yellow	0.17
2250	Gallery	PH1	Concrete Wall (Interior)	North	Intact	Yellow	0.19
2251	Gallery	PH1	Metal Pipe	North	Poor	Yellow	0.3
2252	Gallery	PH1	Metal Ladder	South	Poor	Gray	4.1
2253	Gallery	PH1	Metal Storm Sewer	South	Fair	Green	16
2254	Gallery	PH1	Concrete Floor	Floor	Poor	Green	0.08
2255	Gallery	PH1	Metal Duct	South	Intact	Green	0.3
2256	First	Stairs To Gallery	Concrete Tread	Na	Intact	Gray	0.03
2257	First	Stairs To Gallery	Concrete Riser	Na	Intact	Gray	0.03
2258	First	Stairs To Gallery	Concrete Stringer	East	Intact	Gray	0.02
2259	Service Room Floor	Corridor Outside 223	Metal Handrail	East	Poor	Gray	1.3
2260	Service Room Floor	Stairs To Gallery	Wood Handrail	West	Fair	Gray	0
2261	Service Room Floor	Stairs To Gallery	Concrete Ceiling	Na	Fair	Beige	0
2262	Service Room Floor	Service Room Floor	Concrete Column	North	Poor	White	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 23**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2263	Service Room Floor	Service Room Floor	Metal Window Casing	West	Poor	Unknown	0
2264	Service Room Floor	Service Room Floor	Concrete Wall (Exterior)	West	Poor	Unknown	0
2265	Service Room Floor	Service Room Floor	Metal Door Casing	West	Poor	Unknown	0
2266	Service Room Floor	Service Room Floor	Metal Door	West	Poor	Unknown	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Pipe and Fitting Insulation, Samples 1A and 2A



9"x9" White Floor Tile and Mastic, Samples 3A and 4A



Transite Panel Set into Walls at Radiator

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Metal Window Casing, Reading 2207



Metal Handrail, Reading 2239



Metal Ladder, Reading 2252



Metal Storm Sewer Pipe, Reading 2253

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 24**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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### Appendices

Appendix A – Table 5, ACM Building Results
Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 87 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 7 of the collected samples contained asbestos greater than or equal to 1%.**
- 63 XRF analyzer measurements of building surfaces were taken in this building.
- **27 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 24 was a two-story Chapel built in 1955 and occupied approximately 15,720 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 24			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
3	002C	Sub-basement	Mudded Fitting	30% Chrysotile	2 EA	Good	4
8A	CR001	Stairs, 1st Floor Chapel and Back Changing Rooms	Tan Mosaic Sheet Flooring	30% Chrysotile	1,500 SF	Good	4
8B	101						
8C	102						
12A	001A	Basement	12"x12" White Floor Tile	2% Chrysotile	700 SF	Good	4
12B							
12C	001B	Basement	12"x12" Green Floor Tile	2% Chrysotile		Good	4
16A	001B						
16B							
28A	Exterior	Windows	Window Caulking	2% Chrysotile	460 LF	Good	4
28B							
28C							
30	Exterior	Doors	Door Caulking (old)	3% Chrysotile	85 LF	Good	4
33	001D	Basement	Black Sink Undercoating	5% Chrysotile	1 EA	Good	4
SF – Square Feet LF – Linear Feet EA – Each							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 24							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1624	First	101	Plaster Wall (Interior)	East	Fair	Blue	0.5
1626	First	101	Metal Radiator	South	Fair	White	0.19
1627	First	101	Metal Radiator	South	Intact	White	0.18
1628	First	101	Wood Window Sill	South	Intact	White	4.4
1631	First	101	Wood Door	South	Fair	White	3
1632	First	101	Wood Door Casing	South	Intact	White	3.4
1633	First	101	Wood Bench	West	Intact	Blue	0.16
1634	First	102	Wood Door	East	Fair	Brown	3.9
1635	First	102	Wood Door Casing	East	Fair	White	5.7
1636	First	102	Plaster Wall (Exterior)	East	Fair	White	0.12

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 24							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1640	First	103	Metal Door Casing	North	Intact	White	0.2
1641	First	103	Wood Door	North	Fair	Brown	5.2
1642	First	103	Metal Radiator	East	Intact	White	0.16
1643	First	Vestibule	Wood Door	East	Intact	Blue	2.7
1644	First	Vestibule	Wood Door Casing	East	Intact	Blue	11.6
1648	First	Corridor Outside FC-101	Wood Door	East	Fair	Red	3.8
1649	First	Corridor Outside FC-101	Metal Door Casing	East	Intact	White	0.19
1652	First	Corridor Outside 111	Wood Door	West	Fair	Gray	4.3
1653	First	Corridor Outside 108	Wood Door	South	Fair	Gray	3.2
1658	Basement	001B	Metal Pipe	NA	Intact	White	0.6
1669	Basement	Northwest Stairs	Wood Window Sill	North	Poor	Blue	3.4
1677	Basement	Northwest Stairs	Metal Handrail	North	Intact	Black	0.7
1678	Exterior	Exterior	Plaster Wall (Exterior)	West	Intact	White	3.2
1679	Exterior	Exterior	Wood Door Casing	West	Poor	White	26.3
1681	Exterior	Exterior	Wood Door	South	Poor	Brown	19
1682	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	21.1
1683	Exterior	Exterior	Metal Vent	South	Intact	Brown	10.1
NA – Not Applicable							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey

these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 24	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	700 SF
Mudded Fitting	2 EA
Sheet Flooring and/or Mastic	1,500 SF
Window Caulking	460 LF
Door Caulking	85 LF
SF – Square Feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	002	-	2"x2" Ceiling tile	NAD	-	-	-
1B	001	-	2"x2" Ceiling tile	NAD	-	-	-
1C	002	-	2"x2" Ceiling tile	NAD	-	-	-
2A	002E	-	Residual carpet mastic/felt	NAD	-	-	-
2B	002D	-	Residual carpet mastic/felt	NAD	-	-	-
2C	002E	-	Residual carpet mastic/felt	NAD	-	-	-
3	002C	Subbasement	Mudded Fitting	30% Chrysotile	2 EA	Good	4
4A	002	-	12"x12" Yellow floor tile	NAD	-	-	-
4B	002	-	12"x12" Yellow floor tile	NAD1	-	-	-
4C	002	-	12"x12" Yellow floor tile	NAD	-	-	-
5A	002	-	12"x12" Yellow floor tile mastic	NAD	-	-	-
5B	002	-	12"x12" Yellow floor tile mastic	NAD	-	-	-
5C	002	-	12"x12" Yellow floor tile mastic	NAD	-	-	-
6A	002	-	Carpet	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			adhesive				
6B	002	-	Carpet adhesive	NAD	-	-	-
6C	002	-	Carpet adhesive	NAD	-	-	-
7A	002	-	4" Brown cove base adhesive	NAD	-	-	-
7B	ST003	-	4" Brown cove base adhesive	NAD	-	-	-
7C	ST002	-	4" Brown cove base adhesive	NAD	-	-	-
8A	CR001	Stairs, 1st Floor Chapel and Back Changing Rooms	Tan mosaic sheet flooring	30% Chrysotile	1,500 SF	Good	4
8B	101		Tan mosaic sheet flooring	Stop Positive See 8A			
8C	102		Tan mosaic sheet flooring	Stop Positive See 8A			
9A	CR001	-	Tan mosaic sheet flooring mastic	NAD	-	-	-
9B	101	-	Tan mosaic sheet flooring mastic	NAD	-	-	-
9C	102	-	Tan mosaic sheet flooring mastic	NAD	-	-	-
10A	CR001	-	1'x1' Ceiling tile - random pin dot	NAD	-	-	-
10B	101A	-	1'x1' Ceiling	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			tile - random pin dot				
10C	101A	-	1'x1' Ceiling tile - random pin dot	NAD	-	-	-
11A	002	-	6" Gray cove base mastic	NAD	-	-	-
11B	001A	-	6" Gray cove base mastic	NAD	-	-	-
11C	108	-	6" Gray cove base mastic	NAD	-	-	-
12A	001A	Basement	12"x12" White floor tile	2% Chrysotile	700 SF	Good	4
12B	001A	Basement	12"x12" White floor tile	Stop Positive See 12A			
12C	001B	Basement	12"x12" White floor tile	Stop Positive See 12A			
13A	001A	-	12"x12" White floor tile mastic	NAD	-	-	-
13B	001A	-	12"x12" White floor tile mastic	NAD	-	-	-
13C	001B	-	12"x12" White floor tile mastic	NAD	-	-	-
14A	001A	-	12"x12" Blue floor tile	NAD	-	-	-
14B	001A	-	12"x12" Blue floor tile	NAD	-	-	-
15A	001A	-	12"x12" Blue	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			floor tile mastic				
15B	001A	-	12"x12" Blue floor tile mastic	NAD	-	-	-
16A	001B	Basement	12"x12" Green floor tile	2% Chrysotile	700 SF	Good	4
16B	001B	Basement	12"x12" Green floor tile	Stop Positive See 16A			
17A	001B	-	12"x12" Green floor tile mastic	NAD	-	-	-
17B	001B	-	12"x12" Green floor tile mastic	NAD	-	-	-
18A	001C	-	Drywall	NAD	-	-	-
18B	001	-	Drywall	NAD	-	-	-
18C	001	-	Drywall	NAD	-	-	-
19A	001C	-	Joint compound	NAD	-	-	-
19B	001	-	Joint compound	NAD	-	-	-
19C	001	-	Joint compound	NAD	-	-	-
20A	108A	-	Green sheet flooring	NAD	-	-	-
20B	107A	-	Green sheet flooring	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
20C	103	-	Green sheet flooring	NAD	-	-	-
21A	108A	-	Green sheet flooring mastic	NAD	-	-	-
21B	107A	-	Green sheet flooring mastic	NAD	-	-	-
21C	103	-	Green sheet flooring mastic	NAD	-	-	-
22A	101A	-	Terrazzo flooring	NAD	-	-	-
22B	101A	-	Terrazzo flooring	NAD	-	-	-
23A	101A	-	1'x1' Fissured ceiling tile	NAD	-	-	-
23B	CR101	-	1'x1' Fissured ceiling tile	NAD	-	-	-
24A	101A	-	1'x1' Solid ceiling tile	NAD	-	-	-
24B	101A	-	1'x1' Solid ceiling tile	NAD	-	-	-
25A	103A	-	Plaster base coat	NAD	-	-	-
25B	102	-	Plaster base coat	NAD	-	-	-
25C	CR001	-	Plaster base coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
25D	CR001	-	Plaster base coat	NAD	-	-	-
25E	CR001	-	Plaster base coat	NAD	-	-	-
26A	103A	-	Plaster skim coat	NAD	-	-	-
26B	102	-	Plaster skim coat	NAD	-	-	-
26C	CR001	-	Plaster skim coat	NAD	-	-	-
26D	CR001	-	Plaster skim coat	NAD	-	-	-
26E	CR001	-	Plaster skim coat	NAD	-	-	-
27A	Exterior	-	Door caulking	NAD	-	-	-
27B	Exterior	-	Door caulking	NAD	-	-	-
27C	Exterior	-	Door caulking	NAD	-	-	-
28A	Exterior	Windows	Window caulking	2% Chrysotile	460 LF	Good	4
28B	Exterior	Windows	Window caulking	Stop Positive See 28A			
28C	Exterior	Windows	Window caulking	Stop Positive See 28A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 24**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
29A	CR101	-	1'x1' Ceiling tile - structured pin dot	NAD	-	-	-
29B	CR101	-	1'x1' Ceiling tile - structured pin dot	NAD	-	-	-
29C	CR101	-	1'x1' Ceiling tile - structured pin dot	NAD	-	-	-
30	Exterior	Doors	Door caulking - old	3% Chrysotile	85 LF	Good	4
31	Exterior	-	Asphalt tar paper	NAD	-	-	-
32	Exterior	-	Expansion caulk	NAD	-	-	-
33	001D	Basement	Black sink base coating	5% Chrysotile	1 EA	Good	4
34	CR001	Basement	Residual Floor Tile Mastic	NAD			
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet EA – Each			

## Appendix B

### Table 6 Summary of XRF Measurements



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 24**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1622	First	101	Plaster Wall (Exterior)	East	Fair	White	0.09
1623	First	101	Plaster Wall (Exterior)	North	Fair	White	0.09
1624	First	101	Plaster Wall (Interior)	East	Fair	Blue	0.5
1626	First	101	Metal Radiator	South	Fair	White	0.19
1627	First	101	Metal Radiator	South	Intact	White	0.18
1628	First	101	Wood Window Sill	South	Intact	White	4.4
1629	First	101	Wood Bench	North	Intact	White	0.02
1630	First	101	Wood Bench	North	Intact	Clear	0.02
1631	First	101	Wood Door	South	Fair	White	3
1632	First	101	Wood Door Casing	South	Intact	White	3.4
1633	First	101	Wood Bench	West	Intact	Blue	0.16
1634	First	102	Wood Door	East	Fair	Brown	3.9
1635	First	102	Wood Door Casing	East	Fair	White	5.7
1636	First	102	Plaster Wall (Exterior)	East	Fair	White	0.12
1637	First	102	Metal Door	West	Intact	Brown	0
1638	First	102	Wood Window Sill	East	Intact	White	0.08
1639	First	102	Wood Window Sill	East	Intact	White	0.1
1640	First	103	Metal Door Casing	North	Intact	White	0.2
1641	First	103	Wood Door	North	Fair	Brown	5.2
1642	First	103	Metal Radiator	East	Intact	White	0.16
1643	First	Vestibule	Wood Door	East	Intact	Blue	2.7
1644	First	Vestibule	Wood Door Casing	East	Intact	Blue	11.6
1646	First	Vestibule	Plaster Wall (Interior)	East	Intact	Blue	0.03
1647	First	Vestibule	Plaster Wall (Interior)	East	Intact	Blue	0.03
1648	First	Corridor Outside FC-101	Wood Door	East	Fair	Red	3.8
1649	First	Corridor Outside FC-101	Metal Door Casing	East	Intact	White	0.19
1650	First	Corridor Outside 111	Plaster Wall (Interior)	West	Fair	White	0.09
1652	First	Corridor Outside 111	Wood Door	West	Fair	Gray	4.3

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 24**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1653	First	Corridor Outside 108	Wood Door	South	Fair	Gray	3.2
1654	First	Corridor Outside 001A	Drywall Wall (Interior)	East	Poor	White	0
1655	Basement	001B	Concrete Wall (Exterior)	East	Intact	White	0
1656	Basement	001B	Concrete Column	East	Intact	White	0
1657	Basement	001B	Concrete Floor	Na	Intact	Brown	0.01
1658	Basement	001B	Metal Pipe	Floor	Intact	White	0.6
1659	Basement	001B	Metal Duct	South	Intact	White	0
1660	Basement	001B	Metal Door	South	Intact	Brown	0
1661	Basement	001B	Metal Door Casing	South	Intact	Brown	0
1662	Basement	001B	Concrete Wall (Interior)	South	Intact	White	0
1663	Basement	1	Concrete Floor	Floor	Poor	Brown	0.02
1664	Basement	East Stairs	Concrete Wall (Exterior)	East	Poor	Yellow	0
1665	Basement	East Stairs	Metal Handrail	East	Intact	Brown	0
1666	Basement	East Stairs	Metal Door	West	Intact	Brown	0
1668	Basement	Northwest Stairs	Plaster Wall (Exterior)	North	Poor	Blue	0.08
1669	Basement	Northwest Stairs	Wood Window Sill	North	Poor	Blue	3.4
1670	Basement	Northwest Stairs	Metal Window Casing	North	Poor	White	0
1671	Basement	Northwest Stairs	Metal Door	East	Fair	Brown	0.09
1673	Basement	Northwest Stairs	Plaster Wall (Interior)	North	Poor	Blue	0.09
1674	Basement	Northwest Stairs	Metal Radiator	North	Intact	Blue	0.05
1675	Basement	Northwest Stairs	Concrete Riser	North	Intact	Gray	0.05

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 24**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1676	Basement	Northwest Stairs	Concrete Tread	North	Intact	Gray	0.06
1677	Basement	Northwest Stairs	Metal Handrail	North	Intact	Black	0.7
1678	Exterior	Exterior	Plaster Wall (Exterior)	West	Intact	White	3.2
1679	Exterior	Exterior	Wood Door Casing	West	Poor	White	26.3
1680	Exterior	Exterior	Metal Safety Grate	South	Fair	Black	0.08
1681	Exterior	Exterior	Wood Door	South	Poor	Brown	19
1682	Exterior	Exterior	Wood Door Casing	South	Poor	Brown	21.1
1683	Exterior	Exterior	Metal Vent	South	Intact	Brown	10.1
1684	Exterior	Exterior	Metal Door	South	Intact	Brown	0
1687	First	111	Metal Privacy Partition	North	Intact	Blue	0.03
1688	First	Corridor Outside 002B	Metal Door	West	Intact	Brown	0.02
1689	First	Corridor Outside 002B	Metal Door Casing	East	Intact	Brown	0.06
1690	First	Corridor Outside 002D	Metal Wall (Interior)	West	Intact	White	0.02

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Mudded Fitting, Sample 3



Tan Mosaic Sheet Flooring, Sample 8A



12"x12" White Floor Tile, Sample 12A



12"x12" Green Floor Tile, Sample 16A





Exterior Window Caulk, Sample 28A



Exterior Door Caulking, Sample 30



BlackSink Undercoating, Sample 33



## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door and Wood Door Casing, Readings 1634 and 1635



Wood Window Sill, Reading 1669

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 25**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 116 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 6 of the collected samples contained asbestos greater than or equal to 1%.**
- 92 XRF analyzer measurements of building surfaces were taken in this building.
- **32 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 25 was a one-story Storage Building built in 1955 and occupied approximately 21,140 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 25			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 25**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1	Basement	Inside Wall Cavity	Pipe Insulation	40% Chrysotile 10% Amosite	10 SF	Good	4
2A	Basement	Windows	Window Glazing	2% Chrysotile	24 LF	Good	4
2B							
16A	116A	Rest Room and Locker Room	9"x9" Gray Floor Tile	10% Chrysotile	240 SF	Good	4
16B	116						
16C							
22A	101	Room 101	9"x9" Green Floor Tile	10% Chrysotile	10 SF	Damaged	3
22B							
22C							
36A	Exterior	East	Window Caulk	5.41% Chrysotile <sup>1</sup> 10.82% Anthophyllite <sup>1</sup>	1,400 LF	Good	4
36B		North					
36C		South					
38A	Exterior	East	Door Caulk (Old)	2.14% Chrysotile <sup>1</sup> 10.71% Anthophyllite <sup>1</sup>	45 LF	Good	4
38B		West					
38C							
Footnotes:				SF – Square Feet LF – Linear Feet			
1 – Analyzed by TEM							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by

excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 25							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2023	Ground	Corridor Main	Plaster Wall (Interior)	East	Intact	Beige	0.15
2026	Ground	Corridor Main	Metal Radiator	South	Intact	White	0.14
2027	Ground	Corridor Main	Wood Door	West	Intact	White	4.3
2028	Ground	Corridor Main	Wood Door Casing	West	Intact	Beige	5.9
2029	Ground	Corridor Main	Wood Door Casing	West	Intact	Beige	3.4
2030	Ground	Corridor Main	Metal Radiator	West	Intact	Beige	0.22
2031	Ground	Room 107	Wood Door	East	Intact	Gray	4.5
2032	Ground	Room 106	Wood Door	North	Intact	Gray	2.6
2036	Ground	Room 106	Metal Window Sill	East	Cracked	White	0.23
2049	Ground	Room 107	Concrete Ceiling	Upper	Intact	White	1.2
2050	Ground	Room 107	Metal Duct	Upper	Intact	White	0.26
2052	Ground	Room 107A	Metal Window Casing	West	Intact	Blue	0.5
2056	Ground	Room	Wood Door	South	Intact	Blue	6.4

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 25							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
		107B					
2057	Ground	Room 107B	Metal Door Casing	South	Intact	Blue	0.12
2060	Ground	Room 107B	Metal Drain Pipe	North	Intact	White	0.14
2063	Ground	Room 107	Wood Door	North	Intact	Red	4.7
2065	Ground	Corridor Main	Wood Door Casing	South	Intact	White	4.2
2067	Ground	Room 104	Wood Door	East	Intact	Gray	3.5
2076	Ground	Room 114	Metal Door	West	Intact	Gray	3.5
2077	Ground	Fc-101	Wood Door	East	Intact	Red	6.1
2078	Ground	Room 116A	Wood Door	South	Intact	Gray	4.5
2083	Ground	Room 116A	Metal Radiator	East	Intact	Gray	0.15
2093	Ground	Room 117 Men's Room	Metal Window Casing	East	Intact	White	0.11
2110	Ground	Corridor Main	Wood Door	West	Intact	Gray	2.2
2112	Ground	Corridor Main	Metal Radiator	East	Intact	White	0.15
2114	Ground	Corridor Main	Metal Door Casing	West	Intact	White	0.16
2116	Ground	Corridor Main	Wood Door Casing	North	Intact	White	5.8
2122	Ground	FC-103	Wood Door	South	Intact	Red	4.6
2126	Ground	Room 121	Metal Radiator	South	Intact	White	0.13
2137	Exterior	Exterior	Concrete Riser	West	Intact	Yellow	7.9
2138	Exterior	Exterior	Wood Door	West	Poor	Brown	0.7
2139	Exterior	Exterior	Wood Door Casing	West	Poor	Brown	18.5

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with  $> 0.1$  mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 25	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	250 SF
Pipe Insulation	10 LF
Window Caulking	1,400 LF
Window Glazing	24 LF
Door Caulking	45 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1	Basement	Inside Wall Cavity	Pipe Insulation	40% Chrysotile 10% Amosite	10 SF	Good	4
2A	Basement	Window	Window Glazing (Metal Window)	2% Chrysotile	24 LF	Good	4
2B	Basement	Window	Window Glazing (Metal Window)	Stop Positive See 2A			
3A	107A	-	Drywall	NAD	-	-	-
3B	107A	-	Drywall	NAD	-	-	-
3C	124	-	Drywall	NAD	-	-	-
4A	107A	-	Joint Compound	NAD	-	-	-
4B	107A	-	Joint Compound	NAD	-	-	-
4C	124	-	Joint Compound	NAD	-	-	-
5A	Corridor 101	-	Blown in Insulation	NAD	-	-	-
5B	Corridor 102	-	Blown in Insulation	NAD	-	-	-
5C	Corridor 102	-	Blown in Insulation	NAD	-	-	-
6A	Basement	-	Hanger Adhesive	NAD	-	-	-
6B	Basement	-	Hanger Adhesive	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6C	Basement	-	Hanger Adhesive	NAD	-	-	-
7A	107	-	6" Black Cove Base	NAD	-	-	-
7B	107	-	6" Black Cove Base	NAD	-	-	-
7C	107	-	6" Black Cove Base	NAD	-	-	-
8A	107	-	6" Black Cove Base Mastic	NAD	-	-	-
8B	107	-	6" Black Cove Base Mastic	NAD	-	-	-
8C	107	-	6" Black Cove Base Mastic	NAD	-	-	-
9A	Mens Room	-	Terrazzo Flooring	NAD	-	-	-
9B	Mens Room	-	Terrazzo Flooring	NAD	-	-	-
10A	127	-	2'x2' Ceiling Tile	NAD	-	-	-
10B	127	-	2'x2' Ceiling Tile	NAD	-	-	-
10C	127	-	2'x2' Ceiling Tile	NAD	-	-	-
11A	118	-	2'x2' Flat Ceiling Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
11B	118	-	2'x2' Flat Ceiling Tile	NAD	-	-	-
11C	118	-	2'x2' Flat Ceiling Tile	NAD	-	-	-
12A	Corridor 102	-	2'x4' Ceiling Tile	NAD	-	-	-
12B	Corridor 102	-	2'x4' Ceiling Tile	NAD	-	-	-
12C	Corridor 102	-	2'x4' Ceiling Tile	NAD	-	-	-
13A	118	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-
13B	118	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-
13C	118	-	2'x2' Fissured Ceiling Tile	NAD	-	-	-
14A	104	-	Carpet Mastic	NAD	-	-	-
14B	104	-	Carpet Mastic	NAD	-	-	-
14C	106	-	Carpet Mastic	NAD	-	-	-
15A	Hallway at 128	-	6" Gray Cove Base Mastic	NAD	-	-	-
15B	Hallway at 101	-	6" Gray Cove Base Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
15C	Hallway at 113	-	6" Gray Cove Base Mastic	NAD	-	-	-
16A	116A	Locker Room	9"x9" Gray Floor Tile	10% - Chrysotile	240 SF	Good	4
16B	116	Locker Room	9"x9" Gray Floor Tile	Stop Positive See 16A			
16C	116	Locker Room	9"x9" Gray Floor Tile	Stop Positive See 16A			
17A	116A	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
17B	116	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
17C	116	-	9"x9" Gray Floor Tile Mastic	NAD	-	-	-
18A	107	-	6" Orange Cove Base	NAD	-	-	-
18B	102	-	6" Orange Cove Base	NAD	-	-	-
18C	107	-	6" Orange Cove Base	NAD	-	-	-
19A	107	-	6" Orange Cove Base Mastic	NAD	-	-	-
19B	102	-	6" Orange Cove Base Mastic	NAD	-	-	-
19C	107	-	6" Orange Cove Base Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
20A	129	-	12"x12" Gold Floor Tile	NAD	-	-	-
20B	114	-	12"x12" Gold Floor Tile	NAD	-	-	-
20C	114	-	12"x12" Gold Floor Tile	NAD	-	-	-
21A	129	-	12"x12" Gold Floor Tile Mastic	NAD	-	-	-
21B	114	-	12"x12" Gold Floor Tile Mastic	NAD	-	-	-
21C	114	-	12"x12" Gold Floor Tile Mastic	NAD	-	-	-
22A	101	Room 101	9"x9" Green Floor Tile	10% - Chrysotile	10 SF	Good	3
22B	101	Room 101	9"x9" Green Floor Tile	Stop Positive See 22A			
22C	101	Room 101	9"x9" Green Floor Tile	Stop Positive See 22A			
23A	101	-	9"x9" Green Floor Tile Mastic	NAD	-	-	-
23B	101	-	9"x9" Green Floor Tile Mastic	NAD	-	-	-
23C	101	-	9"x9" Green Floor Tile Mastic	NAD	-	-	-
24A	Corridor 102	-	12"x12" White Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
24B	102	-	12"x12" White Floor Tile	NAD	-	-	-
24C	Corridor 102	-	12"x12" White Floor Tile	NAD	-	-	-
25A	Corridor 102	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
25B	102	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
25C	Corridor 102	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
26A	Corridor 102	-	12"x12" Blue Floor Tile	NAD	-	-	-
26B	102	-	12"x12" Blue Floor Tile	NAD	-	-	-
26C	Corridor 102	-	12"x12" Blue Floor Tile	NAD	-	-	-
27A	Corridor 102	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
27B	102	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
27C	Corridor 102	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
28A	Corridor 102	-	12"x12" Orange Floor Tile	NAD	-	-	-
28B	Corridor 103	-	12"x12" Orange Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
28C	Corridor 102	-	12"x12" Orange Floor Tile	NAD	-	-	-
29A	Corridor 102	-	12"x12" Orange Floor Tile Mastic	NAD	-	-	-
29B	Corridor 103	-	12"x12" Orange Floor Tile Mastic	NAD	-	-	-
29C	Corridor 102	-	12"x12" Orange Floor Tile Mastic	NAD	-	-	-
30A	124	-	12"x12" Green Floor Tile	NAD	-	-	-
30B	Corridor 102	-	12"x12" Green Floor Tile	NAD	-	-	-
30C	124	-	12"x12" Green Floor Tile	NAD	-	-	-
31A	124	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
31B	Corridor 102	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
31C	124	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
32A	116	-	12"x12" Tan Speckled Floor Tile	NAD	-	-	-
32B	116	-	12"x12" Tan Speckled Floor Tile	NAD	-	-	-
33A	116	-	12"x12" Tan Speckled Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
33B	116	-	12"x12" Tan Speckled Floor Tile Mastic	NAD	-	-	-
34A	118	-	Plaster Base Coat	NAD	-	-	-
34B	116A	-	Plaster Base Coat	NAD	-	-	-
34C	Corridor 102	-	Plaster Base Coat	NAD	-	-	-
34D	102	-	Plaster Base Coat	NAD	-	-	-
34E	Corridor 102	-	Plaster Base Coat	NAD	-	-	-
34F	Corridor 102	-	Plaster Base Coat	NAD	-	-	-
34G	Corridor 102	-	Plaster Base Coat	NAD	-	-	-
35A	118	-	Plaster Skim Coat	NAD	-	-	-
35B	116A	-	Plaster Skim Coat	NAD	-	-	-
35C	Corridor 102	-	Plaster Skim Coat	NAD	-	-	-
35D	102	-	Plaster Skim Coat	NAD	-	-	-
35E	Corridor 102	-	Plaster Skim Coat	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 25**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
35F	Corridor 102	-	Plaster Skim Coat	NAD	-	-	-
35G	Corridor 102	-	Plaster Skim Coat	NAD	-	-	-
36A	Exterior East	Windows	Window Caulking	5.41% Chrysotile <sup>1</sup> 10.82% Anthophyllite <sup>1</sup>	1,400 LF	Good	4
36B	Exterior North	Windows	Window Caulking	Stop Positive See 36A			
36C	Exterior South	Windows	Window Caulking	Stop Positive See 36A			
37A	Exterior North	-	Door Caulking (new)	NAD	-	-	-
37B	Exterior West	-	Door Caulking (new)	NAD	-	-	-
37C	Exterior West	-	Door Caulking (new)	NAD	-	-	-
38A	Exterior East	Doors	Door Caulking (old)	2.14% Chrysotile <sup>1</sup> 10.71% Anthophyllite <sup>1</sup>	45 LF	Good	4
38B	Exterior West	Doors	Door Caulking (old)	Stop Positive See 38A			
38C	Exterior West	Doors	Door Caulking (old)	Stop Positive See 38A			
Footnotes:				NAD – No Asbestos Detected			
1 – Analyzed by TEM				SF – Square Feet			
				LF – Linear Feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 25**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2023	Ground	Corridor Main	Plaster Wall (Interior)	East	Intact	Beige	0.15
2024	Ground	Corridor Main	Metal Door	East	Intact	Gray	0.01
2025	Ground	Corridor Main	Metal Door Casing	East	Intact	White	0
2026	Ground	Corridor Main	Metal Radiator	South	Intact	White	0.14
2027	Ground	Corridor Main	Wood Door	West	Intact	White	4.3
2028	Ground	Corridor Main	Wood Door Casing	West	Intact	Beige	5.9
2029	Ground	Corridor Main	Wood Door Casing	West	Intact	Beige	3.4
2030	Ground	Corridor Main	Metal Radiator	West	Intact	Beige	0.22
2031	Ground	Room 107	Wood Door	East	Intact	Gray	4.5
2032	Ground	Room 106	Wood Door	North	Intact	Gray	2.6
2033	Ground	Room 106	Metal Door Casing	North	Intact	White	0.04
2035	Ground	Room 106	Metal Radiator	South	Intact	White	0
2036	Ground	Room 106	Metal Window Sill	East	Cracked	White	0.23
2037	Ground	Room 106	Metal Window Casing	East	Intact	White	0
2038	Ground	Room 106	Plaster Ceiling	Upper	Peeling	White	0.07
2040	Ground	Room 107	Concrete Floor	South	Peeling	Gray	0
2041	Ground	Room 107	Concrete Wall (Interior)	South	Intact	White	0.05
2042	Ground	Room 107	Brick Wall (Interior)	South	Intact	White	0
2043	Ground	Room 107	Metal Window Casing	South	Intact	Blue	0.05
2044	Ground	Room 107	Metal Window Sill	South	Cracked	Blue	0.07
2045	Ground	Room 107	Metal Radiator	East	Intact	White	0.02
2046	Ground	Room 107	Metal Sprinkler Pipe	East	Intact	Red	0
2047	Ground	Room 107	Metal Door	North	Intact	Blue	0.02
2048	Ground	Room 107	Metal Door Casing	North	Intact	Blue	0.01
2049	Ground	Room 107	Concrete Ceiling	Upper	Intact	White	1.2
2050	Ground	Room 107	Metal Duct	Upper	Intact	White	0.26
2052	Ground	Room 107A	Metal Window Casing	West	Intact	Blue	0.5
2053	Ground	Room 107A	Concrete Block Wall (Interior)	South	Intact	White	0
2056	Ground	Room 107B	Wood Door	South	Intact	Blue	6.4
2057	Ground	Room 107B	Metal Door Casing	South	Intact	Blue	0.12

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 25**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2058	Ground	Room 107B	Metal Electrical Panel	South	Intact	White	0.08
2059	Ground	Room 107B	Metal Window Casing	North	Intact	Blue	0.01
2060	Ground	Room 107B	Metal Drain Pipe	North	Intact	White	0.14
2061	Ground	Room 107B	Metal Radiator	North	Intact	White	0.07
2063	Ground	Room 107	Wood Door	North	Intact	Red	4.7
2064	Ground	Room 107	Metal Door Casing	North	Intact	Blue	0.04
2065	Ground	Corridor Main	Wood Door Casing	South	Intact	White	4.2
2066	Ground	Corridor Main	Metal Door	South	Intact	Gray	0
2067	Ground	Room 104	Wood Door	East	Intact	Gray	3.5
2068	Ground	Room 104	Metal Door Jamb	East	Intact	White	0.07
2071	Ground	Room 104	Plaster Ceiling	Upper	Intact	White	0
2072	Ground	Room 114	Plaster Ceiling	Upper	Poor	White	0.02
2073	Ground	Room 114	Plaster Wall (Interior)	East	Poor	White	0.06
2074	Ground	Room 114	Metal Window Casing	East	Cracked	White	0.02
2075	Ground	Room 114	Metal Radiator	East	Intact	White	0.02
2076	Ground	Room 114	Metal Door	West	Intact	Gray	3.5
2077	Ground	FC-101	Wood Door	East	Intact	Red	6.1
2078	Ground	Room 116A	Wood Door	South	Intact	Gray	4.5
2079	Ground	Room 116A	Plaster Wall (Interior)	North	Poor	Gray	0.01
2080	Ground	Room 116A	Metal Window Casing	West	Intact	Gray	0.08
2081	Ground	Room 116A	Plaster Ceiling	Upper	Fair	White	0
2082	Ground	Room 116A	Metal Stall Wall	East	Intact	Gray	0.04
2083	Ground	Room 116A	Metal Radiator	East	Intact	Gray	0.15
2084	Ground	Room 116A	Plaster Baseboard	East	Peeling	Black	0
2085	Ground	Room 116	Plaster Baseboard	East	Intact	Black	0.04
2086	Ground	Room 116	Metal Radiator	East	Peeling	Gray	0.03
2088	Ground	Room 116	Metal Window Casing	East	Peeling	Gray	0.01
2089	Ground	Room 116	Metal Window Screen	East	Peeling	Gray	0.01
2090	Ground	Room 116	Metal Lockers	South	Intact	Gray	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 25**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2093	Ground	Room 117 Men's Room	Metal Window Casing	East	Intact	White	0.11
2094	Ground	Room 117 Men's Room	Metal Window Screen	East	Intact	White	0.03
2096	Ground	Room 117 Men's Room	Wood Door	West	Intact	Gray	0.01
2097	Ground	Room 117 Men's Room	Metal Door Casing	West	Intact	White	0
2098	Ground	Room 117 Men's Room	Metal Stall Wall	East	Intact	Gray	0.08
2099	Ground	Room 118 Women Restroom	Metal Stall Wall	West	Intact	Green	0.05
2110	Ground	Corridor Main	Wood Door	West	Intact	Gray	2.2
2111	Ground	Corridor Main	Metal Door Casing	West	Intact	White	0.09
2112	Ground	Corridor Main	Metal Radiator	East	Intact	White	0.15
2113	Ground	Corridor Main	Metal Door	West	Intact	Gray	0.1
2114	Ground	Corridor Main	Metal Door Casing	West	Intact	White	0.16
2115	Ground	Corridor Main	Metal Door Casing	Calibrate	Intact	White	0
2116	Ground	Corridor Main	Wood Door Casing	North	Intact	White	5.8
2118	Ground	Room 124	Concrete Column	North	Intact	White	0
2119	Ground	Room 124	Metal Window Casing	North	Intact	White	0.07
2121	Ground	Room 124	Metal Radiator	North	Intact	White	0.09
2122	Ground	FC-103	Wood Door	South	Intact	Red	4.6
2125	Ground	Room 121	Metal Window Casing	South	Intact	White	0.05
2126	Ground	Room 121	Metal Radiator	South	Intact	White	0.13
2127	Ground	Room 121	Concrete Column	North	Intact	White	0.06
2128	Ground	Room 121	Metal Cabinet	South	Intact	Blue	0.06
2129	Ground	Room 121	Plaster Wall (Interior)	North	Intact	White	0.03
2130	Ground	Room 126	Metal Window Casing	North	Intact	White	0.01
2131	Ground	Room 119	Metal Window Casing	West	Poor	Beige	0.04

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 25**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
2132	Ground	Room 119	Metal Window Screen	West	Poor	Beige	0.05
2133	Ground	Room 119	Concrete Block Wall (Interior)	West	Poor	Beige	0
2134	Ground	Room 119	Concrete Floor	West	Poor	Gray	0
2135	Exterior	Exterior	Metal Door	North	Intact	Brown	0.01
2136	Exterior	Exterior	Metal Door Casing	North	Intact	Brown	0
2137	Exterior	Exterior	Concrete Riser	West	Intact	Yellow	7.9
2138	Exterior	Exterior	Wood Door	West	Poor	Brown	0.7
2139	Exterior	Exterior	Wood Door Casing	West	Poor	Brown	18.5

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Pipe Insulation Inside Wall Cavity, Sample 1



Window Glazing, Sample 2A





9"x9" Gray Floor Tile, Sample 16A



9"x9" Green Floor Tile, Sample 22A



Window Caulking, Sample 36A



Old Door Caulking, Sample 38A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door Casing, Reading 2139

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 40**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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### Appendices

Appendix A – Table 5, ACM Building Results
Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint



## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 59 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 4 of the collected samples contained asbestos greater than or equal to 1%.**
- 99 XRF analyzer measurements of building surfaces were taken in this building.
- **52 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 40 was a one-story Boiler Plant built in 1955 and occupied approximately 4,500 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 40			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 40							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
3C	Mezzanine	Bathroom and Adjacent Room	12"x12" Blue Floor Tile Mastic	2% Chrysotile	200 SF	Good	4
9A	Mezzanine	Outside Break Room	Sink Undercoating	5% Chrysotile	1 EA	Good	4
9B							
16C	Exterior	Doors	Door Caulk	2% Chrysotile	60 LF	Good	4
20A	102	Inside Wall, Under Roadway to Laundry Bldg.	6" Pipe Insulation	30% Chrysotile 10% Amosite	60 LF	Good	4
20B							
20C							
SF – Square Feet LF – Linear Feet EA – Each							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 40							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
95	Basement	Lower Part Of Pump Room	Metal Handrail	North	Intact	Yellow	3.6
96	Basement	Lower Part Of Pump Room	Concrete Tread	North	Intact	Red	0.23
97	Basement	Lower Part Of Pump Room	Concrete Tread	North	Intact	Black	0.13
98	Basement	Lower Part Of Pump Room	Concrete Riser	North	Intact	Black	0.4
99	Basement	Lower Part Of Pump Room	Concrete Riser	North	Intact	Red	0.3
100	Basement	Lower Part Of Pump Room	Concrete Wall (Interior)	North	Fair	Beige	0.3
101	Basement	Lower Part Of Pump Room	Metal Wall (Exterior)	East	Fair	Gray	0.28
105	First	Upper Part Of Pump Room	Brick Wall (Interior)	North	Intact	Gray	0.3
106	First	102	Metal Door Casing	South	Fair	Gray	0.22
107	First	102	Metal Door	South	Fair	Gray	0.14
109	First	102	Brick Wall (Interior)	South	Fair	Gray	0.3
111	First	102	Metal Structural Steel Assoc W. Catwalk	East	Fair	Gray	10

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 40							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
113	First	102	Metal Door Casing	East	Fair	Beige	0.29
115	First	102	Concrete Window Sill	East	Fair	Beige	0.3
117	First	102	Concrete Wall (Exterior)	East	Fair	Beige	0.24
124	First	102	Metal Column	East	Fair	Black	15.4
128	First	101A Chemical Room	Concrete Wall (Interior)	North	Intact	Gray	0.11
129	First	101A Chemical Room	Metal Door Casing	North	Intact	Red	1.7
131	First	102	Metal Door	North	Intact	Gray	0.12
133	First	102	Metal Ladder	North	Fair	Black	3.6
134	First	102	Metal Pipe	North	Fair	Black	0.4
135	First	102	Metal Coal Chute	North	Fair	Multi	3.7
140	Mezzanine	Kitchen Area	Metal Pipe	North	Intact	Yellow	4.6
142	Mezzanine	Kitchen Area	Brick Wall (Interior)	East	Intact	Gray	0.24
143	Mezzanine	Kitchen Area	Concrete Floor	Floor	Fair	Yellow	0.27
144	Mezzanine	Kitchen Area	Concrete Window Sill	South	Fair	Beige	0.28
154	Mezzanine	Kitchen Area	Metal Tread	West	Fair	Black	0.4
155	Mezzanine	Kitchen Area	Metal Stringer	West	Intact	Gray	0.13
156	Mezzanine	Kitchen Area	Metal Handrail	West	Intact	Yellow	1.8
158	Mezzanine	Bathroom	Brick Wall (Exterior)	South	Intact	Brown	0.27
159	Mezzanine	Bathroom	Brick Wall (Exterior)	South	Intact	Brown	0.16
161	Mezzanine	Bathroom	Wood Door	North	Fair	Brown	5.6
166	Mezzanine	Kitchen	Concrete Floor	Floor	Poor	Multi	0.7
171	Penthouse	Abandon Tank Room	Brick Wall (Exterior)	East	Poor	Gray	0.19
176	Penthouse	Abandon Tank Room	Metal Duct - Labeled As Ash Storage	South	Poor	Gray	5.2
177	Penthouse	Abandon Tank Room	Metal Hopper	South	Poor	Gray	7.6
178	Penthouse	Abandon Tank Room	Metal Pipe Between Hoppers	South	Poor	Gray	5.5
179	Penthouse	Abandon Tank Room	Metal Column Beneath Pipe	South	Poor	Gray	7.9
180	Penthouse	Abandon Tank Room	Brick Wall (Exterior)	South	Poor	Gray	0.16
181	Penthouse	Abandon Tank Room	Metal Handrail	West	Poor	Black	4

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 40							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
182	Penthouse	Top Of Coal Chute	Metal Handrail	North	Poor	Gray	3.9
183	Penthouse	Top Of Coal Chute	Metal Conveyor Belt Structure	North	Poor	Gray	6
184	Penthouse	Top Of Coal Chute	Metal Conveyor Belt Structure	West	Poor	Gray	5.5
185	Penthouse	Top Of Coal Chute	Metal Pipe	South	Intact	Gray	2.6
188	First	102	Metal Beam	East	Intact	Gray	17.6
190	First	102	Metal Handrail	South	Intact	Yellow	1.8
191	First	102	Metal Handrail	South	Intact	Yellow	9.8
192	First	102	Metal Catwalk	East	Intact	Gray	0.14
193	First	102	Metal Structural Steel Associated with Catwalk	South	Intact	Gray	7.6
194	First	102	Metal Ladder	South	Intact	Black	8.6
198	Exterior	Exterior	Metal Door Casing	West	Fair	Beige	0.5
203	Exterior	Exterior	Metal Handrail	East	Poor	Yellow	1.6

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.



Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 40	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	200 SF
Pipe Insulation	60 LF
Door Caulking	60 LF
Sink Undercoat	1 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 40**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	105	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1B	105	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1C	Break Room	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
2A	Break Room	-	12"x12" Blue Floor Tile	NAD	-	-	-
2B	Bathroom	-	12"x12" Blue Floor Tile	NAD	-	-	-
2C	Bathroom	-	12"x12" Blue Floor Tile	NAD	-	-	-
3A	Break Room	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
3B	Bathroom	-	12"x12" Blue Floor Tile Mastic	NAD	-	-	-
3C	Bathroom	Bathroom and Adjacent Room	12"x12" Blue Floor Tile Mastic	2% Chrysotile	200 SF	Good	4
4A	Break Room	-	Interior Window Caulk	NAD	-	-	-
4B	Tank Room	-	Interior Window Caulk	NAD	-	-	-
4C	Stairwell	-	Interior Window Caulk	NAD	-	-	-
5A	103	-	Red Fire Stop	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 40**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
5B	Tank Room	-	Red Fire Stop	NAD	-	-	-
5C	Stairwell	-	Red Fire Stop	NAD	-	-	-
6A	106	-	Interior Door Caulking (White)	NAD	-	-	-
6B	106	-	Interior Door Caulking (White)	NAD	-	-	-
6C	106	-	Interior Door Caulking (White)	NAD	-	-	-
7A	Office	-	12"x12" Dark Blue Floor Tile	NAD	-	-	-
7B	Office	-	12"x12" Dark Blue Floor Tile	NAD	-	-	-
7C	Office	-	12"x12" Dark Blue Floor Tile	NAD	-	-	-
8A	Office	-	12"x12" Dark Blue Floor Tile Mastic	NAD	-	-	-
8B	Office	-	12"x12" Dark Blue Floor Tile Mastic	NAD	-	-	-
8C	Office	-	12"x12" Dark Blue Floor Tile Mastic	NAD	-	-	-
9A	Outside Break Room	Outside Break Room	Sink Undercoating	5% Chrysotile	1 EA	Good	4
9B	Outside Break Room	Outside Break Room	Sink Undercoating	Stop Positive See 9A			
10A	102	-	Interior Door	NAD			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 40**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
			Caulking (Black)				
10B	102	-	Interior Door Caulking (Black)	NAD	-	-	-
10C	102	-	Interior Door Caulking (Black)	NAD	-	-	-
11A	103	-	Drywall	NAD	-	-	-
11B	105	-	Drywall	NAD	-	-	-
11C	105	-	Drywall	NAD	-	-	-
12A	103	-	Joint Compound	NAD	-	-	-
12B	105	-	Joint Compound	NAD	-	-	-
12C	105	-	Joint Compound	NAD	-	-	-
13A	105	-	Interior Expansion Joint Caulk (Wall)	NAD	-	-	-
13B	105	-	Interior Expansion Joint Caulk (Wall)	NAD	-	-	-
13C	105	-	Interior Expansion Joint Caulk (Wall)	NAD	-	-	-
14A	106	-	Boiler Rope Gasket	NAD	-	-	-
14B	106	-	Boiler Rope	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 40**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
			Gasket				
14C	106	-	Boiler Rope Gasket	NAD	-	-	-
15A	Exterior West	-	Window Caulk	NAD	-	-	-
15B	Exterior South	-	Window Caulk	NAD	-	-	-
15C	Exterior South	-	Window Caulk	NAD	-	-	-
16A	Exterior North	-	Door Caulk	NAD	-	-	-
16B	Exterior North	-	Door Caulk	NAD	-	-	-
16C	Exterior South	Doors	Door Caulk	2% Chrysotile	60 LF	Good	4
17A	Tank Room	-	De-Aerator Tank Block Insulation	NAD	-	-	-
17B	Tank Room	-	De-Aerator Tank Block Insulation	NAD	-	-	-
17C	Tank Room	-	De-Aerator Tank Block Insulation	NAD	-	-	-
18A	Tank Room	-	De-Aerator Tank Head Cover Insulation	NAD	-	-	-
18B	Tank Room	-	De-Aerator Tank Head Cover Insulation	NAD	-	-	-
18C	Tank Room	-	De-Aerator Tank Head Cover	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 40**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			Insulation				
19A	102	-	Condensing Tank Insulation	NAD	-	-	-
19B	102	-	Condensing Tank Insulation	NAD	-	-	-
19C	102	-	Condensing Tank Insulation	NAD	-	-	-
20A	102	Pump Room, Under Road Into Laundry Bldg.	6" Pipe Insulation	30% Chrysotile 10% Amosite	60 LF	Good	4
20B	102	Pump Room, Under Road Into Laundry Bldg.	6" Pipe Insulation	Stop Positive See 20A			
20C	102	Pump Room, Under Road Into Laundry Bldg.	6" Pipe Insulation	Stop Positive See 20A			

NAD – No Asbestos Detected

SF – Square Feet

LF – Linear Feet

EA – Each



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 40**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
95	Basement	Lower Part Of Pump Room	Metal Handrail	North	Intact	Yellow	3.6
96	Basement	Lower Part Of Pump Room	Concrete Tread	North	Intact	Red	0.23
97	Basement	Lower Part Of Pump Room	Concrete Tread	North	Intact	Black	0.13
98	Basement	Lower Part Of Pump Room	Concrete Riser	North	Intact	Black	0.4
99	Basement	Lower Part Of Pump Room	Concrete Riser	North	Intact	Red	0.3
100	Basement	Lower Part Of Pump Room	Concrete Wall (Interior)	North	Fair	Beige	0.3
101	Basement	Lower Part Of Pump Room	Metal Wall (Exterior)	East	Fair	Gray	0.28
102	Basement	Lower Part Of Pump Room	Concrete Door	East	Intact	Gray	0
102	First	Pipe Tunnel	Concrete Wall (Exterior)	East	Poor	Gray	0.07
103	Basement	Lower Part Of Pump Room	Metal Door Casing	East	Intact	Gray	0
103	First	Pipe Tunnel	Concrete Wall (Exterior)	West	Poor	Gray	0.05
104	First	Pipe Tunnel	Metal Fuel Oil Pipe	South	Intact	Yellow	0
104	First	Lower Part Of Pump Room	Metal Catwalk	South	Intact	Black	0.05
105	First	Pipe Tunnel	Metal Sprinkler Pipe	South	Intact	Red	0
105	First	Upper Part Of Pump Room	Brick Wall (Interior)	North	Intact	Gray	0.3
106	First	Pipe Tunnel	Metal Sprinkler Pipe	West	Intact	Red	0
106	First	102	Metal Door Casing	South	Fair	Gray	0.22
107	First	102	Metal Door	South	Fair	Gray	0.14
108	First	102	Concrete Floor	Floor	Fair	Gray	0
109	First	102	Brick Wall (Interior)	South	Fair	Gray	0.3
110	First	102	Concrete Floor	East	Fair	Red	0.01
111	First	102	Metal Structural Steel Assoc W. Catwalk	East	Fair	Gray	10
113	First	102	Metal Door Casing	East	Fair	Beige	0.29
114	First	102	Metal Door	East	Fair	Black	0
115	First	102	Concrete Window Sill	East	Fair	Beige	0.3
117	First	102	Concrete Wall (Exterior)	East	Fair	Beige	0.24
118	First	102	Brick Wall (Exterior)	East	Fair	Blue	0.07
119	First	102	Metal Window Casing	East	Intact	Brown	0
123	First	102	Metal Window Sash	East	Intact	Brown	0
124	First	102	Metal Column	East	Fair	Black	15.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 40**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
125	First	102	Wood Peg Board	North	Fair	Beige	0
126	First	102	Metal Floor	Floor	Fair	Black	0.07
128	First	101A Chemical Room	Concrete Wall (Interior)	North	Intact	Gray	0.11
129	First	101A Chemical Room	Metal Door Casing	North	Intact	Red	1.7
130	First	101A Chemical Room	Metal Door	North	Intact	Gray	0
131	First	102	Metal Door	North	Intact	Gray	0.12
132	First	102	Metal Ladder	North	Intact	Gray	0
133	First	102	Metal Ladder	North	Fair	Black	3.6
134	First	102	Metal Pipe	North	Fair	Black	0.4
135	First	102	Metal Coal Chute	North	Fair	Multi	3.7
136	First	104	Metal Door Casing	South	Fair	Red	0
137	First	104	Metal Column	East	Intact	Gray	0
138	Mezzanine	Stair SW Stairs	Concrete Beam	North	Fair	Beige	0
139	Mezzanine	Stair SW Stairs	Concrete Beam	North	Fair	Beige	0
140	Mezzanine	Kitchen Area	Metal Pipe	North	Intact	Yellow	4.6
141	Mezzanine	Kitchen Area	Brick Wall (Interior)	North	Intact	Gray	0.04
142	Mezzanine	Kitchen Area	Brick Wall (Interior)	East	Intact	Gray	0.24
143	Mezzanine	Kitchen Area	Concrete Floor	Na	Fair	Yellow	0.27
144	Mezzanine	Kitchen Area	Concrete Window Sill	South	Fair	Beige	0.28
145	Mezzanine	Kitchen Area	Metal Window Casing	South	Intact	Brown	0.01
150	Mezzanine	Kitchen Area	Metal Window Sash	South	Intact	Brown	0
151	Mezzanine	Kitchen Area	Metal Handrail	South	Intact	Yellow	0
152	Mezzanine	Kitchen Area	Metal Stringer	South	Intact	Gray	0.02
153	Mezzanine	Kitchen Area	Metal Tread	South	Fair	Black	0.03
154	Mezzanine	Kitchen Area	Metal Tread	West	Fair	Black	0.4
155	Mezzanine	Kitchen Area	Metal Stringer	West	Intact	Gray	0.13

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 40**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
156	Mezzanine	Kitchen Area	Metal Handrail	West	Intact	Yellow	1.8
157	Mezzanine	Bathroom	Metal Privacy Partition	East	Fair	Brown	0.04
158	Mezzanine	Bathroom	Brick Wall (Exterior)	South	Intact	Brown	0.27
159	Mezzanine	Bathroom	Brick Wall (Exterior)	South	Intact	Brown	0.16
160	Mezzanine	Bathroom	Metal Door Casing	North	Intact	Brown	0
161	Mezzanine	Bathroom	Wood Door	North	Fair	Brown	5.6
162	Mezzanine	Office	Metal Door Casing	North	Fair	Brown	0.09
163	Mezzanine	Office	Wood Door	North	Fair	Brown	0.06
164	Mezzanine	Kitchen	Wood Door	South	Fair	Brown	0.09
165	Mezzanine	Kitchen	Wood Wall (Interior)	South	Fair	Purple	0
166	Mezzanine	Kitchen	Concrete Floor	Na	Poor	Multi	0.7
167	Penthouse	Stairs	Brick Wall (Exterior)	West	Fair	Gray	0.05
168	Penthouse	Abandon Tank Room	Brick Wall (Exterior)	East	Poor	Gray	0.01
169	Penthouse	Abandon Tank Room	Metal Door	East	Intact	Beige	0
170	Penthouse	Abandon Tank Room	Metal Door Casing	East	Intact	Beige	0
171	Penthouse	Abandon Tank Room	Brick Wall (Exterior)	East	Poor	Gray	0.19
174	Penthouse	Abandon Tank Room	Concrete Window Sill	East	Poor	Gray	0.08
176	Penthouse	Abandon Tank Room	Metal Duct - Labeled As Ash Storage	South	Poor	Gray	5.2
177	Penthouse	Abandon Tank Room	Metal Hopper	South	Poor	Gray	7.6
178	Penthouse	Abandon Tank Room	Metal Pipe Between Hoppers	South	Poor	Gray	5.5
179	Penthouse	Abandon Tank Room	Metal Column Beneath Pipe	South	Poor	Gray	7.9
180	Penthouse	Abandon Tank Room	Brick Wall (Exterior)	South	Poor	Gray	0.16
181	Penthouse	Abandon Tank Room	Metal Handrail	West	Poor	Black	4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 40**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
182	Penthouse	Top Of Coal Chute	Metal Handrail	North	Poor	Gray	3.9
183	Penthouse	Top Of Coal Chute	Metal Conveyer Belt Structure	North	Poor	Gray	6
184	Penthouse	Top Of Coal Chute	Metal Conveyer Belt Structure	West	Poor	Gray	5.5
185	Penthouse	Top Of Coal Chute	Metal Pipe	South	Intact	Gray	2.6
188	First	102	Metal Beam	East	Intact	Gray	17.6
189	First	102	Metal Floor Grate	East	Intact	Black	0.03
190	First	102	Metal Handrail	South	Intact	Yellow	1.8
191	First	102	Metal Handrail	South	Intact	Yellow	9.8
192	First	102	Metal Catwalk	East	Intact	Gray	0.14
193	First	102	Metal Structural Steel Assoc with Catwalk	South	Intact	Gray	7.6
194	First	102	Metal Ladder	South	Intact	Black	8.6
195	First	102	Concrete Beam	South	Intact	Gray	0.03
196	First	102	Concrete Beam	South	Fair	Gray	0.05
197	Exterior	Exterior	Concrete Foundation Wall	West	Intact	Gray	0.02
198	Exterior	Exterior	Metal Door Casing	West	Fair	Beige	0.5
199	Exterior	Exterior	Metal Wall (Exterior)	East	Intact	Beige	0
200	Exterior	Exterior	Metal Wall (Exterior)	East	Intact	Beige	0
201	Exterior	Exterior	Metal Door	East	Intact	Brown	0.07
202	Exterior	Exterior	Metal Door Casing	East	Poor	Brown	0.09
203	Exterior	Exterior	Metal Handrail	East	Poor	Yellow	1.6

**Font Color Annotation:**

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Mastic Associated with 12"x12" Blue Floor Tile, Sample 3C



Sink Undercoat, Sample 9A



Exterior Door Caulk, Sample 16C



Pipe Insulation Inside Wall Cavity, Sample 20A



## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door, Reading 161



Metal Duct, Metal Hopper, Metal Pipe, and Metal Column, Readings 176, 177, 178 and 179



Metal Handrail and Metal Conveyor Belt Structure, Readings 182, 183 and 184

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 43**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



Michael F. Delaney  
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Massachusetts Asbestos Inspector AI031436  
Massachusetts Management Planner AP000048

This report has been reviewed and approved by:

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Appendix C – Relevant Photographs of ACM
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 12 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 3 of the collected samples contained asbestos greater than or equal to 1%.**
- 22 XRF analyzer measurements of building surfaces were taken in this building.
- **15 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 43 was a one-story Facilities Building built in 1955 and occupied approximately 400 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.



Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 43			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 43**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Exterior	Doors	Door Caulk	2% Chrysotile	15 LF	Good	4
1B							
1C							
2A	Exterior	Windows	Window Caulk	5% Chrysotile	80 LF	Good	4
2B							
2C							
3A	Welding Shop	Windows	Window Glazing	2% Chrysotile	120 LF	Good	4
3B							
3C							

LF – Linear Feet

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 43							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
5	First	First Floor	Metal Radiator	North	Poor	White	0.14
9	First	First Floor	Metal Drain Pipe	South	Poor	Beige	0.25
12	First	First Floor	Metal Door Casing	West	Poor	Beige	7
13	First	First Floor	Wood Door Casing	North	Cracked	Beige	4.5
14	First	First Floor	Wood Door	North	Poor	Beige	3.7
15	Exterior	Exterior	Wood Door	North	Poor	Brown	23.9
16	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	21.4
18	First	First Floor	Metal Truss	NA	Poor	White	0.2
19	First	First Floor	Metal Truss	NA	Poor	White	0.11
20	First	First Floor	Concrete Ceiling	NA	Poor	White	0.15
22	Ground	Ground	Metal Drain Pipe	South	Poor	Beige	0.24
23	Ground	Ground	Wood Doors Stacked And Stored	East	Poor	Brown	3.7
24	Exterior	Exterior	Metal Door Casing	South	Poor	Brown	0.4
25	Exterior	Exterior	Metal Window Casing	South	Poor	Beige	4.5
26	Exterior	Exterior	Metal Handrail	West	Poor	Black	0.22
NA – Not Applicable							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos

Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 43	
General Description of Material	Estimated Quantity
Window Caulking	80 LF
Window Glazing	120 LF
Door Caulking	15 LF
LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 43**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Exterior	Doors	Door Caulk	2% Chrysotile	15 LF	Good	4
1B	Exterior	Doors	Door Caulk	Stop Positive See 1A			
1C	Exterior	Doors	Door Caulk	Stop Positive See 1A			
2A	Exterior	Windows	Window Caulk	5% Chrysotile	80 LF	Good	4
2B	Exterior	Windows	Window Caulk	Stop Positive See 2A			
2C	Exterior	Windows	Window Caulk	Stop Positive See 2A			
3A	Welding Shop	Windows	Window Glazing	2% Chrysotile	120 LF	Good	4
3B	Welding Shop	Windows	Window Glazing	Stop Positive See 3A			
3C	Welding Shop	Windows	Window Glazing	Stop Positive See 3A			
4A	Welding Shop	-	Paper Insulation Roof Expansion	NAD	-	-	-
4B	Welding Shop	-	Paper Insulation Roof Expansion	NAD	-	-	-
4C	Welding Shop	-	Paper Insulation Roof Expansion	NAD	-	-	-
LF – Linear Feet							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 43**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
5	First	First Floor	Metal Radiator	North	Poor	White	0.14
6	First	First Floor	Concrete Window Sash	North	Poor	White	0.08
7	First	First Floor	Brick Wall (Exterior)	North	Poor	White	0.09
8	First	First Floor	Metal Pipe	South	Fair	White	0.01
9	First	First Floor	Metal Drain Pipe	South	Poor	Beige	0.25
10	First	First Floor	Metal Window Sash	South	Poor	Beige	0.03
11	First	First Floor	Brick Wall (Exterior)	West	Poor	Beige	0.1
12	First	First Floor	Metal Door Casing	West	Poor	Beige	7
13	First	First Floor	Wood Door Casing	North	Cracked	Beige	4.5
14	First	First Floor	Wood Door	North	Poor	Beige	3.7
15	Exterior	Exterior	Wood Door	North	Poor	Brown	23.9
16	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	21.4
17	First	First Floor	Concrete Ceiling	NA	Poor	White	0.06
18	First	First Floor	Metal Truss	NA	Poor	White	0.2
19	First	First Floor	Metal Truss	NA	Poor	White	0.11
20	First	First Floor	Concrete Ceiling	NA	Poor	White	0.15
21	First	First Floor	Concrete Window Sill	South	Poor	Beige	0.06
22	Ground	Ground	Metal Pipe	South	Poor	Beige	0.24
23	Ground	Ground	Wood Doors Stacked And Stored	East	Poor	Brown	3.7
24	Exterior	Exterior	Metal Door Casing	South	Poor	Brown	0.4
25	Exterior	Exterior	Metal Window Casing	South	Poor	Beige	4.5
26	Exterior	Exterior	Metal Handrail	West	Poor	Black	0.22

**Font Color Annotation:**

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Exterior Door Caulk, Sample 1A



Exterior Window Caulk, Sample 2A



Interior Window Glazing, Sample 3A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal Door Casing, Reading 12



Wood Door, Reading 14





Wood Door Casing, Reading 16



Wood Doors Stacked and Stored, Reading 23



Metal Window Casing, Reading 25

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 44**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
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- Relevant photos

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### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



Michael F. Delaney  
Project Manager  
Massachusetts Asbestos Inspector AI031436  
Massachusetts Management Planner AP000048

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.



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Massachusetts Asbestos Inspector AI000314

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 56 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 4 of the collected samples contained asbestos greater than or equal to 1%.**
- 79 XRF analyzer measurements of building surfaces were taken in this building.
- **26 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 44 was a one-story Facilities Building built in 1955 and occupied approximately 7,140 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 44			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 44**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	104	Hallway, Labs, Offices	Light Brown Sheet Flooring	30% Chrysotile	2,500 SF	Good	4
1B	114						
1C	110						
3A	109	Rm. 109, 109A, 104B,and 104C	Dark Brown Sheet Flooring	30% Chrysotile	500 SF	Good	4
3B							
3C	104B						
13A	Exterior	Perimeter of Windows	Exterior Window Caulk	.99% Chrysotile <sup>1</sup> .10% Anthophyllite <sup>1</sup>	240 LF	Good	4
13B							
13C							
16A	Exterior	Perimeter of Windows, Under New Caulk	Window Caulk (Old)	2% Chrysotile		Good	4
16B							
16C							

Footnotes:

1 – Analyzed by TEM

SF – Square Feet  
LF – Linear Feet

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 44							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
31	First	112	Brick Wall (Exterior)	South	Poor	Beige	0.28
32	First	112	Wood Door	South	Poor	Green	1
33	First	112	Concrete Wall (Exterior)	East	Poor	Beige	0.3
36	First	112	Metal Sprinkler Pipe	West	Poor	Beige	2.3
37	First	112	Concrete Window Sill	East	Poor	Beige	0.13
38	First	112	Concrete Window Casing	East	Poor	Beige	0.12
39	Exterior	112	Wood Door	South	Poor	Brown	13.3
41	Exterior	112	Wood Door Casing	South	Poor	Brown	14
42	Exterior	112	Metal Window Casing	East	Poor	Brown	17.5
47	First	113	Concrete Wall (Exterior)	East	Intact	Blue	0.29
49	First	113	Concrete Window Sill	East	Intact	Blue	0.14
54	First	113	Metal Locker	North	Intact	Blue	0.4
56	First	113	Metal Door Casing	North	Intact	Beige	0.16
57	First	113	Wood Door	North	Fair	Beige	1.3
60	First	113	Metal Sprinkler Pipe	North	Intact	White	8.3
64	First	115	Concrete Wall (Interior)	South	Intact	Blue	0.6
69	First	101	Concrete Wall (Interior)	West	Fair	Blue	0.9
72	Exterior	Exterior	Metal Door Casing	East	Fair	Brown	1.5
73	Exterior	Exterior	Concrete Door Casing	East	Fair	Brown	2.2

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 44							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
77	First	101	Concrete Floor	Floor	Poor	Yellow	5.9
114	First	CR102	Metal Column	West	Intact	White	5.4
123	First	118	Metal Privacy Partition	South	Intact	Brown	0.26
124	First	118	Metal Privacy Partition	South	Intact	Brown	0.16
139	First	110A	Metal Window Sash	West	Intact	Brown	0.4
140	First	104	Metal Window Sash	West	Intact	Brown	0.6
141	Exterior	Exterior	Metal Corner Guard	West	Poor	Brown	25

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

## 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 44	
General Description of Material	Estimated Quantity
Sheet Flooring and/or Mastic	3,000 SF
Window Caulking	240 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of

lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 44**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	104	Hallway, Labs, and Offices	Light Brown Sheet Flooring	30% Chrysotile	2,500 SF	Good	4
1B	114	Hallway, Labs, and Offices	Light Brown Sheet Flooring	Stop Positive See 1A			
1C	110	Hallway, Labs, and Offices	Light Brown Sheet Flooring	Stop Positive See 1A			
2A	104	-	Light Brown Sheet Flooring Adhesive	NAD	-	-	-
2B	114	-	Light Brown Sheet Flooring Adhesive	NAD	-	-	-
2C	110	-	Light Brown Sheet Flooring Adhesive	NAD	-	-	-
3A	109	Rm. 109, 109A, 104B, and 104C	Dark Brown Sheet Flooring	30% Chrysotile	500 SF	Good	4
3B	109	Rm. 109, 109A, 104B, and 104C	Dark Brown Sheet Flooring	Stop Positive See 3A			
3C	104B	Rm. 109, 109A, 104B, and 104C	Dark Brown Sheet Flooring	Stop Positive See 3A			
4A	109	-	Dark Brown Sheet Flooring Adhesive	NAD	-	-	-
4B	109	-	Dark Brown Sheet Flooring Adhesive	NAD	-	-	-
4C	104B	-	Dark Brown Sheet Flooring Adhesive	NAD	-	-	-
5A	107B	-	12"x12" White Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 44**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	107B	-	12"x12" White Floor Tile	NAD	-	-	-
5C	107B	-	12"x12" White Floor Tile	NAD	-	-	-
6A	107B	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
6B	107B	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
6C	107B	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
7A	104	-	4" Cove Base Adhesive	NAD	-	-	-
7B	114	-	4" Cove Base Adhesive	NAD	-	-	-
7C	110A	-	4" Cove Base Adhesive	NAD	-	-	-
8A	118	-	2x2 Ceiling Tile (Fissured)	NAD	-	-	-
8B	102	-	2x2 Ceiling Tile (Fissured)	NAD	-	-	-
8C	114	-	2x2 Ceiling Tile (Fissured)	NAD	-	-	-
9A	112	-	Interior Window Glazing	NAD	-	-	-
9B	113	-	Interior Window Glazing	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 44**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
9C	113A	-	Interior Window Glazing	NAD	-	-	-
10A	104B	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
10B	106	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
10C	110	-	2'x4' Ceiling Tile (Fissured)	NAD	-	-	-
11A	104	-	Drywall	NAD	-	-	-
11B	104	-	Drywall	NAD	-	-	-
11C	114	-	Drywall	NAD	-	-	-
11D	110A	-	Drywall	NAD	-	-	-
11E	107B	-	Drywall	NAD	-	-	-
11F	108A	-	Drywall	NAD	-	-	-
11G	104B	-	Drywall	NAD	-	-	-
12A	104	-	Joint Compound	NAD	-	-	-
12B	104	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 44**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
12C	114	-	Joint Compound	NAD	-	-	-
12D	110A	-	Joint Compound	NAD	-	-	-
12E	107B	-	Joint Compound	NAD	-	-	-
12F	108A	-	Joint Compound	NAD	-	-	-
12G	104B	-	Joint Compound	NAD	-	-	-
13A	Exterior-South	-	Window Caulk	NAD	-	-	-
13B	Exterior-East	Windows	Window Caulk	.99% Chrysotile 10% Anthophyllite	15 EA	Good	4
13C	Exterior-East	Windows	Window Caulk	Stop Positive See 13B			
14A	Exterior-West	-	Door Caulk (New)	NAD	-	-	-
14B	Exterior-South	-	Door Caulk (New)	NAD	-	-	-
14C	Exterior-East	-	Door Caulk (New)	NAD	-	-	-
15A	Exterior-South	-	Door Caulk (Old)	NAD	-	-	-
15B	Exterior-South	-	Door Caulk (Old)	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 44**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15C	Exterior-West	-	Door Caulk (Old)	NAD	-	-	-
16A	Exterior-East	Windows (Under New Caulk)	Window Caulk (Old)	2% Chrysotile	240 LF	Good	4
16B	Exterior-East	Windows (Under New Caulk)	Window Caulk (Old)	Stop Positive See 16A			
16C	Exterior-East	Windows (Under New Caulk)	Window Caulk (Old)	Stop Positive See 16A			
NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 44**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
31	First	112	Brick Wall (Exterior)	South	Poor	Beige	0.28
32	First	112	Wood Door	South	Poor	Green	1
33	First	112	Concrete Wall (Exterior)	East	Poor	Beige	0.3
34	First	112	Concrete Ceiling	Ceiling	Poor	Beige	0.01
35	First	112	Concrete Ceiling	Ceiling	Poor	Beige	0.02
36	First	112	Metal Sprinkler Pipe	West	Poor	Beige	2.3
37	First	112	Concrete Window Sill	East	Poor	Beige	0.13
38	First	112	Concrete Window Casing	East	Poor	Beige	0.12
39	Exterior	112	Wood Door	South	Poor	Brown	13.3
41	Exterior	112	Wood Door Casing	South	Poor	Brown	14
42	Exterior	112	Metal Window Casing	East	Poor	Brown	17.5
44	First	113	Brick Wall (Exterior)	East	Intact	Blue	0
47	First	113	Concrete Wall (Exterior)	East	Intact	Blue	0.29
49	First	113	Concrete Window Sill	East	Intact	Blue	0.14
50	First	113	Metal Window Casing	East	Fair	Blue	0.04
51	First	113	Metal Window Casing	East	Fair	Blue	0.08
52	First	113	Metal Pipe	East	Fair	Blue	0.04
53	First	113	Drywall Wall (Interior)	South	Intact	Blue	0
54	First	113	Metal Locker	North	Intact	Blue	0.4
55	First	113	Wood Door Casing	East	Intact	White	0
56	First	113	Metal Door Casing	North	Intact	Beige	0.16
57	First	113	Wood Door	North	Fair	Beige	1.3
58	First	113	Concrete Beam	Na	Intact	Blue	0.04
59	First	113	Concrete Ceiling	Na	Intact	White	0.03
60	First	113	Metal Sprinkler Pipe	North	Intact	White	8.3
61	First	113A	Metal Locker	West	Intact	Beige	0
62	First	113A	Concrete Floor	Na	Intact	Gray	0.06
63	First	115	Metal Privacy Partition	West	Intact	Beige	0.04
64	First	115	Concrete Wall (Interior)	South	Intact	Blue	0.6
65	First	115	Concrete Wall (Interior)	South	Intact	Blue	0.08
66	First	115	Metal Door	South	Fair	Brown	0
67	First	115	Metal Door Casing	South	Fair	Brown	0
68	First	113A	Metal Window Sash	East	Fair	Brown	0.03
69	First	101	Concrete Wall (Interior)	West	Fair	Blue	0.9
70	First	101	Concrete Riser	East	Fair	Yellow	0
71	First	101	Concrete Riser	East	Fair	Red	0
72	Exterior	Exterior	Metal Door Casing	East	Fair	Brown	1.5
73	Exterior	Exterior	Concrete Door Casing	East	Fair	Brown	2.2

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 44**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
74	First	101	Wood Door	West	Fair	Green	0
75	First	101	Wood Door	West	Poor	Green	0
76	First	101	Wood Wall (Interior)	South	Intact	Blue	0
77	First	101	Concrete Floor	Na	Poor	Yellow	5.9
108	First	104	Drywall Wall (Exterior)	West	Fair	White	0
109	First	104	Metal Cabinet	South	Intact	Beige	0
110	First	104	Metal Door Casing	North	Intact	White	0
111	First	104	Metal Door	North	Fair	Brown	0
112	First	104B	Drywall Wall (Interior)	North	Intact	Yellow	0
113	First	104B	Metal Door	North	Intact	Brown	0
114	First	CR102	Metal Column	West	Intact	White	5.4
115	First	CR102	Brick Wall (Exterior)	West	Intact	White	0.05
116	First	CR102	Concrete Wall (Interior)	North	Intact	White	0.07
117	First	CR102	Metal Window Casing	South	Intact	Brown	0
118	First	CR102	Metal Radiator	South	Intact	White	0.02
119	First	CR102	Concrete Column	North	Intact	White	0.06
120	First	118	Metal Door Casing	West	Fair	Brown	0
121	First	118	Metal Door	East	Fair	Brown	0
123	First	118	Metal Privacy Partition	South	Intact	Brown	0.26
124	First	118	Metal Privacy Partition	South	Intact	Brown	0.16
125	First	118	Metal Radiator	West	Intact	White	0.02
126	First	114	Metal Door Casing	East	Intact	Yellow	0
127	First	114	Metal Door	North	Intact	Yellow	0.01
128	First	114	Concrete Wall (Interior)	East	Intact	Yellow	0.04
129	First	114	Drywall Wall (Interior)	North	Fair	Yellow	0
130	First	Corridor Outside 106	Drywall Wall (Interior)	West	Fair	White	0
131	First	107	Metal Door Casing	East	Fair	Blue	0
132	First	107	Metal Door	East	Fair	Blue	0.01
133	First	108	Drywall Wall (Interior)	East	Intact	Yellow	0.01
134	First	108	Metal Cabinet	West	Poor	Yellow	0
135	First	108A	Metal Door Casing	North	Fair	Yellow	0
136	First	108A	Metal Door	North	Fair	Yellow	0
137	First	110	Metal Cabinet	South	Intact	Green	0
138	First	110	Drywall Wall (Interior)	West	Intact	Green	0
139	First	110A	Metal Window Sash	West	Intact	Brown	0.4
140	First	104	Metal Window Sash	West	Intact	Brown	0.6
141	Exterior	Exterior	Metal Corner Guard	West	Poor	Brown	25



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 44**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
142	Exterior	Exterior	Wood Door Casing	West	Poor	Brown	0.09
143	Exterior	Exterior	Metal Door	West	Intact	Brown	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Light Brown Sheet Flooring, Sample 1A



Dark Brown Sheet Flooring, Sample 3A



Exterior Window Caulking, Sample 13B



Exterior Window Caulk (Old), Sample 16A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door and Wood Door Casing, Readings 39 and 41



Concrete Door Casing, Reading 73



Metal Corner Guard, Reading 141



**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 45**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 76 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 2 of the collected samples contained asbestos greater than or equal to 1%.**
- 89 XRF analyzer measurements of building surfaces were taken in this building.
- **17 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 45 was a two-story Laundry Building built in 1955 and occupied approximately 22,639 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 45			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 45**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15A	008A	Interior and Exterior Coating on Perimeter Walls	Black Damp Proofing	3% Chrysotile	10,000 SF	Good	4
15B	10						
15C	10						
18A	CR001	Throughout Basement	Fitting Insulation	3% Chrysotile	50 Fittings	Damaged	1
18B	ST2						
18C	CR001						
SF – Square Feet							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 45							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
201	Basement	008A	Metal Door Casing	South	Poor	Gray	0.12
200	Basement	008A	Wood Door	East	Poor	Gray	5.5
204	Basement	Unknown	Metal Ladder	North	Poor	Black	0.24
206	Basement	Unknown	Metal Handrail	South	Poor	Black	7.4
211	Basement	9	Metal Electrical Conduit	North	Intact	White	0.12
213	Basement	Unknown	Wood Door	East	Fair	Brown	9.9
214	Basement	6	Concrete Column	West	Fair	White	0.13
215	Basement	6	Metal Pipe	South	Poor	White	0.27
224	Basement	005B	Metal Pipe	South	Poor	White	0.29
235	Basement	002A	Metal Radiator	East	Fair	Pink	0.12
239	Basement	Unknown	Metal Window Sash	North	Intact	Brown	20.7
242	Basement	ST1	Wood Bench - Built In	South	Fair	Gray	0.26



Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 45							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
244	Basement	ST1	Metal Stringer	South	Intact	Gray	0.14
250	First	Unknown	Floor Tile Floor Stripe	South	Fair	Yellow	0.22
275	First	Unknown	Metal Pipe	North	Fair	Gray	0.16
276	First	Unknown	Concrete Column	East	Fair	Green	0.7
278	First	Unknown	Concrete Wall (Interior)	East	Fair	White	0.6

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

## 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 45</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Fitting Insulation	50 Fittings
Black Damp Proofing	10,000 SF
SF – Square feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential building are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of

lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	010A	-	Red Duct Mastic	NAD	-	-	-
1B	010A	-	Red Duct Mastic	NAD	-	-	-
1C	010A	-	Red Duct Mastic	NAD	-	-	-
2A	004B	-	Tan Fire Stop	NAD	-	-	-
2B	004B	-	Tan Fire Stop	NAD	-	-	-
2C	004B	-	Tan Fire Stop	NAD	-	-	-
3A	001	-	12"x12" White Floor Tile	NAD	-	-	-
3B	001	-	12"x12" White Floor Tile	NAD	-	-	-
3C	001	-	12"x12" White Floor Tile	NAD	-	-	-
4A	001	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
4B	001	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
4C	001	-	12"x12" White Floor Tile Mastic	NAD	-	-	-
5A	002	-	12"x12" Gray Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	108	-	12"x12" Gray Floor Tile	NAD	-	-	-
5C	109	-	12"x12" Gray Floor Tile	NAD	-	-	-
6A	109	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
6B	108	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
6C	109	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
7A	CR002	-	12"x12" Green Floor Tile	NAD	-	-	-
7B	002A	-	12"x12" Green Floor Tile	NAD	-	-	-
7C	002A	-	12"x12" Green Floor Tile	NAD	-	-	-
8A	CR002	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
8B	002A	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
8C	002A	-	12"x12" Green Floor Tile Mastic	NAD	-	-	-
9A	109A	-	12"x12" White Floor Tile (Type II)	NAD	-	-	-
9B	109A	-	12"x12" White Floor Tile (Type II)	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
10A	109A	-	12"x12" White Floor Tile Adhesive (Type II)	NAD	-	-	-
10B	109A	-	12"x12" White Floor Tile Adhesive (Type II)	NAD	-	-	-
11A	CR003	-	Interior Door Frame Caulk	NAD	-	-	-
11B	012	-	Interior Door Frame Caulk	NAD	-	-	-
11C	109	-	Interior Door Frame Caulk	NAD	-	-	-
12A	001	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
12B	107	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
12C	107C	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
13A	001	-	4" Cove Base Adhesive	NAD	-	-	-
13B	107B	-	4" Cove Base Adhesive	NAD	-	-	-
13C	109A	-	4" Cove Base Adhesive	NAD	-	-	-
14A	107C	-	Carpet Adhesive	NAD	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
14B	107A	-	Carpet Adhesive	NAD	-	-	-
14C	107B	-	Carpet Adhesive	NAD	-	-	-
15A	008A	Interior and Exterior Coating on Perimeter Walls	Black Damp Proofing	3% Chrysotile	10,000 SF	Good	4
15B	010	Interior and Exterior Coating on Perimeter Walls	Black Damp Proofing	Stop Positive See 15A			
15C	010	Interior and Exterior Coating on Perimeter Walls	Black Damp Proofing	Stop Positive See 15A			
16A	001	-	Drywall	NAD	-	-	-
16B	002A	-	Drywall	NAD	-	-	-
16C	107A	-	Drywall	NAD	-	-	-
16D	107B	-	Drywall	NAD	-	-	-
16E	107C	-	Drywall	NAD	-	-	-
17A	001	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
17B	002A	-	Joint Compound	NAD	-	-	-
17C	107A	-	Joint Compound	NAD	-	-	-
17D	107B	-	Joint Compound	NAD	-	-	-
17E	107C	-	Joint Compound	NAD	-	-	-
18A	CR001	Throughout Basement	Fitting Insulation	3% Chrysotile	50 Fittings	Damaged	1
18B	ST2	Throughout Basement	Fitting Insulation	Stop Positive See 18A			
18C	CR001	Throughout Basement	Fitting Insulation	Stop Positive See 18A			
19A	010A	-	Wall Plaster Base Coat	NAD	-	-	-
19B	010A	-	Wall Plaster Base Coat	NAD	-	-	-
19C	010A	-	Wall Plaster Base Coat	NAD	-	-	-
20A	010A	-	Wall Plaster Finish Coat	NAD	-	-	-
20B	010A	-	Wall Plaster Finish Coat	NAD	-	-	-
20C	010A	-	Wall Plaster Finish Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
21A	011	-	Textured Wall	NAD	-	-	-
21B	011	-	Textured Wall	NAD	-	-	-
21C	011	-	Textured Wall	NAD	-	-	-
22A	Exterior	-	Window Caulk	NAD	-	-	-
22B	Exterior	-	Window Caulk	NAD	-	-	-
22C	Exterior	-	Window Caulk	NAD	-	-	-
23A	Exterior-West Side	-	Door Caulk (New)	NAD	-	-	-
23B	Exterior-East Side	-	Door Caulk (New)	NAD	-	-	-
23C	Exterior-West Side	-	Door Caulk (New)	NAD	-	-	-
24A	Exterior-East Side	-	Door Caulk (Old)	NAD	-	-	-
24B	Exterior-East Side	-	Door Caulk (Old)	NAD	-	-	-
25A	Exterior-East Side	-	Expansion Joint Caulk	NAD	-	-	-
25B	Exterior-East Side	-	Expansion Joint Caulk	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 45**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
25C	Exterior-East Side	-	Expansion Joint Caulk	NAD	-	-	-

NAD – No Asbestos Detected  
SF – Square Feet

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 45**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
171	Basement	6B	Metal Column	North	Fair	Gray	0
172	Basement	6B	Metal Door Casing	East	Intact	Gray	0
173	Basement	6B	Metal Door	North	Intact	Gray	0
174	Basement	6B	Metal Column	North	Intact	Gray	0
175	Basement	6B	Metal Column	East	Poor	Gray	0.03
176	Basement	ST2	Metal Circular Stair Case	East	Poor	Green	0.1
177	Basement	ST2	Concrete Wall (Interior)	South	Poor	White	0
178	Basement	ST2	Metal Door Casing	South	Poor	Gray	0
179	Basement	ST2	Metal Door	South	Poor	Gray	0
180	Basement	Corridor Outside ST2	Concrete Wall (Exterior)	North	Poor	White	0.01
181	Basement	10A	Plaster Wall (Interior)	South	Poor	White	0
182	Basement	10A	Metal Column	North	Poor	Red	0
183	Exterior	Exterior	Metal Door	East	Intact	Brown	0
184	Exterior	Exterior	Metal Door Casing	East	Intact	Brown	0
185	Exterior	Exterior	Metal Wall (Exterior)	North	Intact	Brown	0
186	Exterior	Exterior	Metal Lift Gate	South	Fair	Green	0
187	Exterior	Exterior	Concrete Wall (Exterior)	East	Fair	Yellow	0.01
197	Basement	10A	Metal Door	South	Fair	Beige	0
198	Basement	10A	Metal Beam	South	Poor	Beige	0
199	Basement	10A	Metal Truss	North	Poor	Beige	0
200	Basement	008A	Wood Door	East	Poor	Gray	5.5
201	Basement	008A	Metal Door Casing	South	Poor	Gray	0.12
202	Basement	008A	Metal Door Casing	South	Poor	Gray	0.06
203	Basement	Unknown	Concrete Wall (Exterior)	East	Poor	Yellow	0.02

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 45**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
204	Basement	Unknown	Metal Ladder	North	Poor	Black	0.24
205	Basement	Unknown	Concrete Wall (Interior)	North	Fair	White	0
206	Basement	Unknown	Metal Handrail	South	Poor	Black	7.4
207	Basement	9	Metal Door	West	Fair	Brown	0
208	Basement	9	Metal Door Casing	West	Fair	Brown	0
209	Basement	9	Concrete Floor	Na	Poor	Red	0.04
210	Basement	9	Concrete Ceiling	Na	Poor	White	0
211	Basement	9	Metal Electrical Conduit	North	Intact	White	0.12
212	Basement	Unknown	Metal Column	East	Fair	Green	0
213	Basement	Unknown	Wood Door	East	Fair	Brown	9.9
214	Basement	6	Concrete Column	West	Fair	White	0.13
215	Basement	6	Metal Pipe	South	Poor	White	0.27
216	Basement	005B	Concrete Column	West	Fair	White	0.1
217	Basement	005B	Concrete Pad At Base Of Column	West	Poor	Multi	0.1
222	Basement	005B	Concrete Beam	East	Intact	White	0.04
223	Basement	005B	Metal Pipe	East	Poor	White	0.09
224	Basement	005B	Metal Pipe	South	Poor	White	0.29
225	Basement	005B	Concrete Floor	Floor	Poor	Green	0.06
226	Basement	Corridor Outside 005B	Metal Door Casing	North	Fair	Gray	0
227	Basement	Corridor Outside 005B	Metal Door	North	Fair	Gray	0
228	Basement	001b	Drywall Wall (Interior)	North	Intact	Purple	0
229	Basement	001b	Drywall Wall (Interior)	East	Intact	Purple	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 45**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
231	Basement	2	Metal Duct	West	Fair	White	0
232	Basement	2	Metal Locker	East	Fair	Blue	0
233	Basement	2	Metal Locker	North	Fair	Pink	0.02
234	Basement	002A	Metal Privacy Partition	South	Fair	Pink	0.01
235	Basement	002A	Metal Radiator	East	Fair	Pink	0.12
236	Basement	002A	Drywall Wall (Interior)	North	Intact	White	0
237	Basement	Unknown	Metal Column	South	Intact	Gray	0
238	Basement	Unknown	Concrete Wall (Interior)	South	Intact	Green	0
239	Basement	Unknown	Metal Window Sash	North	Intact	Brown	20.7
240	Basement	Unknown	Concrete Wall (Interior)	North	Intact	Green	0.01
241	Basement	Unknown	Concrete Floor	Floor	Fair	Gray	0
242	Basement	ST1	Wood Bench - Built In	South	Fair	Gray	0.26
243	Basement	ST1	Metal Handrail	South	Fair	Blue	0.09
244	Basement	ST1	Metal Stringer	South	Intact	Gray	0.14
245	Basement	ST1	Metal Tread	South	Fair	Gray	0.01
246	First	107B	Drywall Wall (Exterior)	South	Intact	Beige	0
247	First	107D	Metal Door Casing	North	Intact	Beige	0
248	First	107D	Wood Door	East	Intact	Clear	0
249	First	107D	Drywall Wall (Interior)	South	Intact	White	0
250	First	Unknown	Floor Tile Floor Stripe	South	Fair	Yellow	0.22
253	First	Unknown	Concrete Column	South	Fair	Green	0.05
254	First	Unknown	Metal Corner Guard On Column	South	Fair	Green	0.06
255	First	Unknown	Brick Column	West	Fair	Green	0.01
256	First	Unknown	Brick Column	West	Fair	White	0.01
257	First	Unknown	Metal Wall (Exterior)	West	Fair	White	0



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 45**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
258	First	Unknown	Metal Window Sash	West	Intact	Brown	0
259	First	Unknown	Metal Window Casing	West	Intact	Brown	0
260	First	Unknown	Metal Column	West	Intact	Green	0
261	First	Unknown	Concrete Floor	Floor	Fair	Blue	0
262	First	Unknown	Brick Wall (Interior)	West	Poor	Gray	0.04
263	First	Unknown	Concrete Wall (Exterior)	North	Fair	Gray	0
264	First	Unknown	Concrete Window Sill	North	Poor	Gray	0.1
265	First	Unknown	Concrete Window Sill	North	Poor	Gray	0.05
267	First	Unknown	Brick Wall (Interior)	South	Fair	Gray	0.01
268	First	Unknown	Wood Door Casing	North	Fair	Brown	0
269	First	Unknown	Metal Column	North	Fair	Red	0
270	First	Unknown	Brick Wall (Interior)	North	Fair	Blue	0
271	First	Unknown	Metal Door	North	Fair	Gray	0
272	First	Unknown	Metal Door Casing	North	Fair	Gray	0
275	First	Unknown	Metal Pipe	North	Fair	Gray	0.16
276	First	Unknown	Concrete Column	East	Fair	Green	0.7
277	First	Unknown	Concrete Column	East	Fair	Green	0.01
278	First	Unknown	Concrete Wall (Interior)	East	Fair	White	0.6

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Black Damp Proofing, Sample 15A



Fitting Insulation, Sample 18A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door, Reading 200



Metal Handrail, Reading 206

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 46**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 65 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 5 of the collected samples contained asbestos greater than or equal to 1%.**
- 25 XRF analyzer measurements of building surfaces were taken in this building.
- **7 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 46 was a one-story Research Building built in 1955 and occupied approximately 5,567 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 46			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 46**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	114	Back Room on West Side of Building	9"x9" Gray Floor Tile	5% Chrysotile	100 SF	Good	4
1B							
1C							
2A	114		9"x9" Gray Floor Tile Mastic	15% Chrysotile		Good	4
2B							
2C							
4A	115	Hallway, Labs, Offices and Bathroom on South Side of Building	12"x12" Beige Floor Tile Mastic (Black)	10% Chrysotile	2,900 SF	Good	4
4B	130						
4C	132						
14A	Interior Windows	Perimeter of Interior Window Panes	Interior Window Glazing	1.38% Chrysotile <sup>1</sup>	360 LF	Good	4
14B							
14C							
17A	Exterior	Perimeter of Windows, Under New Windows	Window Caulking	5% Chrysotile	240 LF	Good	4
17B							
17C							
Footnotes:							
1 – Analyzed by TEM				SF – Square Feet LF – Linear Feet			

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 46							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
96	First	46	Wood Door Casing	North	Poor	Gray	9.1
97	First	46	Wood Door	North	Poor	Gray	3.1
98	Exterior	Exterior	Wood Door	North	Poor	Brown	7.8
99	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	18.3
160	First	109	Metal Pipe	West	Intact	Beige	2
163	First	109	Metal Window Sash	West	Poor	Beige	2.1
164	First	109	Metal Window Casing	West	Poor	Beige	0.19

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos

Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 46	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	3,000 SF
Window Caulking	240 LF
Window Glazing	360 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.



## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	114	Back Room on West Side of Building	9"x9" Gray Floor Tile	5% Chrysotile	100 SF	Good	4
1B	114	Back Room on West Side of Building	9"x9" Gray Floor Tile	Stop Positive See 1A			
1C	114	Back Room on West Side of Building	9"x9" Gray Floor Tile	Stop Positive See 1A			
2A	114	Back Room on West Side of Building	9"x9" Gray Floor Tile Mastic	15% Chrysotile	100 SF	Good	4
2B	114	Back Room on West Side of Building	9"x9" Gray Floor Tile Mastic	Stop Positive See 2A			
2C	114	Back Room on West Side of Building	9"x9" Gray Floor Tile Mastic	Stop Positive See 2A			
3A	115		12"x12" Beige Floor Tile	NAD	-	-	-
3B	130		12"x12" Beige Floor Tile	NAD	-	-	-
3C	132		12"x12" Beige Floor Tile	NAD	-	-	-
4A	115	Hallway, Labs, Offices and Bathroom on South Side of Building	12"x12" Beige Floor Tile Mastic (Black)	10% Chrysotile	2,900 SF	Good	4
4B	130		12"x12" Beige Floor Tile Mastic (Black)	Stop Positive See 4A			
4C	132		12"x12" Beige Floor Tile Mastic (Black)	Stop Positive See 4A			
5A	133		12"x12" Gray Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	133		12"x12" Gray Floor Tile	NAD	-	-	-
5C	133		12"x12" Gray Floor Tile	NAD	-	-	-
6A	133		12"x12" Gray Floor Tile Mastic	NAD	-	-	-
6B	133		12"x12" Gray Floor Tile Mastic	NAD	-	-	-
6C	133		12"x12" Gray Floor Tile Mastic	NAD	-	-	-
7A	Hallway		2'x4' Ceiling Tile (Large Fissured)	NAD	-	-	-
7B	109		2'x4' Ceiling Tile (Large Fissured)	NAD	-	-	-
7C	130		2'x4' Ceiling Tile (Large Fissured)	NAD	-	-	-
8A	130		4" Cove Base Adhesive	NAD	-	-	-
8B	101		4" Cove Base Adhesive	NAD	-	-	-
8C	107		4" Cove Base Adhesive	NAD	-	-	-
9A	114		Tan Duct Sealant	NAD	-	-	-
9B	114		Tan Duct Sealant	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
9C	114		Tan Duct Sealant	NAD	-	-	-
10A	128		2'x4' Ceiling Tile (Small Fissured)	NAD	-	-	-
10B	130		2'x4' Ceiling Tile (Small Fissured)	NAD	-	-	-
10C	Hallway		2'x4' Ceiling Tile (Small Fissured)	NAD	-	-	-
11A	109		Drywall	NAD	-	-	-
11B	109		Drywall	NAD	-	-	-
11C	109		Drywall	NAD	-	-	-
11D	104		Drywall	NAD	-	-	-
11E	107		Drywall	NAD	-	-	-
12A	109		Joint Compound	NAD	-	-	-
12B	109		Joint Compound	NAD	-	-	-
12C	109		Joint Compound	NAD	-	-	-
12D	104		Joint Compound	NAD	-	-	-
12E	107		Joint	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			Compound				
13A	120		Wall Panel Caulk	NAD	-	-	-
13B	120		Wall Panel Caulk	NAD	-	-	-
13C	102		Wall Panel Caulk	NAD	-	-	-
14A	109	Windows	Interior Window Glazing	1.38% Chrysotile <sup>1</sup>	360 LF	Good	4
14B	104		Interior Window Glazing	Stop Positive See 14A			
14C	130		Interior Window Glazing	Stop Positive See 14A			
15A	115		Wall Plaster Base Coat	NAD	-	-	-
15B	128		Wall Plaster Base Coat	NAD	-	-	-
15C	127		Wall Plaster Base Coat	NAD	-	-	-
15D	126		Wall Plaster Base Coat	NAD	-	-	-
15E	126		Wall Plaster Base Coat	NAD	-	-	-
16A	115		Wall Plaster Finish Coat	NAD	-	-	-
16B	128		Wall Plaster	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
			Finish Coat				
16C	127		Wall Plaster Finish Coat	NAD	-	-	-
16D	126		Wall Plaster Finish Coat	NAD	-	-	-
16E	126		Wall Plaster Finish Coat	NAD	-	-	-
17A	Exterior South	Windows	Window Caulking	5% Chrysotile	240 LF	Good	4
17B	Exterior South		Window Caulking	Stop Positive See 17A			
17C	Exterior South		Window Caulking	Stop Positive See 17A			
18A	Exterior South	-	Door Caulk	NAD	-	-	-
18B	Exterior South	-	Door Caulk	NAD	-	-	-
18C	Exterior West	-	Door Caulk	NAD	-	-	-
19A	126	-	Fire Stop	NAD	-	-	-
19B	126	-	Fire Stop	NAD	-	-	-
19C	126	-	Fire Stop	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 46**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
Footnotes:				NAD – No Asbestos Detected			
1 – Analyzed by TEM				SF – Square Feet			
				LF – Linear Feet			



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 46**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
94	First	46	Brick Wall (Exterior)	West	Intact	Beige	0.03
95	First	46	Concrete Wall (Interior)	North	Intact	Beige	0.04
96	First	46	Wood Door Casing	North	Poor	Gray	9.1
97	First	46	Wood Door	North	Poor	Gray	3.1
98	Exterior	Exterior	Wood Door	North	Poor	Brown	7.8
99	Exterior	Exterior	Wood Door Casing	North	Poor	Brown	18.3
150	First	101	Metal Door Casing	East	Intact	Beige	0.01
151	First	101	Brick Wall (Exterior)	East	Intact	Tan	0
152	First	101	Concrete Wall (Interior)	South	Intact	Tan	0
153	First	104	Brick Wall (Exterior)	East	Intact	White	0.03
154	First	104	Metal Window Casing	East	Poor	White	0.02
155	First	104	Concrete Window Sill	East	Poor	White	0.02
156	First	104	Concrete Wall (Exterior)	East	Poor	White	0
157	First	104	Brick Wall (Exterior)	South	Intact	White	0.02
158	First	104	Metal Door Casing	South	Intact	White	0
159	First	104	Metal Door	South	Intact	Brown	0
160	First	109	Metal Pipe	West	Intact	Beige	2
162	First	109	Brick Wall (Exterior)	West	Poor	Beige	0.05
163	First	109	Metal Window Sash	West	Poor	Beige	2.1
164	First	109	Metal Window Casing	West	Poor	Beige	0.19
166	First	109	Concrete Window Sill	West	Poor	Beige	0.07
167	First	115	Plaster Wall (Exterior)	West	Fair	Beige	0
168	First	Corridor Outside 127	Concrete Floor	Na	Intact	Gray	0
169	First	Corridor Outside 127	Metal Door Casing	West	Intact	Pink	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 46**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
170	First	Corridor Outside 127	Wood Door	West	Intact	Clear	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



9"x9" Gray Floor Tile and Mastic, Samples 1A and 2A



Mastic Associated with 12"x12" Beige Floor Tile, Sample 4A



Interior Window Caulk (taken from outside), Sample 14A



Exterior Window Caulk, Sample 17A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 47**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

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Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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Appendix C – Relevant Photographs of ACM  
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 9 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 2 of the collected samples contained asbestos greater than or equal to 1%.**
- 8 XRF analyzer measurements of building surfaces were taken in this building.
- **3 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 47 was a one-story Water Pump House built in 1955 and occupied approximately 200 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 47			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 47							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
2A 2B 2C	Exterior	Doors	Door Caulking	10% Chrysotile	15 LF	Good	4
3A	North Window	Windows	Interior Window Glazing	5% Chrysotile	48 LF	Good	4
3B	East Window						
3C	South Window						
LF – Linear Feet							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 47							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
412	First	101	Metal Handrail	West	Poor	Black	2.2
413	First	101	Wood Door Casing	West	Fair	Gray	3.7
415	First	101	Wood Door Casing	West	Poor	Brown	23.5

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.



## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 47	
General Description of Material	Estimated Quantity
Window Glazing	48 LF
Door Caulking	15 LF
LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 47**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Pump House	-	Residual Black Mastic	NAD	-	-	-
1B	Pump House	-	Residual Black Mastic	NAD	-	-	-
1C	Pump House	-	Residual Black Mastic	NAD	-	-	-
2A	Exterior	Doors	Door Caulking	10% Chrysotile	15 LF	Good	4
2B	Exterior	Doors	Door Caulking	Stop Positive See 2A			
2C	Exterior	Doors	Door Caulking	Stop Positive See 2A			
3A	North Int. Window	Windows	Interior Window Glazing	5% Chrysotile	48 LF	Good	4
3B	East Int. Window	Windows	Interior Window Glazing	Stop Positive See 3A			
3C	South Int. Window	Windows	Interior Window Glazing	Stop Positive See 3A			
LF – Linear Feet							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 47**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
407	First	101	Brick Wall (Exterior)	South	Fair	Brown	0
408	First	101	Brick Wall (Exterior)	East	Fair	Brown	0.03
409	First	101	Concrete Riser	West	Poor	Red	0.06
411	First	101	Concrete Tread	West	Poor	Red	0.03
412	First	101	Metal Handrail	West	Poor	Black	2.2
413	First	101	Wood Door Casing	West	Fair	Gray	3.7
414	First	101	Metal Door	West	Fair	Brown	0
415	First	101	Wood Door Casing	West	Poor	Brown	23.5

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

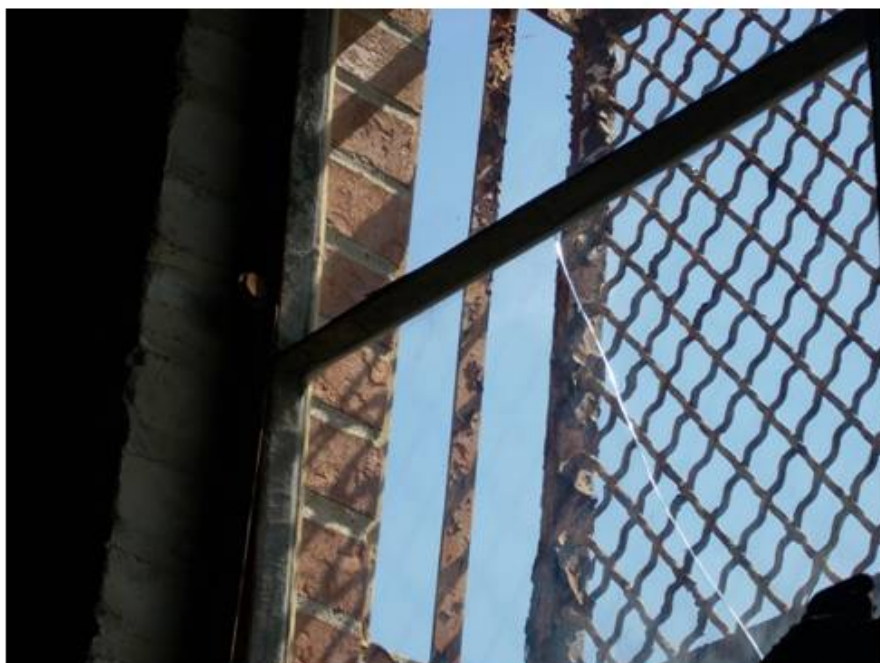
## Appendix C

### Relevant Photographs of ACM





Exterior Door Caulk, Sample 2A



Interior Window Glazing, Sample 3A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Metal Handrail and Wood Door Casing, Readings 412 and 413

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 50**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
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Project No. 2009023.003

June 21, 2010



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Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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This report has been reviewed and approved by:

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 19 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 4 of the collected samples contained asbestos greater than or equal to 1%.**
- 15 XRF analyzer measurements of building surfaces were taken in this building.
- **6 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 50 was a one-story Sewer Pump House Building built in 1955 and occupied approximately 150 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.



Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 50			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 50							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1B	Pump Room	Windows	Window Glazing	2% Chrysotile	72 LF	Damaged	3
1C							
2A	Exterior	Windows	Window Caulking	2% Chrysotile	48 LF	Good	4
2B							
2C							
3	Pump Room	Electrical Cabinet and Conduit Throughout	Insulation on Electrical Wiring	20% Chrysotile	100 LF	Good	4
4A	Pump Room	Inside Electrical Cabinet	Fire Stop	15% Chrysotile	1 SF	Good	4
4B							
4C							
SF – Square Feet LF – Linear Feet							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 50							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
309	First	Unknown	Concrete Floor	Floor	Poor	White	0.4
314	First	Unknown	Metal Ladder	South	Poor	Multi	2
315	First	Unknown	Metal Handrail	South	Poor	Multi	0.8
316	Exterior	Exterior	Brick Wall (Exterior)	East	Poor	Brown	14.3
317	Exterior	Exterior	Concrete Window Sill	East	Poor	Brown	1.5
318	Exterior	Exterior	Metal Security Bars On Window	East	Poor	Brown	11.3

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey

these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 50	
General Description of Material	Estimated Quantity
Window Caulking	48 LF
Window Glazing	72 LF
Insulation on Electrical Wiring	100 LF
Fire Stop	1 SF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential building are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 50**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Pump Room	-	Window Glazing	Trace	-	-	-
1B	Pump Room	Windows	Window Glazing	2% Chrysotile	72 LF	Damaged	3
1C	Pump Room	Windows	Window Glazing	Stop Positive See 1B			
2A	Exterior	Windows	Window Caulking	2% Chrysotile	48 LF	Good	4
2B	Exterior	Windows	Window Caulking	Stop Positive See 2A			
2C	Exterior	Windows	Window Caulking	Stop Positive See 2A			
3	Pump Room	Electrical Cabinet and Conduit Throughout	Insulation on Electrical Wiring	20% Chrysotile	100 LF	Good	4
4A	Pump Room	Inside Electrical Cabinet	Fire Stop	15% Chrysotile	1 SF	Good	4
4B	Pump Room	Inside Electrical Cabinet	Fire Stop	Stop Positive See 4A			
4C	Pump Room	Inside Electrical Cabinet	Fire Stop	Stop Positive See 4A			
5A	Exterior	-	Door Caulk-Type I	NAD	-	-	-
5B	Exterior	-	Door Caulk-Type I	NAD	-	-	-
5C	Exterior	-	Door Caulk-Type I	NAD	-	-	-

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 50**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6A	Exterior South	-	Door Caulk-Type II	NAD	-	-	-
6B	Exterior South	-	Door Caulk-Type II	NAD	-	-	-
6C	Exterior South	-	Door Caulk-Type II	NAD	-	-	-
7A	Exterior	-	Penetration Caulking	NAD	-	-	-
7B	Exterior	-	Penetration Caulking	NAD	-	-	-
7C	Exterior	-	Penetration Caulking	NAD	-	-	-
NAD – No Asbestos Detected SF – Square Feet LF – Linear Feet							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 50**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
304	First	Unknown	Brick Wall (Exterior)	West	Fair	White	0
305	First	Unknown	Metal Pipe	West	Poor	White	0.07
306	First	Unknown	Metal Window Sash	West	Poor	White	0.01
307	First	Unknown	Metal Window Sash	East	Poor	White	0.01
308	First	Unknown	Brick Wall (Exterior)	East	Poor	White	0
309	First	Unknown	Concrete Floor	Floor	Poor	White	0.4
310	First	Unknown	Concrete Floor	Floor	Poor	White	0
311	First	Unknown	Metal Door	East	Poor	White	0
312	First	Unknown	Metal Door Casing	East	Poor	White	0
313	First	Unknown	Concrete Window Sill	West	Poor	White	0.02
314	First	Unknown	Metal Ladder	South	Poor	Multi	2
315	First	Unknown	Metal Handrail	South	Poor	Multi	0.8
316	Exterior	Exterior	Brick Wall (Exterior)	East	Poor	Brown	14.3
317	Exterior	Exterior	Concrete Window Sill	East	Poor	Brown	1.5
318	Exterior	Exterior	Metal Security Bars On Window	East	Poor	Brown	11.3

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Interior Window Glazing, Sample 1B



Exterior Window Caulk, Sample 2A



Wire Insulation, Sample 3



Fire Stop, Sample 4A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Metal Ladder, Reading 314



Brick Wall (Exterior), Reading 316



Metal Security Bars on Window, Reading 318

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 51**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Massachusetts Asbestos Inspector AI031436  
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This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.



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Massachusetts Asbestos Inspector AI000314

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Figure 2 – Lead Screening Survey Summary Plan - Building 51, Floor 1

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Appendix C – Relevant Photographs of ACM  
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 15 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 2 of the collected samples contained asbestos greater than or equal to 1%.**
- 12 XRF analyzer measurements of building surfaces were taken in this building.
- **3 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 51 was a one-story Storage Building built in 1960 and occupied approximately 2,640 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 51			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 51**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A 1B 1C	East Side	Windows	Interior Window Glazing	2% Chrysotile	64 LF	Good	4
2A 2B 2C	Exterior	North Side	Building Caulk	5% Chrysotile	15 LF	Good	4
LF – Linear Feet							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by

using a Niton XLP 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 51							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
82	First	107	Metal Window Sash	North	Fair	Beige	0.16
83	First	107	Wood Door Casing	East	Cracked	Green	9.1
89	Exterior	107	Wood Door Casing	East	Poor	Brown	12.4

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 51	
General Description of Material	Estimated Quantity
Window Glazing	64 LF
Building Caulking	15 LF
LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 51**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	East Side	Windows	Interior Window Glazing	2% Chrysotile	64 LF	Good	4
1B	East Side	Windows	Interior Window Glazing	Stop Positive See 1A			
1C	East Side	Windows	Interior Window Glazing	Stop Positive See 1A			
2A	Exterior North	North Side	Building Caulk	5% Chrysotile	15 LF	Good	4
2B	Exterior North	North Side	Building Caulk	Stop Positive See 2A			
2C	Exterior North	North Side	Building Caulk	Stop Positive See 2A			
3A	Exterior East	-	Black Felt Paper (Siding)	NAD	-	-	-
3B	Exterior East	-	Black Felt Paper (Siding)	NAD	-	-	-
3C	Exterior East	-	Black Felt Paper (Siding)	NAD	-	-	-
4A	Exterior East	-	Window Frame Caulk	NAD	-	-	-
4B	Exterior East	-	Window Frame Caulk	NAD	-	-	-
4C	Exterior East	-	Window Frame Caulk	NAD	-	-	-
5A	Exterior East	-	Penetration Sealant	NAD	-	-	-



**Table 5 - Summary of ACM Building Results  
Brockton VA Medical Center, Building 51**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5B	Exterior East	-	Penetration Sealant	NAD	-	-	-
5C	Exterior East	-	Penetration Sealant	NAD	-	-	-
NAD – No Asbestos Detected				LF – Linear Feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 51**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
78	First	107	Wood Wall (Exterior)	North	Fair	Pink	0.07
79	First	107	Wood Wall (Exterior)	North	Poor	Green	0.05
80	First	107	Wood Window Casing	North	Fair	Beige	0.07
81	First	107	Wood Window Sill	North	Poor	Beige	0.04
82	First	107	Metal Window Sash	North	Fair	Beige	0.16
83	First	107 (Plumbing Shop)	Wood Door Casing	East	Cracked	Green	9.1
84	First	107	Wood Door	West	Cracked	Gray	0.07
85	First	107 (Plumbing Shop)	Wood Door	East	Fair	Red	0.02
86	First	107	Wood Ceiling	Ceiling	Fair	Gray	0
87	First	107	Wood Ceiling	Ceiling	Fair	Gray	0
88	First	107	Metal Ladder	South	Fair	Black	0
89	Exterior	107	Wood Door Casing	East	Poor	Brown	12.4

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Interior Window Glazing, Sample 1A



Exterior Building Caulk, Sample 2A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door Casing, Reading 83

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 60**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 151 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 11 of the collected samples contained asbestos greater than or equal to 1%.**
- 189 XRF analyzer measurements of building surfaces were taken in this building.
- **70 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 60 was a one-story Substance Abuse out leased Building built in 1920 and occupied approximately 17,185 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 60			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
3B	West Stair	Stairwell	12"x12" Beige Floor Tile	10.30% Chrysotile <sup>1</sup>	460 SF	Good	4
3C	East Stair						
4C	East Stair	Stairwell	12"x12" Beige Floor Tile Mastic	5% Chrysotile		Good	4
13A	Bathroom	2nd Floor Bathroom North Side	9"x9" Red Floor Tile	2% Chrysotile	60 SF	Good	4
13B							
13C							
40A	1	1st Floor Rooms and Corridor	4" Pipe Insulation	10% Chrysotile 40% Amosite	110 LF	Good	4
40B	Corridor						
40C							
46	B13	Basement	9"x9" Red With White Streaks Floor Tile	20% Chrysotile	35 SF	Damaged	3
47	B13	Basement	9"x9" Off White Floor Tile	20% Chrysotile	35 SF	Damaged	3
49A	14	Throughout Basement	12"x12" (Basement) Floor Tile	1.16% Chrysotile <sup>1</sup>	3,125 SF	Good	4
49B	8						
49C	CR001						
50A	14	Throughout Basement	12"x12" (Basement) Floor Tile Mastic	20% Chrysotile		Good	4
50B	8						
50C	CR001						
52	Elevator Lobby	1st Floor	12"x12" Lobby Floor Tile Mastic	20% Chrysotile	175 SF	Good	4
54B	Exterior	Windows	Window Caulking	5% Chrysotile	1,280 LF	Good	4
54C							
56A	Exterior	Doors	Door Caulking	5% Chrysotile	75 LF	Good	4
56B							
56C							

Footnotes:

SF – Square Feet  
LF – Linear Feet

1 – Analyzed by TEM

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-

friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 60							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
483	First	Northwest Men's Restroom	Wood Door Casing	South	Fair	White	11.5
489	First	Southwest Stairs	Plaster Ceiling	South	Intact	White	2
490	First	Southwest Stairs	Plaster Wall (Interior)	East	Intact	White	4.9
495	First	Unknown	Wood Crown Molding	West	Intact	White	14.1



**Table 3 - Summary of Positive XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
497	First	Unknown	Wood Window Sash	South	Fair	White	9.9
498	First	Unknown	Wood Window Casing	South	Fair	White	18.7
499	First	Unknown	Wood Window Sill	South	Poor	White	13.6
500	First	Unknown	Wood Baseboard	North	Fair	White	12.8
501	First	120	Wood Raised Paneling At Window	North	Poor	White	10.8
506	First	101	Wood Crown Molding	West	Fair	White	10.8
507	First	101	Wood Door Casing	West	Poor	White	15.1
515	First	Unknown	Wood Door Casing	South	Fair	White	9.2
516	First	Unknown	Wood Door	South	Fair	White	4.4
518	First	Unknown	Wood Window Casing	East	Fair	White	10.9
528	First	104	Wood Window Sash	South	Fair	White	0.11
531	First	Unknown	Wood Door Casing	East	Poor	White	27.8
532	First	Unknown	Wood Window Sash	West	Fair	White	26.6
533	First	Unknown	Wood Window Sill	West	Fair	White	30.7
540	First	104	Plaster Wall (Interior)	East	Fair	White	5.7
548	First	Unknown	Brick Wall (Interior)	South	Intact	White	0.25
552	Basement	4	Plaster Ceiling	Ceiling	Intact	White	0.6
557	Basement	004B	Plaster Wall (Interior)	North	Fair	White	1.7
563	Basement	Unknown	Wood Door	East	Poor	Gray	12.1
564	Basement	Unknown	Wood Door Casing	East	Poor	White	6.6
565	Basement	Unknown	Plaster Wall (Interior)	North	Poor	Gray	0.19
567	Basement	Unknown	Wood Baseboard	South	Poor	Yellow	10.5
570	Basement	Unknown	Brick Wall (Interior)	South	Intact	White	0.18
571	Basement	Unknown	Wood Door Casing	South	Intact	White	10.8
573	Basement	10	Concrete Floor	Floor	Fair	Gray	0.14
580	Basement	Unknown	Wood Door Casing	West	Fair	White	9.7
583	Basement	Unknown	Plaster Ceiling	Ceiling	Intact	White	0.11
586	Exterior	Exterior	Metal Handrail	South	Poor	Black	14.1
587	Exterior	Exterior	Wood Door	South	Poor	White	26.3
588	Exterior	Exterior	Wood Door Casing	South	Poor	White	29.7
591	Exterior	Exterior	Wood Wall (Exterior)	East	Intact	Red	17.8
592	Exterior	Exterior	Wood Wall (Exterior)	East	Intact	Beige	12.1
593	Exterior	Exterior	Wood Column	North	Intact	Beige	32.8
988	Na	Elevator	Metal Wall (Interior)	South	Fair	Orange	0.9
989	Na	Elevator	Metal Wall (Interior)	North	Fair	Orange	0.6
1079	Second	213	Plaster Wall (Exterior)	West	Intact	Green	0.14
1089	Second	213	Wood Window Sill	West	Fair	White	0.16
1097	Second	West Stair	Wood Stringer	South	Intact	Brown	0.12
1101	Second	West Stair	Plaster Ceiling	South	Fair	White	1.5
1104	Second	211	Wood Window Casing	North	Fair	White	10.4
1106	Second	211	Wood Window Sash	North	Poor	White	11.3
1107	Second	211	Wood Window Sill	North	Poor	White	11.9
1108	Second	211	Metal Radiator	East	Fair	White	0.4
1110	Second	211	Wood Door	South	Fair	White	12

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 60							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1111	Second	211	Wood Door Casing	South	Fair	White	10.7
1116	Second	Room East of 210	Wood Window Casing	North	Fair	White	0.8
1120	Second	Bath Shower Room	Wood Door Casing	East	Intact	White	6.8
1121	Second	Bath Shower Room	Wood Privacy Partition	West	Fair	White	9.3
1135	Second	Bath Shower Room	Plaster Ceiling	Ceiling	Fair	White	6.8
1416	First	SW End Room	Wood Window Casing	West	Intact	White	8.9
1417	First	SW End Room	Wood Window Casing	West	Fair	White	6.6
1418	First	SW End Room	Wood Window Sash	West	Fair	White	5.4
1421	First	SW End Room	Wood Window Sill	West	Fair	White	6.8
1422	First	SW End Room	Wood Door	South	Fair	White	5.4
1423	First	SW End Room	Wood Door Casing	South	Fair	White	1.9
1610	First	Lounge	Wood Mantel	West	Fair	White	13.9
1612	First	Lounge	Wood Chair Rail	West	Fair	White	11.4
1613	First	Lounge	Wood Baseboard	East	Fair	White	13.1
2702	First	115A	Wood Raised Panels Assoc. W. Windows	South	Fair	White	16.5
2703	First	115A	Wood Window Casing	South	Fair	White	12.5
2704	First	115A	Wood Window Sash	South	Fair	White	11.4
2705	First	115A	Wood Window Sill	South	Fair	White	12.8
2706	First	115A	Wood Bench Seat In Front Of Window	South	Poor	White	13.7
2708	First	115A	Wood Chair Rail	East	Poor	White	17.6
2709	First	115A	Plaster Wall (Interior)	East	Fair	White	11.2
2711	First	Lounge	Plaster Wall (Interior)	North	Fair	White	12.8

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with  $> 0.1$  mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 60	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	3,890 SF
Pipe Insulation	110 LF
Window Caulking	1,280 LF
Door Caulking	75 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
01A	West Stair	-	Skim Coat Plaster	NAD	-	-	-
01B	West Stair	-	Skim Coat Plaster	NAD	-	-	-
01C	Closet	-	Skim Coat Plaster	NAD	-	-	-
01D	Patient Room	-	Skim Coat Plaster	NAD	-	-	-
01E	Elevator Corridor	-	Skim Coat Plaster	NAD	-	-	-
01F	Closet	-	Skim Coat Plaster	NAD	-	-	-
01G	B13	-	Skim Coat Plaster	NAD	-	-	-
02A	West Stair	-	Base Coat Plaster	NAD	-	-	-
02B	West Stair	-	Base Coat Plaster	NAD	-	-	-
02C	Closet	-	Base Coat Plaster	NAD	-	-	-
02D	Patient Room	-	Base Coat Plaster	NAD	-	-	-
02E	Elevator Corridor	-	Base Coat Plaster	NAD	-	-	-
02F	Closet	-	Base Coat Plaster	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
02G	B13	-	Base Coat Plaster	NAD	-	-	-
03A	West Stair	Stairwell	12"x12" Beige Floor Tile	Trace <sup>1</sup>	-	-	-
03B	West Stair	Stairwell	12"x12" Beige Floor Tile	10.30% Chrysotile <sup>1</sup>	460 SF	Good	4
03C	East Stair	Stairwell	12"x12" Beige Floor Tile	Stop Positive See 3B			
04A	West Stair	-	12"x12" Beige Floor Tile Mastic	NAD	-	-	-
04B	West Stair	-	12"x12" Beige Floor Tile Mastic	NAD	-	-	-
04C	East Stair	Stairwell	12"x12" Beige Floor Tile Mastic	5% Chrysotile	460 SF	Good	4
05A	West Stair	-	6"x6" Gray Floor Tile	NAD	-	-	-
05B	West Stair	-	6"x6" Gray Floor Tile	NAD	-	-	-
05C	East Stair	-	6"x6" Gray Floor Tile	NAD	-	-	-
06A	West Stair	-	6"x6" Floor Tile Mastic	NAD	-	-	-
06B	West Stair	-	6"x6" Floor Tile Mastic	NAD	-	-	-
06C	East Stair	-	6"x6" Floor Tile Mastic	NAD <sup>1</sup>	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
07A	Attic	-	Black Paper Insulation Backing	NAD	-	-	-
07B	Attic	-	Black Paper Insulation Backing	NAD	-	-	-
07C	Attic	-	Black Paper Insulation Backing	NAD	-	-	-
08A	Attic	-	Fiber Board	NAD	-	-	-
08B	Attic	-	Fiber Board	NAD	-	-	-
08C	Attic	-	Fiber Board	NAD	-	-	-
09A	Attic	-	Joint Compound	NAD	-	-	-
09B	Attic	-	Joint Compound	NAD	-	-	-
09C	Attic	-	Joint Compound	NAD	-	-	-
09D	Closet	-	Joint Compound	NAD	-	-	-
09E	Closet	-	Joint Compound	NAD	-	-	-
10A	Attic	-	Drywall	NAD	-	-	-
10B	Attic	-	Drywall	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
10C	Attic	-	Drywall	NAD	-	-	-
10D	Closet	-	Drywall	NAD	-	-	-
10E	Closet	-	Drywall	NAD	-	-	-
11A	West Stair	-	6"x6" Black Floor Tile	NAD	-	-	-
11B	West Stair	-	6"x6" Black Floor Tile	NAD	-	-	-
11C	East Stair	-	6"x6" Black Floor Tile	NAD	-	-	-
12A	226	-	Carpet Adhesive	NAD	-	-	-
12B	229	-	Carpet Adhesive	NAD	-	-	-
12C	Closet	-	Carpet Adhesive	NAD	-	-	-
13A	Bathroom	2nd Floor Bathroom North Side	9"x9" Red Floor Tile	2% Chrysotile	60 SF	Good	4
13B	Bathroom	2nd Floor Bathroom North Side	9"x9" Red Floor Tile	Stop Positive See 13A			
13C	Bathroom	2nd Floor Bathroom North Side	9"x9" Red Floor Tile	Stop Positive See 13A			
14A	Bathroom	-	9"x9" Red Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
14B	Bathroom	-	9"x9" Red Floor Tile Mastic	NAD	-	-	-
14C	Bathroom	-	9"x9" Red Floor Tile Mastic	NAD	-	-	-
15	Laundry Platform	-	12"x12" Gray With Dark Gray Floor Tile (Patch)	NAD	-	-	-
16	Laundry Platform	-	12"x12" Gray With Dark Gray Floor Tile (Patch) Mastic	NAD	-	-	-
17	Corridor	-	12"x12" Light Gray With Dark Gray Floor Tile (Patch)	NAD	-	-	-
18	Corridor	-	12"x12" Light Gray With Dark Gray Floor tile (Patch) Mastic	NAD	-	-	-
19A	227	-	12"x12" Gray Floor Tile (2nd Floor)	NAD	-	-	-
19B	Corridor	-	12"x12" Gray Floor Tile (2nd Floor)	NAD	-	-	-
19C	Patient Room	-	12"x12" Gray Floor Tile (2nd Floor)	NAD	-	-	-
20A	227	-	12"x12" Gray Floor Tile (2nd Floor) Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
20B	Corridor	-	12"x12" Gray Floor Tile (2nd Floor) Mastic	NAD	-	-	-
20C	Patient Room	-	12"x12" Gray Floor Tile (2nd Floor) Mastic	NAD	-	-	-
21A	227	-	12"x12" Gray Floor Tile (2nd Floor) Leveling Compound	NAD	-	-	-
21B	Corridor	-	12"x12" Gray Floor Tile (2nd Floor) Leveling Compound	NAD	-	-	-
21C	Patient Room	-	12"x12" Gray Floor Tile (2nd Floor) Leveling Compound	NAD	-	-	-
22	Corridor	-	12"x12" White Floor Tile (Bottom Layer)	NAD	-	-	-
23	Corridor	-	12"x12" White Floor Tile With Brown Mastic	NAD	-	-	-
24A	Patient Room	-	2'x2' Ceiling Tile	NAD	-	-	-
24B	Corridor	-	2'x2' Ceiling Tile	NAD	-	-	-
24C	Corridor	-	2'x2' Ceiling Tile	NAD	-	-	-
25A	Corridor	-	4" Cove Base Mastic	NAD	-	-	-
25B	Corridor	-	4" Cove Base Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
25C	Corridor	-	4" Cove Base Mastic	NAD	-	-	-
26A	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway)	NAD	-	-	-
26B	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway)	NAD	-	-	-
26C	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway)	NAD	-	-	-
27A	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway) Mastic	NAD	-	-	-
27B	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway) Mastic	NAD	-	-	-
27C	Corridor	-	12"x12" Gray Floor Tile (1st Floor Hallway) Mastic	NAD	-	-	-
28A	15	-	12"x12" Gray Floor Tile (1st Floor Rooms)	NAD	-	-	-
28B	17	-	12"x12" Gray Floor Tile (1st Floor Rooms)	NAD	-	-	-
28C	117	-	12"x12" Gray Floor Tile (1st Floor Rooms)	NAD	-	-	-
29A	15	-	12"x12" Gray Floor Tile (1st Floor Rooms) Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
29B	17	-	12"x12" Gray Floor Tile (1st Floor Rooms) Mastic	NAD	-	-	-
29C	117	-	12"x12" Gray Floor Tile (1st Floor Rooms) Mastic	NAD	-	-	-
30A	15	-	12"x12" Gray Floor Tile (1st Floor Rooms) Leveling Compound	NAD	-	-	-
30B	17	-	12"x12" Gray Floor Tile (1st Floor Rooms) Leveling Compound	NAD	-	-	-
30C	117	-	12"x12" Gray Floor Tile (1st Floor Rooms) Leveling Compound	NAD	-	-	-
31A	Front Entry	-	12"x12" Beige Floor Tile (Front Entry)	NAD	-	-	-
31B	Front Entry	-	12"x12" Beige Floor Tile (Front Entry)	NAD	-	-	-
31C	Front Entry	-	12"x12" Beige Floor Tile (Front Entry)	NAD	-	-	-
32A	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Mastic	NAD	-	-	-
32B	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Mastic	NAD	-	-	-
32C	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Mastic	NAD	-	-	-
33A	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Flooring Felt	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
33B	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Flooring Felt	NAD	-	-	-
33C	Front Entry	-	12"x12" Beige Floor Tile (Front Entry) Flooring Felt	NAD	-	-	-
34A	101	-	Room 101 Mastic on 12"x12" Red Floor Tile Mastic	NAD	-	-	-
34B	101	-	Room 101 Mastic on 12"x12" Gray Floor Tile Mastic	NAD	-	-	-
34C	101	-	Room 101 Mastic on 12"x12" White Floor Tile Mastic	NAD	-	-	-
35	101	-	12"x12" Red Floor Tile (Room 101)	NAD	-	-	-
36	101	-	12"x12" Gray Floor Tile (Room 101)	NAD	-	-	-
37	101	-	12"x12" White Floor Tile (Room 101)	NAD	-	-	-
38A	16	-	12"x12" Beige with Gray Floor Tile	NAD	-	-	-
38B	16	-	12"x12" Beige with Gray Floor Tile	NAD	-	-	-
38C	16	-	12"x12" Beige with Gray Floor Tile	NAD	-	-	-
39A	16	-	12"x12" Beige with Gray Floor Tile Mastic	NAD	-	-	-
39B	16	-	12"x12" Beige with Gray Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
39C	16	-	12"x12" Beige with Gray Floor Tile Mastic	NAD	-	-	-
40A	1	1st Floor Rooms and Corridors	4" Pipe Insulation	10% Chrysotile 40% Amosite	110 LF	Good	4
40B	Corridor	1st Floor Rooms and Corridors	4" Pipe Insulation	Stop Positive See 40A			
40C	Corridor	1st Floor Rooms and Corridors	4" Pipe Insulation	Stop Positive See 40A			
41	2	-	12"x12" Floor Tile Room 002	NAD	-	-	-
42	2	-	12"x12" Floor Tile Mastic Room 002	NAD	-	-	-
43	1	-	12"x12" Floor Tile Room 001	NAD	-	-	-
44	1	-	12"x12" Floor Tile Mastic Room 001	NAD	-	-	-
45A	2	-	6" Cove Base Mastic	NAD	-	-	-
45B	Hallway East	-	6" Cove Base Mastic	NAD	-	-	-
45C	Hallway West	-	6" Cove Base Mastic	NAD	-	-	-
46	B13	Basement	9"x9" Red with White Streaks Floor Tile	20% Chrysotile	35 SF	Damaged	3
47	B13	Basement	9"x9" Off White Floor Tile	30% Chrysotile	35 SF	Damaged	3



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
48	B13	-	9"x9" Off White Floor Tile Mastic	NAD	-	-	-
49A	14	Throughout Basement	12"x12" (Basement) Floor Tile	1.16% Chrysotile <sup>1</sup>	3,125 SF	Good	4
49B	8	Throughout Basement	12"x12" (Basement) Floor Tile	Stop Positive See 49A			
49C	CR001	Throughout Basement	12"x12" (Basement) Floor Tile	Stop Positive See 49A			
50A	14	Throughout Basement	12"x12" (Basement) Floor Tile Mastic	20% Chrysotile	3,125 SF	Good	4
50B	8	Throughout Basement	12"x12" (Basement) Floor Tile Mastic	Stop Positive See 50A			
50C	CR001	Throughout Basement	12"x12" (Basement) Floor Tile Mastic	Stop Positive See 50A			
51	Elevator Lobby	-	12"x12" Lobby Floor Tile	NAD	-	-	-
52	Elevator Lobby	1st Floor	12"x12" Lobby Floor Tile Mastic	20% Chrysotile	175 SF	Good	4
53A	Exterior North	-	Window Glazing	NAD	-	-	-
53B	Exterior North	-	Window Glazing	NAD	-	-	-
53C	Exterior South	-	Window Glazing	NAD	-	-	-
54A	Exterior East	-	Window Caulking	NAD	-	-	-
54B	Exterior North	Windows	Window Caulking	5% Chrysotile	1280 LF	Good	4

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
54C	Exterior North	Windows	Window Caulking	Stop Positive See 54B			
55A	Exterior North	-	Expansion Joint Caulking	NAD	-	-	-
55B	Exterior North	-	Expansion Joint Caulking	NAD	-	-	-
55C	Exterior West	-	Expansion Joint Caulking	NAD	-	-	-
56A	Exterior North	Doors	Door Caulking	5% Chrysotile	75 LF	Good	4
56B	Exterior Front Entry North	Doors	Door Caulking	Stop Positive See 56A			
56C	Exterior South	Doors	Door Caulking	Stop Positive See 56A			
57	Exterior South	-	Door Caulking (New)	NAD	-	-	-
58A	1	-	Transite Board	NAD	-	-	-
58B	5	-	Transite Board	NAD	-	-	-
58C	7	-	Transite Board	NAD	-	-	-
59A	1	-	Transite Board Adhesive	NAD	-	-	-
59B	5	-	Transite Board Adhesive	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 60**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
59C	7	-	Transite Board Adhesive	NAD	-	-	-
Footnotes:				NAD – No Asbestos Detected			
1 – Analyzed by TEM				SF – Square Feet			
				LF – Linear Feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
474	First	Northwest Men's Restroom	Metal Privacy Partition	East	Fair	Brown	0
475	First	Northwest Men's Restroom	Metal Radiator	West	Fair	White	0
476	First	Northwest Men's Restroom	Wood Radiator Cover	West	Fair	White	0
478	First	Northwest Men's Restroom	Wood Window Casing	North	Fair	White	0.06
479	First	Northwest Men's Restroom	Wood Window Casing	North	Fair	White	0.05
480	First	Northwest Men's Restroom	Wood Window Sash	North	Cracked	Brown	0.09
481	First	Northwest Men's Restroom	Wood Window Sill	North	Poor	White	0.04
482	First	Northwest Men's Restroom	Plaster Wall (Exterior)	North	Poor	White	0
483	First	Northwest Men's Restroom	Wood Door Casing	South	Fair	White	11.5
484	First	Northwest Men's Restroom	Wood Door	South	Fair	Brown	0
485	First	Southwest Stairs	Wood Newel Post	North	Fair	Brown	0.02
486	First	Southwest Stairs	Wood Stringer	West	Intact	Brown	0.03
489	First	Southwest Stairs	Plaster Ceiling	South	Intact	White	2
490	First	Southwest Stairs	Plaster Wall (Interior)	East	Intact	White	4.9
491	First	Southwest Stairs	Metal Door	North	Fair	Brown	0.01
494	First	Unknown	Plaster Ceiling	Ceiling	Intact	White	0
495	First	Unknown	Wood Crown Molding	West	Intact	White	14.1
496	First	Unknown	Plaster Wall (Interior)	West	Fair	White	0.08
497	First	Unknown	Wood Window Sash	South	Fair	White	9.9
498	First	Unknown	Wood Window Casing	South	Fair	White	18.7
499	First	Unknown	Wood Window Sill	South	Poor	White	13.6
500	First	Unknown	Wood Baseboard	North	Fair	White	12.8
501	First	120	Wood Raised Paneling At Window	North	Poor	White	10.8

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
502	First	120	Wood Chair Rail	South	Fair	White	0
504	First	101	Drywall Wall (Interior)	East	Fair	White	0
505	First	101	Plaster Ceiling	Ceiling	Fair	White	0
506	First	101	Wood Crown Molding	West	Fair	White	10.8
507	First	101	Wood Door Casing	West	Poor	White	15.1
508	First	Lounge	Plaster Ceiling	Ceiling	Poor	White	0
509	First	Corridor Outside Elevator	Plaster Ceiling	Ceiling	Poor	White	0.05
510	First	Corridor Outside Elevator	Plaster Wall (Exterior)	West	Poor	White	0
513	First	109	Plaster Wall (Exterior)	North	Poor	White	0
514	First	109	Drywall Wall (Interior)	West	Fair	White	0
515	First	Unknown	Wood Door Casing	South	Fair	White	9.2
516	First	Unknown	Wood Door	South	Fair	White	4.4
517	First	Unknown	Metal Pipe	South	Fair	Multi	0.07
518	First	Unknown	Wood Window Casing	East	Fair	White	10.9
519	First	Unknown	Wood Column	West	Fair	White	0
521	First	Unknown	Asbestos Pipe Insulation	South	Fair	White	0.02
522	First	Unknown	Metal Door Casing	North	Fair	Brown	0
523	First	Unknown	Wood Baseboard	North	Fair	White	0.08
524	First	Unknown	Wood Door Casing	South	Fair	White	0.07
525	First	104	Metal Radiator	East	Fair	White	0.01
526	First	104	Asbestos Pipe Insulation	South	Fair	White	0.01
527	First	104	Wood Window Casing	South	Fair	White	0.09
528	First	104	Wood Window Sash	South	Fair	White	0.11
529	First	104	Wood Window Sash	South	Fair	White	0.09
530	First	104	Wood Window Casing	South	Fair	White	0.06
531	First	Unknown	Wood Door Casing	East	Poor	White	27.8
532	First	Unknown	Wood Window Sash	West	Fair	White	26.6
533	First	Unknown	Wood Window Sill	West	Fair	White	30.7
534	First	Unknown	Drywall Wall (Exterior)	South	Fair	White	0
535	First	Unknown	Drywall Window Sill	South	Fair	White	0
538	First	Unknown	Metal Radiator	East	Fair	White	0.01
539	First	104	Plaster Wall (Interior)	West	Fair	White	0.08
540	First	104	Plaster Wall (Interior)	East	Fair	White	5.7
541	First	1	Drywall Wall (Exterior)	South	Fair	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
542	First	1	Metal Radiator	South	Fair	White	0
543	First	1	Metal Door	North	Fair	White	0
544	First	1	Metal Door Casing	North	Fair	White	0
547	First	1	Plaster Ceiling	Na	Fair	Gray	0.08
548	First	Unknown	Brick Wall (Interior)	South	Intact	White	0.25
549	Basement	4	Drywall Wall (Interior)	East	Intact	White	0
551	Basement	4	Wood Beam	South	Intact	White	0.09
552	Basement	4	Plaster Ceiling	Na	Intact	White	0.6
554	Basement	Unknown	Plaster Wall (Interior)	South	Poor	White	0.03
555	Basement	Unknown	Metal Radiator	North	Fair	White	0.01
556	Basement	004B	Wood Door	North	Intact	White	0
557	Basement	004B	Plaster Wall (Interior)	North	Fair	White	1.7
558	Basement	004B	Metal Privacy Partition	South	Intact	White	0.09
559	Basement	004A	Drywall Wall (Interior)	North	Intact	White	0
560	Basement	Unknown	Metal Radiator	South	Intact	White	0.01
561	Basement	Unknown	Metal Door	East	Poor	Gray	0
562	Basement	Unknown	Metal Door Casing	East	Poor	White	0
563	Basement	Unknown	Wood Door	East	Poor	Gray	12.1
564	Basement	Unknown	Wood Door Casing	East	Poor	White	6.6
565	Basement	Unknown	Plaster Wall (Interior)	North	Poor	Gray	0.19
567	Basement	Unknown	Wood Baseboard	South	Poor	Yellow	10.5
569	Basement	Unknown	Wood Door	South	Intact	White	0
570	Basement	Unknown	Brick Wall (Interior)	South	Intact	White	0.18
571	Basement	Unknown	Wood Door Casing	South	Intact	White	10.8
572	Basement	Unknown	Metal Door	South	Fair	White	0
573	Basement	10	Concrete Floor	Floor	Fair	Gray	0.14
574	Basement	10	Concrete Floor	Floor	Fair	Gray	0.05
575	Basement	10	Brick Wall (Exterior)	South	Poor	White	0
576	Basement	10	Concrete Wall (Exterior)	South	Poor	White	0.02
577	Basement	10	Wood Door Casing	East	Intact	White	0
578	Basement	9	Wood Baseboard	East	Intact	White	0
579	Basement	17	Concrete Floor	Floor	Fair	Gray	0.03
580	Basement	Unknown	Wood Door Casing	West	Fair	White	9.7
583	Basement	Unknown	Plaster Ceiling	Ceiling	Intact	White	0.11
584	Basement	Unknown	Metal Sprinkler Pipe	South	Intact	White	0
585	Exterior	Exterior	Metal Handrail	South	Poor	Black	0.04
586	Exterior	Exterior	Metal Handrail	South	Poor	Black	14.1
587	Exterior	Exterior	Wood Door	South	Poor	White	26.3
588	Exterior	Exterior	Wood Door Casing	South	Poor	White	29.7
589	Exterior	Exterior	Metal Window Casing	East	Fair	White	0
590	Exterior	Exterior	Metal Window Casing	South	Intact	Brown	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
591	Exterior	Exterior	Wood Wall (Exterior)	East	Intact	Red	17.8
592	Exterior	Exterior	Wood Wall (Exterior)	East	Intact	Beige	12.1
593	Exterior	Exterior	Wood Column	North	Intact	Beige	32.8
595	Exterior	Exterior	Metal Window Casing	North	Intact	Beige	0.01
988	NA	Elevator	Metal Wall (Interior)	South	Fair	Orange	0.9
989	NA	Elevator	Metal Wall (Interior)	North	Fair	Orange	0.6
1067	Second	Elevator Lobby	Drywall Wall (Exterior)	South	Poor	White	0
1069	Second	Elevator Lobby	Metal Window Sash	South	Intact	Brown	0.01
1071	Second	204	Plaster Wall (Interior)	East	Fair	White	0.02
1072	Second	204	Wood Door	West	Intact	Clear	0
1073	Second	204	Metal Door Casing	West	Intact	Brown	0
1074	Second	Corridor Outside Elevator	Metal Radiator	South	Poor	White	0.01
1075	Second	Corridor Outside 202	Plaster Wall (Interior)	South	Intact	White	0
1076	Second	Corridor Outside 202	Wood Baseboard	South	Fair	Clear	0.02
1077	Second	202	Wood Door	North	Fair	Clear	0
1078	Second	202	Wood Door Casing	North	Fair	White	0.02
1079	Second	213	Plaster Wall (Exterior)	West	Intact	Green	0.14
1080	Second	213	Wood Baseboard	West	Fair	White	0.05
1081	Second	213	Wood Radiator Cover	West	Fair	White	0
1082	Second	213	Metal Radiator	West	Fair	White	0.01
1083	Second	213	Wood Window Casing	West	Fair	White	0.03
1084	Second	213	Wood Window Casing	West	Fair	White	0.05
1087	Second	213	Wood Window Sash	West	Poor	White	0.04
1088	Second	213	Wood Window Sill	West	Fair	White	0.04
1089	Second	213	Wood Window Sill	West	Fair	White	0.16
1090	Second	Corridor Outside 213	Metal Radiator	West	Poor	Brown	0.01
1091	Second	Corridor Outside 213	Plaster Wall (Interior)	North	Intact	White	0
1092	Second	Corridor Outside 213	Wood Window Casing	West	Intact	Brown	0.04
1093	Second	Corridor Outside 213	Wood Window Sash	West	Fair	Brown	0.06
1094	Second	Corridor Outside 213	Wood Window Sill	West	Poor	Brown	0.05
1095	Second	West Stair	Wood Newel Post	South	Intact	Brown	0.02
1096	Second	West Stair	Wood Spindle	South	Intact	Brown	0.03



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1097	Second	West Stair	Wood Stringer	South	Intact	Brown	0.12
1098	Second	West Stair	Wood Riser	South	Intact	Multi	0.08
1099	Second	West Stair	Wood Tread	South	Fair	Brown	0
1101	Second	West Stair	Plaster Ceiling	South	Fair	White	1.5
1103	Second	211	Plaster Wall (Interior)	West	Intact	White	0.05
1104	Second	211	Wood Window Casing	North	Fair	White	10.4
1106	Second	211	Wood Window Sash	North	Poor	White	11.3
1107	Second	211	Wood Window Sill	North	Poor	White	11.9
1108	Second	211	Metal Radiator	East	Fair	White	0.4
1110	Second	211	Wood Door	South	Fair	White	12
1111	Second	211	Wood Door Casing	South	Fair	White	10.7
1112	Second	210	Wood Baseboard	North	Fair	White	0.1
1113	Second	210	Wood Door Casing	West	Fair	White	0.08
1115	Second	Room East of 210	Wood Window Casing	North	Fair	White	0.07
1116	Second	Room East of 210	Wood Window Casing	North	Fair	White	0.8
1117	Second	Room East of 210	Wood Window Sill	North	Fair	White	0.06
1118	Second	Room East of 210	Wood Window Sill	North	Fair	White	0.05
1120	Second	Bath Shower Room	Wood Door Casing	East	Intact	White	6.8
1121	Second	Bath Shower Room	Wood Privacy Partition	West	Fair	White	9.3
1122	Second	SE Corner Room	Plaster Wall (Exterior)	East	Fair	Yellow	0.04
1124	Second	SE Corner Room	Wood Window Casing	East	Fair	White	0.04
1125	Second	SE Corner Room	Wood Window Sill	East	Fair	White	0.04
1126	Second	Corridor Outside 202	Plaster Ceiling	Ceiling	Intact	White	0.02
1128	Second	213	Plaster Ceiling	Ceiling	Intact	White	0
1129	Second	213	Plaster Crown Molding	NA	Intact	White	0.08
1130	Second	Corridor Outside SE Corner Room	Wood Crown Molding	NA	Intact	White	0
1134	Second	Corridor Outside SE Corner Room	Plaster Ceiling	Ceiling	Intact	White	0.01
1135	Second	Bath Shower Room	Plaster Ceiling	Na	Fair	White	6.8
1416	First	SW End Room	Wood Window Casing	West	Intact	White	8.9
1417	First	SW End Room	Wood Window Casing	West	Fair	White	6.6
1418	First	SW End Room	Wood Window Sash	West	Fair	White	5.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 60**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
1419	First	SW End Room	Plaster Wall (Exterior)	West	Fair	White	0.01
1420	First	SW End Room	Metal Radiator	West	Fair	White	0.02
1421	First	SW End Room	Wood Window Sill	West	Fair	White	6.8
1422	First	SW End Room	Wood Door	South	Fair	White	5.4
1423	First	SW End Room	Wood Door Casing	South	Fair	White	1.9
1610	First	Lounge	Wood Mantel	West	Fair	White	13.9
1611	First	Lounge	Plaster Wall (Interior)	West	Fair	White	0
1612	First	Lounge	Wood Chair Rail	West	Fair	White	11.4
1613	First	Lounge	Wood Baseboard	East	Fair	White	13.1
1614	First	Lounge	Drywall Wall (Interior)	South	Fair	White	0
2701	First	Lounge	Plaster Wall (Exterior)	North	Fair	White	0
2702	First	115A	Wood Raised Panels Assoc. W. Windows	South	Fair	White	16.5
2703	First	115A	Wood Window Casing	South	Fair	White	12.5
2704	First	115A	Wood Window Sash	South	Fair	White	11.4
2705	First	115A	Wood Window Sill	South	Fair	White	12.8
2706	First	115A	Wood Bench Seat In Front Of Window	South	Poor	White	13.7
2707	First	115A	Metal Radiator	South	Fair	White	0.02
2708	First	115A	Wood Chair Rail	East	Poor	White	17.6
2709	First	115A	Plaster Wall (Interior)	East	Fair	White	11.2
2710	First	115A	Plaster Wall (Interior)	East	Fair	White	0
2711	First	Lounge	Plaster Wall (Interior)	North	Fair	White	12.8
2712	First	Lounge	Plaster Wall (Interior)	North	Fair	White	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

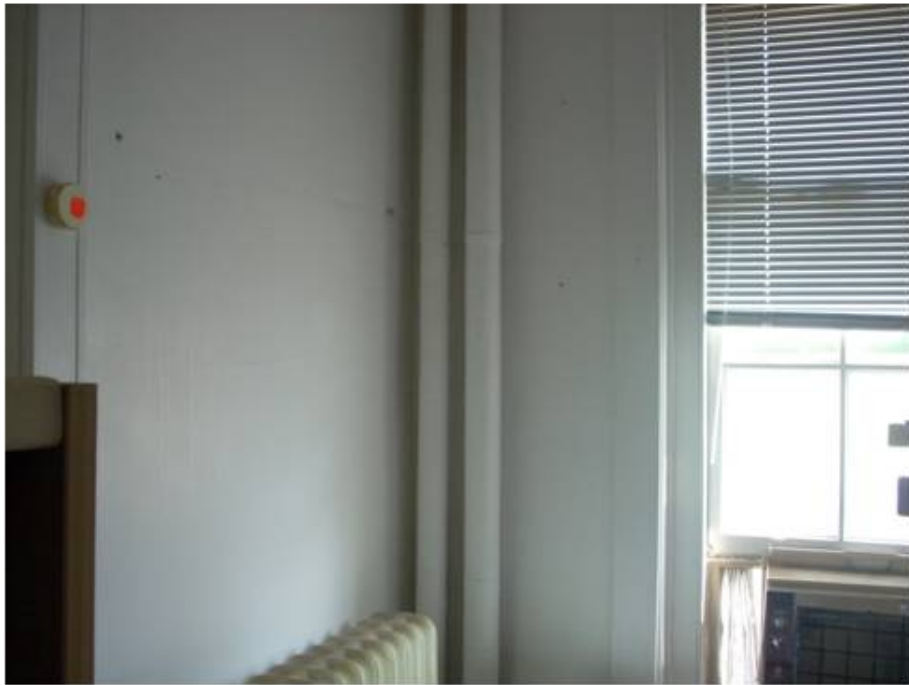
### Relevant Photographs of ACM



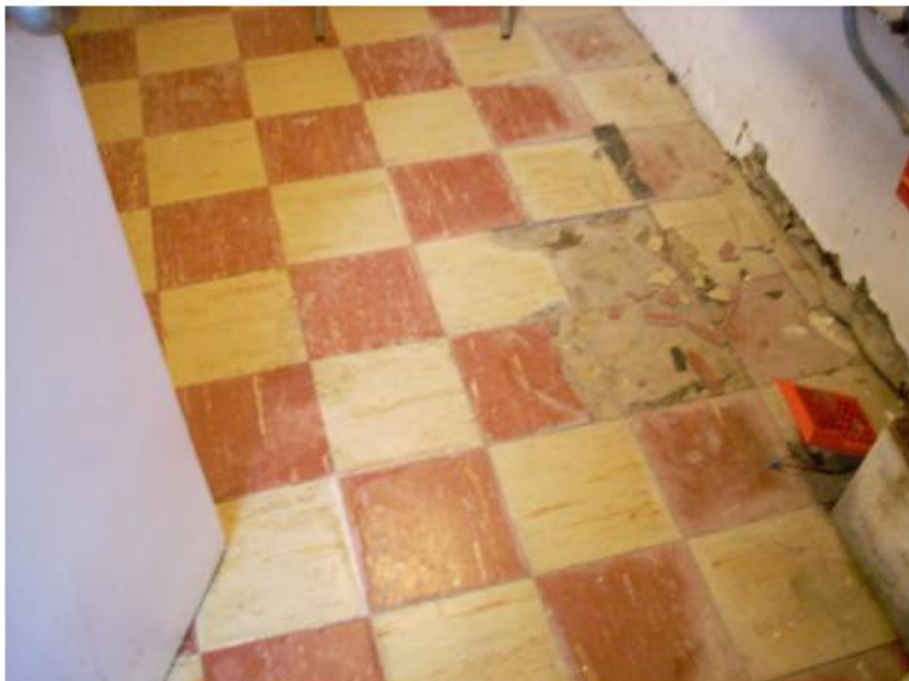
12"x12" Beige Floor Tile and Mastic, Samples 3A and 4C



9"x9" Red Floor Tile, Sample 13A



4" Pipe Insulation, Sample 40A



9"x9" Red Floor Tile, Sample 46  
9"x9" Off White Floor Tile, Sample 47



12"x12" Basement Floor Tile and Mastic, Samples 49A and 50A



Mastic Associated with 12"x12" Lobby Floor Tile, Sample 52





Exterior Window Caulking, Sample 54A



Exterior Door Caulking, Sample 56A

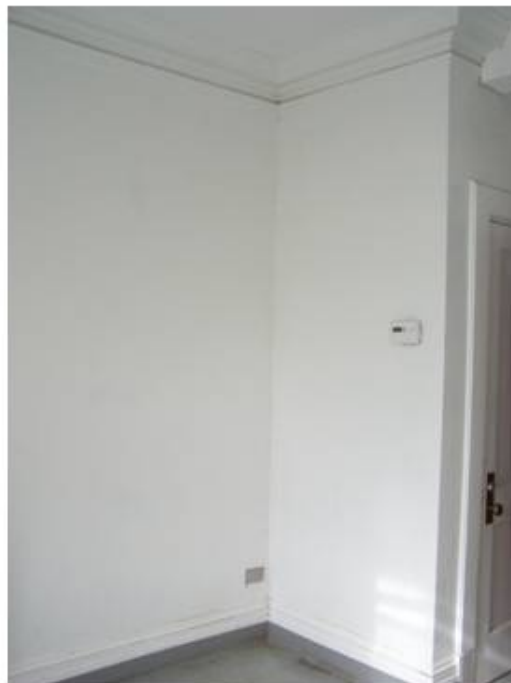
## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Wood Door Casing, Reading 483



Wood Crown Molding and Wood Baseboard, Readings 500 and 506



Wood Window Sash, Wood Window Casing and Wood Window Sill, Readings 497, 498 and 499



Wood Baseboard, Reading 567



Metal Handrail. Wood Door and Wood Door Casing, Readings 586, 587 and 588



Plaster Ceiling, Reading 1135



Wood Mantel and Wood Chair Rail, Readings 1610 and 1612



Wood Raised Panels Associated with Windows and Wood Bench Seat in Front of Window, Readings 2702 and 2706

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 61**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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### Appendices

Appendix A – Table 5, ACM Building Results
Appendix B – Table 6, Summary of XRF Measurements
Appendix C – Relevant Photographs of ACM
Appendix D – Relevant Photographs of Damaged Lead Containing Paint



## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as a sub-contractor, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 97 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 7 of the collected samples contained asbestos greater than or equal to 1%.**
- 168 XRF analyzer measurements of building surfaces were taken in this building.
- **80 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 61 was a three-story IRM Building built in 1955 and occupied approximately 13,646 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 61			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
2A	1	Basement Server Room and Storage Room	9"x9" Brown Floor Tile	3% Chrysotile	425 SF	Good	4
2B	2						
2C	1						
4A	Hallway-East	Basement Hallway, Bathroom and Rm. 5	12"x12" Green Floor Tile	2% Chrysotile	675 SF	Good	4
4B	Restroom						
4C	6						
5A	Hallway-East	Basement Hallway, Bathroom and Rm. 5	12"x12" Green Floor Tile Mastic	5% Chrysotile		Good	4
5B	Restroom						
5C	6						
10C	7	Basement Break Room	12"x12" Brown Floor Tile Mastic	3% Chrysotile	380 SF	Good	4
13A	Hallway-East	1st and 2nd Floor Hallways, 2nd Floor Fire Closet	9"x9" Gray Floor Tile	3% Chrysotile	375 SF	Good	4
13B	Fire Closet						
13C	Hallway-West						
21B	2nd Floor Crawl Space	Columns Inside Attic Crawl Space	Column Mastic	5% Chrysotile	20 SF	Good	4
21C							
31A	1st Floor Bathroom	1st Floor Bathroom East	Green Sheet Flooring	20% Chrysotile	35 SF	Good	4
31B							
31C							

SF – Square Feet

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
12	Basement	003-61-BR	Plaster Ceiling	Ceiling	Poor	Beige	0.17
14	Basement	003-61-BR	Concrete Window Sill	South	Fair	Green	0.6
16	Basement	003-61-BR	Metal Lintel	South	Fair	Green	2.3
17	Basement	003-61-BR	Metal Pipe	South	Intact	Green	0.3
18	Basement	003-61-BR	Metal Pipe	North	Intact	Beige	0.4
19	Basement	001-61-BR	Wood Door	South	Intact	Green	5.2
33	Basement	004-61-BR	Wood Door	North	Intact	Beige	5.6
39	Basement	001-61-BR	Metal Beam	South	Intact	Beige	10.4
43	Basement	001-61-BR	Concrete Column	North	Peeling	Beige	0.5
47	Basement	004A-61-BR	Metal Beam	West	Intact	Gray	3.2
48	Basement	004A-61-BR	Metal Column	West	Intact	Gray	3.1
49	Basement	004A-61-BR	Wood Door Casing	East	Intact	Yellow	5.6

**Table 3 - Summary of Positive XRF Measurements  
Brockton VA Medical Center, Building 61**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
61	Basement	006-61-BR	Wood Door	South	Intact	Beige	4.3
62	Basement	006-61-BR	Wood Door Casing	South	Intact	Beige	7.7
63	Basement	006-61-BR	Wood Window Sill	South	Intact	Beige	4.1
65	Basement	006-61-BR	Concrete Wall	South	Peeling	Green	0.6
68	Basement	001-61-BR	Metal Door	South	Intact	Beige	4.2
70	Basement	STA001-61-BR	Concrete Riser	North	Fair	Gray	0.13
71	First	Lobby	Metal Door	South	Poor	Brown	4.8
74	First	Lobby	Metal Door Casing	North	Poor	Brown	6.8
75	First	Lobby	Wood Trim	NA	Poor	White	5.6
76	First	Hallway First Floor	Wood Door	North	Poor	Gray	4.2
77	First	Hallway First Floor	Plaster Wall	North	Intact	Gray	0.6
80	First	Hallway First Floor	Plaster Trim	East	Fair	Gray	0.23
83	First	Hallway First Floor	Plaster Ceiling	Ceiling	Cracked	White	0.6
84	First	Hallway First Floor	Concrete Stringer	West	Cracked	Gray	0.14
85	First	Hallway First Floor	Metal Spindle	West	Intact	Gray	2.7
86	First	Hallway First Floor	Metal Newel Post	West	Intact	Gray	5
87	First	Hallway First Floor	Metal Radiator	East	Intact	White	0.15
96	First	C102-61-BR	Plaster Wall	East	Intact	White	0.5
97	First	C102-61-BR	Wood Window Casing	East	Intact	White	3.6
98	First	C102-61-BR	Wood Window Sill	East	Intact	White	3.1
102	First	C103-61-BR	Wood Window Casing	East	Intact	Beige	3
103	First	C103-61-BR	Plaster Wall	East	Intact	White	1.3
104	First	C103-61-BR	Plaster Wall	West	Intact	White	0.5
106	First	C103-61-BR	Plaster Wall	South	Intact	White	0.4
107	First	C103-61-BR	Plaster Wall	East	Intact	White	0.8
108	First	C103-61-BR	Plaster Wall	North	Intact	White	0.4
109	First	C103-61-BR	Wood Baseboard	East	Intact	Beige	3.3
111	First	C103-61-BR	Wood Door	East	Intact	Beige	1.5
112	First	C103-61-BR	Wood Window Sill	East	Intact	Beige	4.6
113	First	C103-61-BR	Wood Door Casing	East	Intact	Beige	7.1
116	First	C107-61-BR	Wood Window Casing	West	Intact	White	4.7
117	First	C107-61-BR	Wood Window Sill	West	Intact	White	2.5
120	First	C107-61-BR	Plaster Wall	South	Intact	White	0.7
121	First	C107-61-BR	Wood Door	East	Intact	White	2.6
122	First	C107-61-BR	Wood Door Casing	East	Intact	White	6
124	First	C108-61-BR	Plaster Wall	North	Intact	White	0.11

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
125	First	C108-61-BR	Wood Door	North	Intact	White	6
126	First	C111	Wood Door Casing	North	Intact	Beige	6.5
128	First	C106-61-BR	Wood Trim	West	Intact	White	0.5
129	First	C106-61-BR	Wood Trim	West	Intact	White	0.6
130	First	C106-61-BR	Wood Baseboard	East	Intact	White	8.1
134	First	C101-61-BR	Metal Door	North	Fair	White	0.15
135	First	C115-61-BR	Wood Window Casing	East	Intact	Yellow	18.9
137	First	C115-61-BR	Wood Window Sill	West	Intact	Yellow	6.4
144	First	B103-61-BR	Wood Baseboard	North	Intact	Gray	5
152	First	B106-61-BR	Wood Door Casing	North	Intact	White	4.3
153	First	B106-61-BR	Wood Door	North	Intact	Gray	3.8
155	First	B103-61-BR	Wood Baseboard	West	Intact	Gray	4.8
158	First	C103-61-BR	Plaster Wall	West	Intact	White	0.23
167	Second	D212-61-BR	Wood Door Casing	East	Intact	White	5.8
168	Second	D212-61-BR	Wood Door	East	Intact	Gray	7.5
169	Second	D212-61-BR	Wood Baseboard	West	Intact	Gray	5.7
170	Second	D212-61-BR	Metal Radiator	East	Intact	White	0.15
171	Second	D212-61-BR	Wood Window Casing	East	Intact	White	3.7
172	Second	D212-61-BR	Wood Window Sill	East	Intact	White	3.1
174	Second	D203-61-BR	Plaster Wall	South	Intact	Green	0.6
178	Second	D212-61-BR	Wood Baseboard	South	Intact	White	8.2
182	Second	E201-61-BR	Metal Door Casing	East	Intact	White	0.17
185	Exterior	Exterior	Wood Door Casing	North	Poor	Yellow	24.3
186	Exterior	Exterior	Wood Door Casing	North	Poor	Yellow	23.3
187	Exterior	Exterior	Metal Window Well Guard	West	Fair	Yellow	3.3
190	Exterior	Exterior	Wood Trim	North	Poor	Brown	12.8
191	Exterior	Exterior	Wood Tread	East	Poor	Gray	0.8
192	Exterior	Exterior	Wood Tread	East	Poor	Gray	0.5
193	Exterior	Exterior	Wood Tread	East	Poor	Gray	1.2
194	Exterior	Exterior	Wood Riser	East	Poor	Gray	2.1
196	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.11
199	Exterior	Exterior	Wood Lattice	East	Poor	White	16
NA – Not Applicable							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

#### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos



Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 61</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	1,855 SF
Sheet Flooring and/or Mastic	35 SF
Column Mastic	20 SF
SF – Square feet	

## **6.2 Lead Containing Paint**

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	1	-	4'x8' Sheet Ceiling	NAD	-	-	-
1B	8	-	4'x8' Sheet Ceiling	NAD	-	-	-
1C	2	-	4'x8' Sheet Ceiling	NAD	-	-	-
2A	1	Basement Server and Storage Rooms	9"x9" Brown Floor Tile	3% Chrysotile	375 SF	Good	4
2B	2	Basement Server and Storage Rooms	9"x9" Brown Floor Tile	Stop Positive See 2A			
2C	1	Basement Server and Storage Rooms	9"x9" Brown Floor Tile	Stop Positive See 2A			
3A	1	-	9"x9" Brown Floor Tile Mastic	NAD	-	-	-
3B	2	-	9"x9" Brown Floor Tile Mastic	NAD	-	-	-
3C	1	-	9"x9" Brown Floor Tile Mastic	NAD	-	-	-
4A	Hallway-East	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile	2% Chrysotile	675 SF	Good	4
4B	Restroom	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile	Stop Positive See 4A			
4C	6	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile	Stop Positive See 4A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
5A	Hallway-East	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile Mastic	5% Chrysotile	675 SF	Good	4
5B	Restroom	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile Mastic	Stop Positive See 5A			
5C	6	Basement Hallway, Bathroom and Rm. 6	12"x12" Green Floor Tile Mastic	Stop Positive See 5A			
6A	1	-	Perforated Wall Board	NAD	-	-	-
6B	2	-	Perforated Wall Board	NAD	-	-	-
6C	1	-	Perforated Wall Board	NAD	-	-	-
7A	1	-	Transite Wall Board	NAD	-	-	-
7B	2	-	Transite Wall Board	NAD	-	-	-
7C	5	-	Transite Wall Board	NAD	-	-	-
8A	Hallway-by RM-4	-	Plaster Ceiling Base Coat	NAD	-	-	-
8B	5	-	Plaster Ceiling Base Coat	NAD	-	-	-
8C	6	-	Plaster Ceiling Base Coat	NAD	-	-	-
8D	3	-	Plaster Ceiling Base Coat	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
8E	4	-	Plaster Ceiling Base Coat	NAD	-	-	-
9A	7	-	12"x12" Brown Floor Tile	NAD	-	-	-
9B	7	-	12"x12" Brown Floor Tile	NAD	-	-	-
9C	7	-	12"x12" Brown Floor Tile	NAD	-	-	-
10A	7	-	12"x12" Brown Floor Tile Mastic	Trace	-	-	-
10B	7	-	12"x12" Brown Floor Tile Mastic	Trace	-	-	-
10C	7	Basement Break Room	12"x12" Brown Floor Tile Mastic	3% Chrysotile	380 SF	Good	4
11A	Closet East	-	Drywall	NAD	-	-	-
11B	Closet West	-	Drywall	NAD	-	-	-
11C	2nd Floor Closet	-	Drywall	NAD	-	-	-
12A	Closet East	-	Joint Compound	NAD	-	-	-
12B	Closet West	-	Joint Compound	NAD	-	-	-
12C	2nd Floor Closet	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
13A	Hallway East	1st and 2nd Floor Hallways, 2nd Floor Fire Closet	9"x9" Gray floor tile	3% Chrysotile	375 SF	Good	4
13B	Fire Closet	1st and 2nd Floor Hallways, 2nd Floor Fire Closet	9"x9" Gray floor tile	Stop Positive See 13A			
13C	Hallway West	1st and 2nd Floor Hallways, 2nd Floor Fire Closet	9"x9" Gray floor tile	Stop Positive See 13A			
14A	Hallway East	-	9"x9" Gray floor tile mastic	NAD	-	-	-
14B	Fire Closet	-	9"x9" Gray floor tile mastic	NAD	-	-	-
14C	Hallway west	-	9"x9" Gray floor tile mastic	NAD	-	-	-
15A	Bathroom East	-	Bathroom Caulking	NAD	-	-	-
15B	Bathroom East	-	Bathroom Caulking	NAD	-	-	-
15C	Bathroom West	-	Bathroom Caulking	NAD	-	-	-
16A	Reception	-	12"x12" Gray Floor Tile	NAD	-	-	-
16B	Reception	-	12"x12" Gray Floor Tile	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
16C	Stairwell Landing	-	12"x12" Gray Floor Tile	NAD	-	-	-
17A	Reception	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
17B	Reception	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
17C	Stairwell Landing	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
18A	107	-	Residual Ceiling Mastic	NAD	-	-	-
18B	107	-	Residual Ceiling Mastic	NAD	-	-	-
18C	107	-	Residual Ceiling Mastic	NAD	-	-	-
19A	107	-	2'x2' Ceiling Tile	NAD	-	-	-
19B	207	-	2'x2' Ceiling Tile	NAD	-	-	-
19C	210	-	2'x2' Ceiling Tile	NAD	-	-	-
20A	Attic	-	Insulation	NAD	-	-	-
20B	Attic	-	Insulation	NAD	-	-	-
20C	Attic	-	Insulation	NAD	-	-	-
21A	2nd Floor Crawl Space	-	Column Mastic	Trace	-	-	-



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
21B	2nd Floor Crawl Space	Columns Inside Attic Crawl Space	Column Mastic	5% Chrysotile	20 SF	Good	4
21C	2nd Floor Crawl Space	Columns Inside Attic Crawl Space	Column Mastic	Stop Positive See 21B			
22A	111	-	1'x1' Ceiling Tile	NAD	-	-	-
22B	111	-	1'x1' Ceiling Tile	NAD	-	-	-
22C	108	-	1'x1' Ceiling Tile	NAD	-	-	-
23A	Exterior North	-	Window Caulking	NAD	-	-	-
23B	Exterior West	-	Window Caulking	NAD	-	-	-
23C	Exterior South	-	Window Caulking	NAD	-	-	-
24A	Entrance Landing	-	12"x12" Off-White Floor Tile	NAD	-	-	-
24B	Entrance Landing	-	12"x12" Off-White Floor Tile	NAD	-	-	-
24C	Entrance Landing	-	12"x12" Off-White Floor Tile	NAD	-	-	-
25A	Entrance Landing	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-
25B	Entrance Landing	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
25C	Entrance Landing	-	12"x12" Off-White Floor Tile Mastic	NAD	-	-	-
26A	Exterior North	-	Expansion Joint Caulk	NAD	-	-	-
26B	Exterior East	-	Expansion Joint Caulk	NAD	-	-	-
26C	Exterior South	-	Expansion Joint Caulk	NAD	-	-	-
27A	Hallway-by RM-4	-	Plaster Ceiling Skim Coat	NAD	-	-	-
27B	5	-	Plaster Ceiling Skim Coat	NAD	-	-	-
27C	6	-	Plaster Ceiling Skim Coat	NAD	-	-	-
27D	3	-	Plaster Ceiling Skim Coat	NAD	-	-	-
27E	4	-	Plaster Ceiling Skim Coat	NAD	-	-	-
28A	Bathroom	-	Green Sheet Flooring Mastic	NAD	-	-	-
28B	Bathroom	-	Green Sheet Flooring Mastic	NAD	-	-	-
28C	Bathroom	-	Green Sheet Flooring Mastic	NAD	-	-	-
29A	File Room	-	Decorative Sheet Flooring	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 61**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
29B	File Room	-	Decorative Sheet Flooring	NAD	-	-	-
29C	File Room	-	Decorative Sheet Flooring	NAD	-	-	-
30A	File Room	-	Decorative Sheet Flooring Mastic	NAD	-	-	-
30B	File Room	-	Decorative Sheet Flooring Mastic	NAD	-	-	-
30C	File Room	-	Decorative Sheet Flooring Mastic	NAD	-	-	-
31A	Bathroom	1st Floor Bathroom East	Green Sheet Flooring	20% Chrysotile	35 SF	Good	4
31B	Bathroom	1st Floor Bathroom East	Green Sheet Flooring	Stop Positive See 31A			
31C	Bathroom	1st Floor Bathroom East	Green Sheet Flooring	Stop Positive See 31A			
NAD – No Asbestos Detected SF – Square Feet							

## Appendix B

### Table 6 Summary of XRF Measurements

Table 6 - Summary of XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
4	Basement	002-61-BR	Concrete Wall	West	Intact	Green	0.01
7	Basement	002-61-BR	Concrete Wall	East	Intact	Green	0.01
8	Basement	002-61-BR	Concrete Tread	East	Intact	Green	0.02
9	Basement	002-61-BR	Concrete Riser	East	Intact	Gray	0.02
10	Basement	001-61-BR	Metal Door	West	Peeling	Green	0.08
11	Basement	001-61-BR	Metal Door Casing	West	Fair	Green	0.09
12	Basement	003-61-BR	Plaster Ceiling	NA	Poor	Beige	0.17
13	Basement	003-61-BR	Metal Window Casing	South	Poor	Green	0.05
14	Basement	003-61-BR	Concrete Window Sill	South	Fair	Green	0.6
15	Basement	003-61-BR	Brick Wall	South	Poor	Green	0.06
16	Basement	003-61-BR	Metal Lintel	South	Fair	Green	2.3
17	Basement	003-61-BR	Metal Pipe	South	Intact	Green	0.3
18	Basement	003-61-BR	Metal Pipe	North	Intact	Beige	0.4
19	Basement	001-61-BR	Wood Door	South	Intact	Green	5.2
20	Basement	001-61-BR	Metal Door Casing	South	Fair	Green	0.07
21	Basement	002-61-BR	Wood Wall	West	Intact	Beige	0
22	Basement	002-61-BR	Wood Door Casing	West	Intact	Beige	0
25	Basement	002-61-BR	Wood Door	West	Fair	Clear	0.01
26	Basement	002-61-BR	Wood Door Casing	West	Fair	Beige	0
27	Basement	002-61-BR	Wood Ceiling	NA	Fair	Beige	0
29	Basement	002-61-BR	Concrete Wall	North	Intact	Beige	0.01
30	Basement	002-61-BR	Wood Baseboard	East	Intact	Beige	0
31	Basement	002-61-BR	Wood Soffit	North	Intact	Beige	0
32	Basement	002-61-BR	Wood Door	North	Intact	Green	0.1
33	Basement	004-61-BR	Wood Door	North	Intact	Beige	5.6
34	Basement	004-61-BR	Plaster Ceiling	NA	Cracked	Beige	0.01
35	Basement	004-61-BR	Brick Wall	East	Cracked	Beige	0.09
36	Basement	004-61-BR	Metal Door Casing	North	Fair	Beige	0.04
37	Basement	001-61-BR	Wood Ceiling	NA	Fair	Beige	0
38	Basement	001-61-BR	Brick Wall	East	Fair	Beige	0
39	Basement	001-61-BR	Metal Beam	South	Intact	Beige	10.4
40	Basement	001-61-BR	Wood Wall	South	Intact	Beige	0.01
41	Basement	001-61-BR	Metal Door	South	Intact	Beige	0.1
42	Basement	001-61-BR	Metal Door	North	Fair	Beige	0.08
43	Basement	001-61-BR	Concrete Column	North	Peeling	Beige	0.5
46	Basement	001-61-BR	Plaster Ceiling	NA	Fair	White	0.02
47	Basement	004A-61-BR	Metal Beam	West	Intact	Gray	3.2
48	Basement	004A-61-BR	Metal Column	West	Intact	Gray	3.1
49	Basement	004A-61-BR	Wood Door	East	Intact	Yellow	5.6

Table 6 - Summary of XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
			Casing				
50	Basement	005-61-BR	Concrete Floor	NA	Intact	Gray	0.01
51	Basement	005-61-BR	Wood Wall	South	Intact	Beige	0
52	Basement	005-61-BR	Metal Radiator	South	Intact	Beige	0.02
54	Basement	005-61-BR	Wood Window Casing	South	Intact	Beige	0
55	Basement	005-61-BR	Wood Window Sill	South	Intact	Beige	0.01
56	Basement	007-61-BR	Wood Wall	North	Intact	Clear	0.01
57	Basement	007-61-BR	Wood Wall	West	Intact	Clear	0.01
58	Basement	007-61-BR	Wood Wood Kicker	East	Intact	Black	0.01
59	Basement	006-61-BR	Metal Fencing Over Window	South	Intact	Black	0
60	Basement	006-61-BR	Metal Fencing Over Window In Door	South	Intact	Black	0
61	Basement	006-61-BR	Wood Door	South	Intact	Beige	4.3
62	Basement	006-61-BR	Wood Door Casing	South	Intact	Beige	7.7
63	Basement	006-61-BR	Wood Window Sill	South	Intact	Beige	4.1
65	Basement	006-61-BR	Concrete Wall	South	Peeling	Green	0.6
67	Basement	006-61-BR	Brick Wall	South	Peeling	Green	0.03
68	Basement	001-61-BR	Metal Door	South	Intact	Beige	4.2
69	Basement	STA001-61-BR	Concrete Tread	North	Intact	Gray	0.09
70	Basement	STA001-61-BR	Concrete Riser	North	Fair	Gray	0.13
71	First	Lobby	Metal Door	South	Poor	Brown	4.8
72	First	Lobby	Metal Door Casing	South	Poor	Brown	0.03
74	First	Lobby	Metal Door Casing	North	Poor	Brown	6.8
75	First	Lobby	Wood Trim	NA	Poor	White	5.6
76	First	Hallway First Floor	Wood Door	North	Poor	Gray	4.2
77	First	Hallway First Floor	Plaster Wall	North	Intact	Gray	0.6
78	First	Hallway First Floor	Metal Door Casing	North	Fair	Gray	0.06
80	First	Hallway First Floor	Plaster Trim	East	Fair	Gray	0.23
83	First	Hallway First Floor	Plaster Ceiling	NA	Cracked	White	0.6
84	First	Hallway First Floor	Concrete Stringer	West	Cracked	Gray	0.14
85	First	Hallway First Floor	Metal Spindle	West	Intact	Gray	2.7
86	First	Hallway First	Metal Newel	West	Intact	Gray	5

Table 6 - Summary of XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
		Floor	Post				
87	First	Hallway First Floor	Metal Radiator	East	Intact	White	0.15
88	First	Hallway First Floor	Plaster Wall	East	Intact	Multi	0.07
89	First	Hallway First Floor	Plaster Wall	South	Intact	Red	0.07
90	First	C101-61-Br	Metal Door	South	Intact	Red	0.05
94	First	Hallway First Floor	Plaster Ceiling	NA	Intact	White	0.01
95	First	C102-61-BR	Plaster Wall	West	Intact	White	0
96	First	C102-61-BR	Plaster Wall	East	Intact	White	0.5
97	First	C102-61-BR	Wood Window Casing	East	Intact	White	3.6
98	First	C102-61-BR	Wood Window Sill	East	Intact	White	3.1
99	First	C102-61-BR	Metal Radiator	East	Intact	White	0.01
100	First	C102-61-BR	Wood Trim	East	Intact	White	0
101	First	C102-61-BR	Wood Baseboard	East	Intact	White	0
102	First	C103-61-BR	Wood Window Casing	East	Intact	Beige	3
103	First	C103-61-BR	Plaster Wall	East	Intact	White	1.3
104	First	C103-61-BR	Plaster Wall	West	Intact	White	0.5
105	First	C103-61-BR	Plaster Wall	West	Intact	White	0
106	First	C103-61-BR	Plaster Wall	South	Intact	White	0.4
107	First	C103-61-BR	Plaster Wall	East	Intact	White	0.8
108	First	C103-61-BR	Plaster Wall	North	Intact	White	0.4
109	First	C103-61-BR	Wood Baseboard	East	Intact	Beige	3.3
110	First	C103-61-BR	Wood Trim	North	Intact	Beige	0
111	First	C103-61-BR	Wood Door	East	Intact	Beige	1.5
112	First	C103-61-BR	Wood Window Sill	East	Intact	Beige	4.6
113	First	C103-61-BR	Wood Door Casing	East	Intact	Beige	7.1
114	First	C103-61-BR	Wood Trim	South	Intact	White	0
116	First	C107-61-BR	Wood Window Casing	West	Intact	White	4.7
117	First	C107-61-BR	Wood Window Sill	West	Intact	White	2.5
118	First	C107-61-BR	Plaster Wall	West	Intact	White	0.09
120	First	C107-61-BR	Plaster Wall	South	Intact	White	0.7
121	First	C107-61-BR	Wood Door	East	Intact	White	2.6
122	First	C107-61-BR	Wood Door Casing	East	Intact	White	6
123	First	C108-61-BR	Plaster Wall	South	Intact	White	0.1
124	First	C108-61-BR	Plaster Wall	North	Intact	White	0.11
125	First	C108-61-BR	Wood Door	North	Intact	White	6
126	First	C111	Wood Door Casing	North	Intact	Beige	6.5

Table 6 - Summary of XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
128	First	C106-61-BR	Wood Trim	West	Intact	White	0.5
129	First	C106-61-BR	Wood Trim	West	Intact	White	0.6
130	First	C106-61-BR	Wood Baseboard	East	Intact	White	8.1
134	First	C101-61-BR	Metal Door	North	Fair	White	0.15
135	First	C115-61-BR	Wood Window Casing	East	Intact	Yellow	18.9
137	First	C115-61-BR	Wood Window Sill	West	Intact	Yellow	6.4
138	First	C115-61-BR	Drywall Ceiling	Ceiling	Intact	White	0
139	First	C115-61-BR	Wood Wall	East	Intact	Clear	0
143	First	B103-61-BR	Plaster Wall	South	Chalking	White	0.1
144	First	B103-61-BR	Wood Baseboard	North	Intact	Gray	5
145	First	B103-61-BR	Plaster Ceiling	NA	Cracked	White	0.06
146	First	B106-61-BR	Metal Door	East	Cracked	White	0
148	First	B106-61-BR	Metal Door Casing	North	Intact	White	0
150	First	B106-61-BR	Wood Door Casing	West	Intact	White	0
152	First	B106-61-BR	Wood Door Casing	North	Intact	White	4.3
153	First	B106-61-BR	Wood Door	North	Intact	Gray	3.8
154	First	B107-61-BR	Plaster Wall	North	Intact	Green	0.03
155	First	B103-61-BR	Wood Baseboard	West	Intact	Gray	4.8
156	First	C103-61-BR	Plaster Wall	South	Intact	White	0.05
157	First	C103-61-BR	Plaster Wall	West	Intact	White	0
158	First	C103-61-BR	Plaster Wall	West	Intact	White	0.23
159	First	Stair Between 1 And 2	Plaster Wall	North	Peeling	Gray	0.08
160	Second	CR201-61-BR	Plaster Wall	South	Peeling	White	0.03
161	Second	CR201-61-BR	Metal Door	West	Intact	Red	0.04
162	Second	CR201-61-BR	Metal Door Casing	West	Intact	White	0.1
163	Second	FC201-61-BR	Plaster Wall	West	Intact	Red	0.08
164	Second	CR-201-61-BR	Wood Door	South	Intact	White	0.03
165	Second	D206-61-BR	Plaster Wall	South	Intact	White	0.08
166	Second	D206-61-BR	Wood Cabinet	West	Intact	White	0.02
167	Second	D212-61-BR	Wood Door Casing	East	Intact	White	5.8
168	Second	D212-61-BR	Wood Door	East	Intact	Gray	7.5
169	Second	D212-61-BR	Wood Baseboard	West	Intact	Gray	5.7
170	Second	D212-61-BR	Metal Radiator	East	Intact	White	0.15
171	Second	D212-61-BR	Wood Window Casing	East	Intact	White	3.7
172	Second	D212-61-BR	Wood Window	East	Intact	White	3.1



Table 6 - Summary of XRF Measurements Brockton VA Medical Center, Building 61							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
			Sill				
173	Second	D212-61-BR	Plaster Wall	East	Intact	White	0.03
174	Second	D203-61-BR	Plaster Wall	South	Intact	Green	0.6
175	Second	D203-61-BR	Wood Door	North	Intact	Clear	0
176	Second	D203-61-BR	Metal Door Casing	North	Intact	White	0
177	Second	D206-61-BR	Plaster Ceiling	NA	Intact	White	0.04
178	Second	D212-61-BR	Wood Baseboard	South	Intact	White	8.2
180	Second	E201-61-BR	Plaster Wall	East	Intact	Blue	0.09
181	Second	E201-61-BR	Metal Door	West	Intact	Gray	0.1
182	Second	E201-61-BR	Metal Door Casing	East	Intact	White	0.17
183	Second	A106-61-BR	Wood Cabinet	West	Intact	White	0.07
184	Second	A106-61-BR	Metal Door Casing	South	Intact	White	0
185	Exterior	Exterior	Wood Door Casing	North	Poor	Yellow	24.3
186	Exterior	Exterior	Wood Door Casing	North	Poor	Yellow	23.3
187	Exterior	Exterior	Metal Window Well Guard	West	Fair	Yellow	3.3
188	Exterior	Exterior	Wood Siding	East	Fair	Brown	0
189	Exterior	Exterior	Wood Siding	North	Fair	Brown	0
190	Exterior	Exterior	Wood Trim	North	Poor	Brown	12.8
191	Exterior	Exterior	Wood Tread	East	Poor	Gray	0.8
192	Exterior	Exterior	Wood Tread	East	Poor	Gray	0.5
193	Exterior	Exterior	Wood Tread	East	Poor	Gray	1.2
194	Exterior	Exterior	Wood Riser	East	Poor	Gray	2.1
195	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.1
196	Exterior	Exterior	Metal Handrail	East	Poor	Black	0.11
197	Exterior	Exterior	Metal Column	East	Poor	Black	0.08
198	Exterior	Exterior	Wood Ceiling	NA	Poor	White	0
199	Exterior	Exterior	Wood Lattice	East	Poor	White	16
207	Basement	CR001-61-BR	Metal Door Casing	South	Intact	Beige	0.05
NA – Not Applicable  <u>Font Color Annotation:</u>  Black – Below the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> Blue – Above the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> , But less than 1.0 mg/cm <sup>2</sup> Red – Greater than 1.0 mg/cm <sup>2</sup>							

## Appendix C

### Relevant Photographs of ACM



9"x9" Brown Floor Tile, Sample 2A



12"x12" Green Floor Tile and Mastic, Samples 4A and 5A



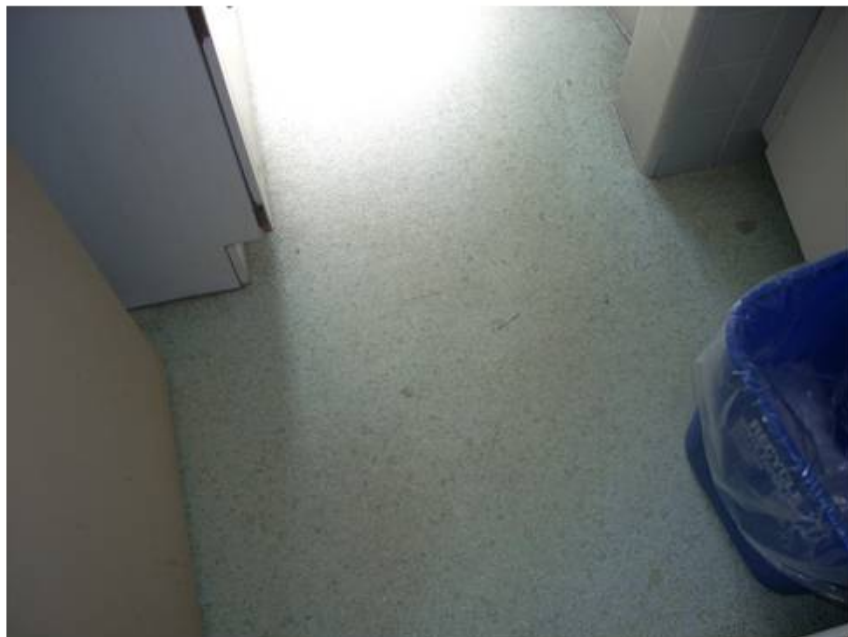
Mastic Associated with 12"x12" Brown Floor Tile Mastic, Sample 10C



9"x9" Gray Floor Tile, Sample 13A



Column Mastic, Sample 21B



GreenSheetFlooring, Sample 31A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Metal Lintel, Reading 16



Wood Trim, Reading 75



Wood Door Casing, Reading 186



Metal Window Well Guard, Reading 187





Wood Trim, Reading 190



Wood Tread and Wood Riser, Readings 193 and 194



Wood Lattice, Reading 199

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 62**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

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Appendix B – Table 6, Summary of XRF Measurements  
Appendix C – Relevant Photographs of ACM  
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractor, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 57 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 4 of the collected samples contained asbestos greater than or equal to 1%.**
- 48 XRF analyzer measurements of building surfaces were taken in this building.
- **32 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 62 was a one-story Drug Treatment Building built in 1955 and occupied approximately 6,784 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 62			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 62**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*	
10C	Exterior	Doors	Door Frame Caulk	7.99% Chrysotile <sup>1</sup> 13.31% Anthophyllite <sup>1</sup>	45 LF	Good	4	
15A	102	Kitchen	Sink Undercoat	10% Chrysotile	1 EA	Good	4	
15B								
17A	115	1st Floor Under Carpet	12"x12" Green Floor Tile	2% Chrysotile	300 SF	Good	4	
17B	114		12"x12" Green Floor Tile Mastic	15% Chrysotile		Good	4	
18A	115							
18B	114							
Footnotes: 1 – Analyzed by TEM				LF – Linear Feet EA – Each SF – Square Feet				

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 62							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
337	First	Vestibule	Concrete Safety Stripe	South	Fair	Red	10.2
338	First	Vestibule	Wood Door Casing	West	Intact	White	22.6
339	First	Vestibule	Wood Door	West	Intact	White	25
340	First	117	Wood Door	East	Intact	Beige	16.2
341	First	117	Wood Door Casing	East	Intact	Beige	4.9
345	First	Corridor Outside 102	Wood Door	South	Fair	White	4.8
346	First	Corridor Outside 102	Wood Door Casing	South	Fair	White	7.5
347	First	Corridor Outside 102	Drywall Wall (Interior)	South	Intact	White	0.15
348	First	Corridor Outside 102	Metal Radiator	South	Intact	White	0.22
349	First	102	Wood Window Sill	West	Poor	White	6.3
350	First	102	Wood Window Casing	West	Fair	White	6.2
351	First	102	Plaster Wall (Exterior)	West	Intact	White	0.12
352	First	102	Metal Radiator	North	Intact	White	0.19
353	First	102	Metal Radiator	North	Intact	White	0.17
355	First	102	Wood Door Casing	South	Fair	White	8.1
357	First	102	Wood Door	South	Intact	White	0.17
361	First	Corridor Outside 104	Wood Door	North	Intact	White	5.7

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 62							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
362	First	Corridor Outside 104	Wood Door Casing	North	Intact	White	7.3
364	First	FC-101	Wood Door	North	Intact	White	6.2
365	First	FC-101	Plaster Wall (Interior)	North	Intact	Red	0.11
367	First	106	Wood Baseboard	South	Intact	White	8.6
369	First	Corridor Outside 108	Wood Door	North	Intact	White	6.4
370	First	Corridor Outside 108	Wood Door Casing	North	Intact	White	6.5
372	First	Corridor Outside 110	Wood Baseboard	South	Intact	White	5.2
374	First	110	Wood Window Casing	South	Intact	White	3.9
375	First	110	Wood Window Sill	South	Intact	White	0.24
384	Exterior	Exterior	Metal Vent	East	Fair	Brown	11.8
385	Exterior	Exterior	Wood Lattice Work	North	Fair	Brown	13.1
386	Exterior	Exterior	Wood Door Casing	North	Fair	Brown	0.5
387	Exterior	Exterior	Wood Door Casing	North	Fair	Brown	22.2
389	Exterior	Exterior	Concrete Safety Stripe	North	Intact	Red	0.13
390	Exterior	Exterior	Metal Handrail	North	Intact	Brown	6.9

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 62	
General Description of Material	Estimated Quantity
Floor Tile and/or Mastic	300 SF
Door Caulking	45 LF
Sink Undercoat	1 EA
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 62**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	102	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1B	102	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
1C	117	-	2'x2' Ceiling Tile (Fissured)	NAD	-	-	-
2A	105	-	4" Cove Base Adhesive	NAD	-	-	-
2B	Hallway	-	4" Cove Base Adhesive	NAD	-	-	-
2C	Hallway	-	4" Cove Base Adhesive	NAD	-	-	-
3A	107	-	12"x12" Gray Floor Tile	NAD	-	-	-
3B	104A	-	12"x12" Gray Floor Tile	NAD	-	-	-
3C	Hallway	-	12"x12" Gray Floor Tile	NAD	-	-	-
4A	107	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
4B	104A	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
4C	Hallway	-	12"x12" Gray Floor Tile Mastic	NAD	-	-	-
5A	102	-	Plaster Base Coat	NAD	-	-	-
5B	104	-	Plaster	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 62**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
			Base Coat				
5C	104A	-	Plaster Base Coat	NAD	-	-	-
5D	105	-	Plaster Base Coat	NAD	-	-	-
5E	113	-	Plaster Base Coat	NAD	-	-	-
6A	102	-	Plaster Finish Coat	NAD	-	-	-
6B	104	-	Plaster Finish Coat	NAD	-	-	-
6C	104A	-	Plaster Finish Coat	NAD	-	-	-
6D	105	-	Plaster Finish Coat	NAD	-	-	-
6E	113	-	Plaster Finish Coat	NAD	-	-	-
7A	102	-	6" Cove Base Adhesive	NAD	-	-	-
7B	102	-	6" Cove Base Adhesive	NAD	-	-	-
7C	Hallway	-	6" Cove Base Adhesive	NAD	-	-	-
8A	107	-	Floor Leveler	NAD	-	-	-
8B	104A	-	Floor Leveler	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 62**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
8C	Hallway	-	Floor Leveler	NAD	-	-	-
9A	114	-	Carpet Adhesive	NAD	-	-	-
9B	115	-	Carpet Adhesive	NAD	-	-	-
9C	114	-	Carpet Adhesive	NAD	-	-	-
10A	Exterior - South Side	-	Door Frame Caulk	NAD	-	-	-
10B	Exterior - East Side	-	Door Frame Caulk	NAD	-	-	-
10C	Exterior - North Side	Doors	Door Frame Caulk	7.99% Chrysotile <sup>1</sup> 13.31% Anthophyllite <sup>1</sup>	45 LF	Good	4
11A	104	-	2'x2' Ceiling Tile (Smooth)	NAD	-	-	-
11B	104	-	2'x2' Ceiling Tile (Smooth)	NAD	-	-	-
12A	102	-	Drywall	NAD	-	-	-
12B	Hallway	-	Drywall	NAD	-	-	-
12C	102	-	Drywall	NAD	-	-	-
13A	102	-	Joint Compound	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 62**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
13B	Hallway	-	Joint Compound	NAD	-	-	-
13C	102	-	Joint Compound	NAD	-	-	-
14A	102	-	Ceiling Tile Glue Daub	NAD	-	-	-
14B	102	-	Ceiling Tile Glue Daub	NAD	-	-	-
14C	102	-	Ceiling Tile Glue Daub	NAD	-	-	-
15A	102	Room 102 (Kitchen)	Sink Undercoat	10% Chrysotile	1 EA	Good	4
15B	102	Room 102 (Kitchen)	Sink Undercoat	Stop Positive See 15A			
16A	107	-	Window Caulk - Interior	NAD	-	-	-
16B	114	-	Window Caulk - Interior	NAD	-	-	-
16C	117	-	Window Caulk - Interior	NAD	-	-	-
17A	114	1st Floor Under Carpet	12"x12" Green Floor Tile	2% Chrysotile	300 SF	Good	4
17B	115	1st Floor Under	12"x12" Green Floor Tile	Stop Positive See 17A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 62**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
		Carpet					
18A	114	1st Floor Under Carpet	12"x12" Green Floor Tile and Mastic	15% Chrysotile	300 SF	Good	4
18B	115	1st Floor Under Carpet	12"x12" Green Floor Tile and Mastic	Stop Positive See 18A			
19A	Exterior - South Side	-	Window Frame Caulk	NAD	-	-	-
19B	Exterior - East Side	-	Window Frame Caulk	NAD	-	-	-
19C	Exterior - North Side	-	Window Frame Caulk	NAD	-	-	-
Footnotes: 1 – Analyzed by TEM				NAD – No Asbestos Detected LF – Linear Feet EA – Each SF – Square Feet			

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 62**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
337	First	Vestibule	Concrete Safety Stripe	South	Fair	Red	10.2
338	First	Vestibule	Wood Door Casing	West	Intact	White	22.6
339	First	Vestibule	Wood Door	West	Intact	White	25
340	First	117	Wood Door	East	Intact	Beige	16.2
341	First	117	Wood Door Casing	East	Intact	Beige	4.9
342	First	117	Wood Window Sill	West	Fair	Brown	0.05
343	First	117	Wood Window Casing	West	Fair	Brown	0
345	First	Corridor Outside 102	Wood Door	South	Fair	White	4.8
346	First	Corridor Outside 102	Wood Door Casing	South	Fair	White	7.5
347	First	Corridor Outside 102	Drywall Wall (Interior)	South	Intact	White	0.15
348	First	Corridor Outside 102	Metal Radiator	South	Intact	White	0.22
349	First	102	Wood Window Sill	West	Poor	White	6.3
350	First	102	Wood Window Casing	West	Fair	White	6.2
351	First	102	Plaster Wall (Exterior)	West	Intact	White	0.12
352	First	102	Metal Radiator	North	Intact	White	0.19
353	First	102	Metal Radiator	North	Intact	White	0.17
354	First	102	Wood Cabinet	East	Fair	White	0
355	First	102	Wood Door Casing	South	Fair	White	8.1
357	First	102	Wood Door	South	Intact	White	0.17
358	First	102	Wood Door	South	Intact	White	0
360	First	104	Metal Privacy Partition	West	Intact	White	0.04
361	First	Corridor Outside 104	Wood Door	North	Intact	White	5.7
362	First	Corridor Outside 104	Wood Door Casing	North	Intact	White	7.3
363	First	Corridor Outside 104	Plaster Wall (Interior)	North	Intact	White	0.01
364	First	FC-101	Wood Door	North	Intact	White	6.2
365	First	FC-101	Plaster Wall (Interior)	North	Intact	Red	0.11
366	First	106	Plaster Wall (Interior)	West	Intact	White	0.05
367	First	106	Wood Baseboard	South	Intact	White	8.6
368	First	Corridor Outside 108	Metal Sprinkler Pipe	North	Fair	Red	0.08
369	First	Corridor Outside 108	Wood Door	North	Intact	White	6.4

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 62**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
370	First	Corridor Outside 108	Wood Door Casing	North	Intact	White	6.5
371	First	Corridor Outside 110	Plaster Wall (Interior)	South	Intact	White	0.04
372	First	Corridor Outside 110	Wood Baseboard	South	Intact	White	5.2
373	First	110	Metal Radiator	South	Intact	White	0.01
374	First	110	Wood Window Casing	South	Intact	White	3.9
375	First	110	Wood Window Sill	South	Intact	White	0.24
377	First	110	Metal Window Sash	South	Intact	Brown	0
379	First	Corridor Outside 104B	Plaster Ceiling	Ceiling	Intact	White	0
381	First	113	Plaster Ceiling	Ceiling	Poor	White	0.03
382	First	113	Metal Sprinkler Pipe	West	Intact	Red	0.01
384	Exterior	Exterior	Metal Vent	East	Fair	Brown	11.8
385	Exterior	Exterior	Wood Lattice Work	North	Fair	Brown	13.1
386	Exterior	Exterior	Wood Door Casing	North	Fair	Brown	0.5
387	Exterior	Exterior	Wood Door Casing	North	Fair	Brown	22.2
388	Exterior	Exterior	Metal Door	North	Intact	Brown	0
389	Exterior	Exterior	Concrete Safety Stripe	North	Intact	Red	0.13
390	Exterior	Exterior	Metal Handrail	North	Intact	Brown	6.9

**Font Color Annotation:**

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>



## Appendix C

### Relevant Photographs of ACM



Door Caulk, Sample 10C



Sink Undercoating, Sample 15A



12"x12" Green Floor Tile and Mastic Underneath Carpet, Samples 17A and 18A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Concrete Safety Stripe, Reading 337



Wood Door and Wood Door Casing, Readings 345 and 346





Exterior Metal Vent, Reading 384



Wood Lattice Work, Reading 385

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 64**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



This report was prepared by the following Mabbett & Associates, Inc. personnel:



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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 9 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 0 of the collected samples contained asbestos greater than or equal to 1%.**
- 10 XRF analyzer measurements of building surfaces were taken in this building.
- **4 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 64 was a one-story Picnic Building built in 1955.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 64			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 64							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 – Summary of Positive XRF Measurements Brockton VA Medical Center, Building 64							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
320	First	Unknown	Metal Window Sash	North	Poor	White	16.8
322	First	Unknown	Wood Door Casing	East	Poor	Beige	14.2
325	First	Unknown	Wood Door Casing	East	Poor	Green	13.1
327	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	28.4

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 64	
General Description of Material	Estimated Quantity
No Positive Samples	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.



Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 64**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Women's Restroom	-	Window Glazing	NAD	-	-	-
1B	Women's Restroom	-	Window Glazing	NAD	-	-	-
1C	Women's Restroom	-	Window Glazing	NAD	-	-	-
2A	Exterior	-	Exterior Window Caulking	NAD	-	-	-
2B	Exterior	-	Exterior Window Caulking	NAD	-	-	-
2C	Exterior	-	Exterior Window Caulking	NAD	-	-	-
3A	Exterior	-	Penetration Caulking	NAD	-	-	-
3B	Exterior	-	Penetration Caulking	NAD	-	-	-
3C	Exterior	-	Penetration Caulking	NAD	-	-	-

NAD – No Asbestos Detected

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 64**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
319	First	Unknown	Concrete Wall (Exterior)	North	Poor	Green	0.01
320	First	Unknown	Metal Window Sash	North	Poor	White	16.8
321	First	Unknown	Concrete Window Sill	North	Poor	White	0.06
322	First	Unknown	Wood Door Casing	East	Poor	Beige	14.2
323	First	Unknown	Metal Door	East	Poor	Brown	0
324	First	Unknown	Concrete Wall (Interior)	West	Poor	Green	0.02
325	First	Unknown	Wood Door Casing	East	Poor	Green	13.1
326	Exterior	Exterior	Concrete Wall (Exterior)	East	Poor	Green	0.08
327	Exterior	Exterior	Wood Door Casing	East	Poor	Brown	28.4
328	First	Unknown	Concrete Wall (Exterior)	South	Poor	Green	0.01

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>





Metal Window Sash, Reading 320



Wood Door Casing, Reading 327

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 65**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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This report has been reviewed and approved by:

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Appendix B – Table 6, Summary of XRF Measurements  
Appendix C – Relevant Photographs of ACM  
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 18 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 3 of the collected samples contained asbestos greater than or equal to 1%.**
- 18 XRF analyzer measurements of building surfaces were taken in this building.
- **9 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 65 was a one-story vacant Greenhouse built in 1955 and occupied approximately 2,348 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 65			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.



**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 65**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	Bathroom Area	Pipes Running Along Ceiling and Wall	Pipe Insulation	20% Chrysotile 20% Amosite	100 LF	Good	4
1B	Prep Area						
1C							
2A	Bathroom Area	Elbow Fittings on Pipes	Elbow Insulation	40% Chrysotile	20 Fittings	Good	4
2B	Prep Area						
2C							
4A	North Side	Four Growing Tables, North and South Wings of Building	Transite	25% Chrysotile 10% Amosite	460 SF	Good	4
4B	South Side						
4C	South Side						

SF – Square Feet  
LF – Linear Feet

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 65							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
279	First	Unknown	Wood Door	East	Poor	Yellow	4.8
281	First	Unknown	Wood Window Casing	East	Poor	White	0.7
283	First	Unknown	Wood Window Casing	West	Poor	White	2.1
285	First	Unknown	Wood Door	Center	Poor	White	5
286	First	Unknown	Wood Door Casing	Center	Poor	White	2.9
292	First	Unknown	Metal Column	North	Poor	White	0.26
604	Exterior	Exterior	Wood Window Casing	East	Poor	Yellow	11.1
605	Exterior	Exterior	Concrete Capstone	East	Poor	Yellow	0.11
606	Exterior	Exterior	Wood Wall (Exterior)	North	Poor	Yellow	35.5

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey

these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## **5.0 LIMITATIONS**

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## **6.0 CLOSING REMARKS**

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### **6.1 Asbestos**

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 65	
General Description of Material	Estimated Quantity
Pipe Insulation	100 LF
Pipe Fittings	20 EA
Transite Panel at Radiators	460 SF
SF – Square feet LF – Linear Feet EA – Each	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to 1.0 mg/cm<sup>2</sup> exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than 0.1 mg/cm<sup>2</sup> have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 65**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Bathroom Area	Pipes Running Along Ceiling and Wall	Pipe Insulation	20% Chrysotile 20% Amosite	100 LF	Good	4
1B	Prep Area	Pipes Running Along Ceiling and Wall	Pipe Insulation	Stop Positive See 1A			
1C	Prep Area	Pipes Running Along Ceiling and Wall	Pipe Insulation	Stop Positive See 1A			
2A	Bathroom Area	Elbow Fittings on Pipes	Elbow Insulation	40% Chrysotile	20 Fittings	Good	4
2B	Prep Area	Elbow Fittings on Pipes	Elbow Insulation	Stop Positive See 2A			
2C	Prep Area	Elbow Fittings on Pipes	Elbow Insulation	Stop Positive See 2A			
3A	Exterior South	-	Window Glazing	NAD	-	-	-
3B	Exterior North	-	Window Glazing	NAD	-	-	-
3C	Exterior East	-	Window Glazing	NAD	-	-	-
4A	North Side	Four Growing Tables, North and South Wings of Building	Transite	25% Chrysotile 10% Amosite	460 SF	Good	4
4B	South Side	Four Growing Tables, North and South Wings of Building	Transite	Stop Positive See 4A			

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 65**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
4C	South Side	Four Growing Tables, North and South Wings of Building	Transite	Stop Positive See 4A			
5A	West Side	-	Black Felt Paper (Wall)	NAD	-	-	-
5B	West Side	-	Black Felt Paper (Wall)	NAD	-	-	-
5C	West Side	-	Black Felt Paper (Wall)	NAD	-	-	-
6A	Exterior West	-	Exterior Skim Coat on Cement Block Wall	NAD	-	-	-
6B	Exterior West	-	Exterior Skim Coat on Cement Block Wall	NAD	-	-	-
6C	Exterior West	-	Exterior Skim Coat on Cement Block Wall	NAD	-	-	-
NAD – No Asbestos Detected LF – Linear Feet SF – Square Feet							



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 65**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
279	First	Unknown	Wood Door	East	Poor	Yellow	4.8
281	First	Unknown	Wood Window Casing	East	Poor	White	0.7
282	First	Unknown	Wood Window Casing	East	Poor	White	0.04
283	First	Unknown	Wood Window Casing	West	Poor	White	2.1
284	First	Unknown	Concrete Wall (Exterior)	East	Poor	White	0.08
285	First	Unknown	Wood Door	Center	Poor	White	5
286	First	Unknown	Wood Door Casing	Center	Poor	White	2.9
287	First	Unknown	Asbestos Cement Board Planter	West	Poor	White	0
288	First	Unknown	Concrete Wall (Exterior)	South	Poor	White	0
289	First	Unknown	Metal Framing Assoc. W. Door	South	Poor	Gray	0
291	First	Unknown	Asbestos Cement Planter	North	Poor	White	0
292	First	Unknown	Metal Column	North	Poor	White	0.26
293	First	Unknown	Wood Wall (Exterior)	West	Poor	White	0
294	First	Unknown	Wood Wall (Exterior)	North	Poor	White	0.08
603	Exterior	Exterior	Wood Wall (Exterior)	North	Poor	Yellow	0.01
604	Exterior	Exterior	Wood Window Casing	East	Poor	Yellow	11.1
605	Exterior	Exterior	Concrete Capstone	East	Poor	Yellow	0.11
606	Exterior	Exterior	Wood Wall (Exterior)	North	Poor	Yellow	35.5

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>

Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>

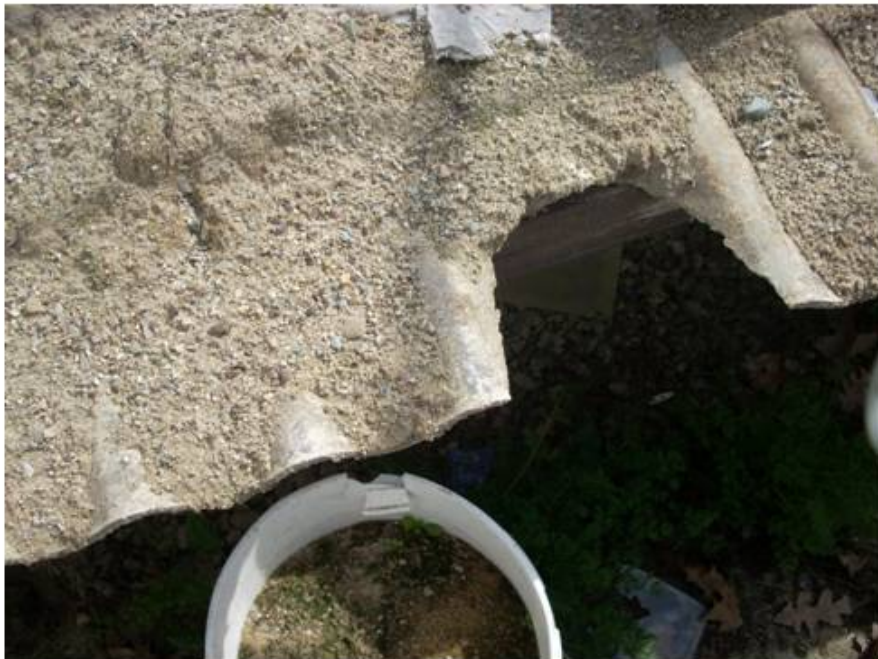
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Pipe Insulation, Sample 1A  
Elbow Insulation, Sample 2A



Transite Growing Table, Sample 4A

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>



Wood Door and Wood Door Casing, Readings 285 and 286



Wood Window Casing and Exterior Wood Wall, Readings 604 and 606

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 67**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

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Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Appendix B – Table 6, Summary of XRF Measurements  
Appendix C – Relevant Photographs of ACM  
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 13 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 0 of the collected samples contained asbestos greater than or equal to 1%.**
- 2 XRF analyzer measurements of building surfaces were taken in this building.
- **0 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 67 was a one-story Generator Building built in 1975 and occupied approximately 704 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 67			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 67							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 67							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
No lead paint readings above VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> .							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 67	
General Description of Material	Estimated Quantity
No Positive Samples	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.



Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 67**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Generator Room	-	Fitting Insulation	NAD	-	-	-
1B	Generator Room	-	Fitting Insulation	NAD	-	-	-
1C	Generator Room	-	Fitting Insulation	NAD	-	-	-
2A	Generator Room	-	Tank Insulation	NAD	-	-	-
2B	Generator Room	-	Tank Insulation	NAD	-	-	-
2C	Generator Room	-	Tank Insulation	NAD	-	-	-
3A	Generator Room	-	Pipe Insulation	NAD	-	-	-
3B	Generator Room	-	Pipe Insulation	NAD	-	-	-
3C	Generator Room	-	Pipe Insulation	NAD	-	-	-
4	Exterior	-	Penetration Caulking	NAD	-	-	-
5A	Exterior	-	Window Caulking	NAD	-	-	-
5B	Exterior	-	Window Caulking	NAD	-	-	-
5C	Exterior	-	Window Caulking	NAD	-	-	-

NAD – No Asbestos Detected

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 67**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
416	First	101	Concrete Wall (Exterior)	North	Intact	Gray	0
417	First	101	Metal Door Casing	East	Intact	Brown	0.02

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)



**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 68**



VISN 1  
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Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Massachusetts Asbestos Inspector AI031436  
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 15 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, none of the collected samples contained asbestos greater than or equal to 1%.**
- 0 XRF analyzer measurements of building surfaces were taken in this building.
- **None of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 68 was a one-story Generator Building built in 1979 and occupied approximately 360 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 68			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 68							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.



## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 68							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
No measurements were collected above the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> .							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 68	
General Description of Material	Estimated Quantity
No Positive Samples	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 68**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Generator Room	-	Spray On Fireproofing	NAD	-	-	-
1B	Generator Room	-	Spray On Fireproofing	NAD	-	-	-
1C	Generator Room	-	Spray On Fireproofing	NAD	-	-	-
2A	Generator Room	-	Tank Insulation	NAD	-	-	-
2B	Generator Room	-	Tank Insulation	NAD	-	-	-
2C	Generator Room	-	Tank Insulation	NAD	-	-	-
3A	Generator Room	-	Fitting Insulation	NAD	-	-	-
3B	Generator Room	-	Fitting Insulation	NAD	-	-	-
3C	Generator Room	-	Fitting Insulation	NAD	-	-	-
4A	Generator Room	-	Jacket (Hitco 1980)	NAD	-	-	-
4B	Generator Room	-	Jacket (Hitco 1980)	NAD	-	-	-
4C	Generator Room	-	Jacket (Hitco 1980)	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 68**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
5A	Generator Room	-	Red Fire Stop	NAD	-	-	-
5B	Generator Room	-	Red Fire Stop	NAD	-	-	-
5C	Generator Room	-	Red Fire Stop	NAD	-	-	-
NAD – No Asbestos Detected							

## Appendix B

### Table 6 Summary of XRF Measurements



**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 68**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
400	Exterior	Exterior	Concrete Wall (Exterior)	North	Intact	Gray	0
401	Exterior	Exterior	Concrete Wall (Exterior)	South	Intact	Gray	0
402	First	101	Metal Door	West	Fair	Yellow	0.04
403	First	101	Metal Door Casing	West	Fair	Yellow	0.04
404	Exterior	Exterior	Metal Door Casing	West	Fair	Brown	0.02
405	Exterior	Exterior	Metal Door	West	Fair	Brown	0.02
406	Exterior	Exterior	Metal Louver	North	Fair	Brown	0

Font Color Annotation:

- Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>
- Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>
- Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 69**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

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- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
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Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



Michael F. Delaney  
Project Manager  
Massachusetts Asbestos Inspector AI031436  
Massachusetts Management Planner AP000048

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.



Robert K. McKinley, MPH, CIH, LIH  
Director of Industrial Hygiene Services  
Massachusetts Asbestos Inspector AI000314

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- Appendix A – Table 5, ACM Building Results  
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 17 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, none of the collected samples contained asbestos greater than or equal to 1%.**
- 4 XRF analyzer measurements of building surfaces were taken in this building.
- **None of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 69 was a one-story Generator Building built in 1979 and occupied approximately 360 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.



Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 69			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

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- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

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- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
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- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
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### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

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### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 69							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 69							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
No measurements were collected above the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> .							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 69	
General Description of Material	Estimated Quantity
No Positive Samples	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results



**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 69**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Exterior	-	Door Caulking	NAD	-	-	-
1B	Exterior	-	Door Caulking	NAD	-	-	-
1C	Exterior	-	Door Caulking	NAD	-	-	-
2A	Exterior	-	Window Caulking	NAD	-	-	-
2B	Exterior	-	Window Caulking	NAD	-	-	-
2C	Exterior	-	Window Caulking	NAD	-	-	-
3	Exterior	-	Penetration Caulking	NAD	-	-	-
4A	Generator Room	-	Pipe Insulation	NAD	-	-	-
4B	Generator Room	-	Pipe Insulation	NAD	-	-	-
5A	Generator Room	-	Fitting Insulation	NAD	-	-	-
5B	Generator Room	-	Fitting Insulation	NAD	-	-	-
6A	Generator Room	-	Tank Insulation	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 69**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6B	Generator Room	-	Tank Insulation	NAD	-	-	-
6C	Generator Room	-	Tank Insulation	NAD	-	-	-
7A	Generator Room	-	Spray on Fireproofing	NAD	-	-	-
7B	Generator Room	-	Spray on Fireproofing	NAD	-	-	-
7C	Generator Room	-	Spray on Fireproofing	NAD	-	-	-
NAD – No Asbestos Detected							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 69**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
295	First	101	Concrete Wall (Exterior)	East	Fair	Gray	0
296	First	101	Concrete Wall (Exterior)	West	Fair	Gray	0
297	First	101	Metal Door	North	Fair	Yellow	0.03
298	First	101	Metal Door Casing	North	Fair	Yellow	0.05

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
 Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
 Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 70**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Appendix C – Relevant Photographs of ACM  
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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 20 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 1 of the collected samples contained asbestos greater than or equal to 1%.**
- 4 XRF analyzer measurements of building surfaces were taken in this building.
- **None of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 70 was a one-story Generator Building built in 1979 and occupied approximately 360 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 70			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

**Table 2 - Summary of Positive ACM Samples  
Brockton VA Medical Center, Building 70**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
4	Exterior	Wall Penetration	Black Caulking	15% Chrysotile	1 SF	Good	4

SF – Square Feet

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 70							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
No measurements were collected above the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> .							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 70	
General Description of Material	Estimated Quantity
Exterior Caulking	1 SF
SF – Square feet	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.



Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 70**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Exterior	-	Window Caulking	NAD	-	-	-
1B	Exterior	-	Window Caulking	NAD	-	-	-
1C	Exterior	-	Window Caulking	NAD	-	-	-
2A	Exterior	-	Door Caulking	NAD	-	-	-
2B	Exterior	-	Door Caulking	NAD	-	-	-
2C	Exterior	-	Door Caulking	NAD	-	-	-
3	Exterior	-	Red Penetration Caulking	NAD	-	-	-
4	Exterior	Wall Penetration	Black Caulking	15% Chrysotile	1 SF	Good	4
5A	Generator Room	-	Tank Insulation	NAD	-	-	-
5B	Generator Room	-	Tank Insulation	NAD	-	-	-
5C	Generator Room	-	Tank Insulation	NAD	-	-	-
6A	Generator Room	-	Pipe Elbow Insulation	NAD	-	-	-
6B	Generator Room	-	Pipe Elbow Insulation	NAD	-	-	-

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 70**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
6C	Generator Room	-	Pipe Elbow Insulation	NAD	-	-	-
7A	Generator Room	-	Pipe Insulation	NAD	-	-	-
7B	Generator Room	-	Pipe Insulation	NAD	-	-	-
7C	Generator Room	-	Pipe Insulation	NAD	-	-	-
8A	Generator Room	-	Spray On Insulation	NAD	-	-	-
8B	Generator Room	-	Spray On Insulation	NAD	-	-	-
8C	Generator Room	-	Spray On Insulation	NAD	-	-	-

NAD – No Asbestos Detected  
SF – Square Feet

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 70**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
299	First	101	Concrete Wall (Exterior)	North	Intact	Gray	0
300	First	101	Concrete Wall (Exterior)	South	Poor	Gray	0.01
302	First	101	Metal Door	North	Fair	Yellow	0.03
303	First	101	Metal Door Casing	North	Fair	Yellow	0.06

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
 Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
 Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM





Black Penetration Caulking, Sample 4

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 71**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

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This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

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Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**

This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Project Manager  
Massachusetts Asbestos Inspector AI031436  
Massachusetts Management Planner AP000048

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.



Robert K. McKinley, MPH, CIH, LIH  
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Massachusetts Asbestos Inspector AI000314

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Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 3 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, none of the collected samples contained asbestos greater than or equal to 1%.**
- 13 XRF analyzer measurements of building surfaces were taken in this building.
- **None of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 71 was a one-story Switchgear Building built in 1979 and occupied approximately 200 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 71			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.



(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 71							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 71							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
398	Exterior	Exterior	Metal Wall (Exterior)	South	Fair	Green	0.8
399	Exterior	Exterior	Metal Wall (Exterior)	South	Fair	Green	0.4

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 71	
General Description of Material	Estimated Quantity
No Positive Samples	

### 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential building are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 71**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Switch Gear Building	-	Metal Wall Panel Gasket	NAD	-	-	-
1B	Switch Gear Building	-	Metal Wall Panel Gasket	NAD	-	-	-
1C	Switch Gear Building	-	Metal Wall Panel Gasket	NAD	-	-	-
NAD – No Asbestos Detected							



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 71**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
394	First	Unknown	Metal Wall (Exterior)	East	Fair	Gray	0
395	First	Unknown	Metal Wall (Exterior)	West	Fair	Gray	0
396	First	Unknown	Metal Wall (Exterior)	East	Fair	Gray	0
397	First	Unknown	Metal Floor	Floor	Fair	Gray	0
398	Exterior	Exterior	Metal Wall (Exterior)	South	Fair	Green	0.8
399	Exterior	Exterior	Metal Wall (Exterior)	South	Fair	Green	0.4

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
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 Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BUILDING 72**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



Mabbett & Associates, Inc.  
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## **ACKNOWLEDGMENT**

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This report was prepared by the following Mabbett & Associates, Inc. personnel:



Michael F. Delaney  
Project Manager  
Massachusetts Asbestos Inspector AI031436  
Massachusetts Management Planner AP000048

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.



Robert K. McKinley, MPH, CIH, LIH  
Director of Industrial Hygiene Services  
Massachusetts Asbestos Inspector AI000314

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## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 12 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, none of the collected samples contained asbestos greater than or equal to 1%.**
- 4 XRF analyzer measurements of building surfaces were taken in this building.
- **None of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, Building 72 was a one-story Generator Building built in 1998 and occupied approximately 400 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Building 72			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

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- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

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- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
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### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 4 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 4 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positive ACM Samples Brockton VA Medical Center, Building 72							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
No Positive Samples							

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

## 4.2 Summary of Lead Screening Survey Findings

### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Building 72							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
No measurements were collected above the VISN 1 Threshold of 0.1 mg/cm <sup>2</sup> .							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 5 – Summary of XRF Measurements. Table 5 includes a description of each screened surface and resulting XRF-measured lead concentration.

### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

## 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

## 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.

### 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Building 72	
General Description of Material	Estimated Quantity
No Positive Samples	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures



## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 – Summary of ACM Building Results  
Brockton VA Medical Center, Building 72**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
1A	Generator Room	-	Tank Insulation	NAD	-	-	-
1B	Generator Room	-	Tank Insulation	NAD	-	-	-
1C	Generator Room	-	Tank Insulation	NAD	-	-	-
2A	Generator Room	-	Fitting Insulation	NAD	-	-	-
2B	Generator Room	-	Fitting Insulation	NAD	-	-	-
2C	Generator Room	-	Fitting Insulation	NAD	-	-	-
3A	Generator Room	-	Pipe Insulation	NAD	-	-	-
3B	Generator Room	-	Pipe Insulation	NAD	-	-	-
3C	Generator Room	-	Pipe Insulation	NAD	-	-	-
4A	Generator Room	-	Curb Caulking	NAD	-	-	-
4B	Generator Room	-	Curb Caulking	NAD	-	-	-
4C	Generator Room	-	Curb Caulking	NAD	-	-	-
NAD – No Asbestos Detected							

## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Building 72**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
90	First	101	Metal Door Casing	North	Intact	Brown	0
91	First	101	Metal Door	North	Intact	Brown	0
92	First	101	Concrete Wall (Exterior)	East	Intact	White	0
93	First	101	Metal Pipe	East	Intact	Yellow	0

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
 Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
 Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM

(Not Applicable)

## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)

**VOLUME II  
ASBESTOS CONTAINING MATERIAL &  
LEAD CONTAINING PAINT  
SURVEY REPORT  
BROCKTON TUNNELS**



VISN 1  
**Brockton VA Medical Center**  
940 Belmont Street  
Brockton, Massachusetts

Project No. 2009023.003

June 21, 2010



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## **ACKNOWLEDGMENT**

This Asbestos Containing Materials (ACM) and Lead Containing Paint (LCP) Building Survey Report was prepared for the Veterans Affairs (VA) New England Healthcare System (VISN 1) in accordance with an established scope of work as defined in Contract Number VA241-P-1653. The information presented herein is based on the facts and information conveyed to or received by Mabbett & Associates, Inc. (M&A) during the preparation of this report. If any of the information provided to M&A that was used in preparing this report is incorrect, incomplete, or subject to change, M&A would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to M&A as of the date of this report and considered applicable to this report.

This individual building report from Volume II which contains building specific lead and asbestos findings is part of the Comprehensive VAMC Lead and Asbestos Survey Report consisting of:

### **Volume I - General**

Chapter 1 - Introduction and Executive Summary  
Chapter 2 - Asbestos Operations & Maintenance (O&M) Manual  
Chapter 3 - Asbestos Containing Materials (ACM) Survey Tables  
Chapter 4 - Lead Containing Paint Survey Tables

### **Volume II – Individual Building Reports**

Individual Building Reports Chapters including:

- Cover page with building number
- Building narrative summary
- Floor plans
- Relevant asbestos findings for the building
- Relevant lead containing paint findings for the building
- Relevant photos

### **Volume III – Appendices and Supporting Data**

Appendix A - Asbestos Laboratory Analysis Reports and Laboratory Certifications  
Appendix B - Inspector Field Data Sheets/Chains-of-Custody  
Appendix C - Personnel Certifications & Licenses  
Appendix D - XRF Performance Characteristics/Calibration Records  
Appendix E - Lead Laboratory Analysis Reports and Laboratory Certifications (If Applicable)

### **Volume IV – HUD Residential LBP Reports (If Applicable)**



This report was prepared by the following Mabbett & Associates, Inc. personnel:



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Appendix C – Relevant Photographs of ACM  
Appendix D – Relevant Photographs of Damaged Lead Containing Paint

## 1.0 INTRODUCTION & EXECUTIVE SUMMARY

Mabbett and Associates, Inc. (M&A), with Covino Environmental Associates, Inc. (Covino) as sub-contractors, performed surveys for suspect asbestos containing building materials (ACM) and screenings of suspect lead containing paint (LCP) surfaces utilizing an X-Ray Fluorescence (XRF) analyzer. Surveys were performed of selected buildings at the VA Medical Center (VAMC) located at 940 Belmont Street, Brockton, MA, under Contract VA241-P-1653. A complete list of buildings surveyed is in Volume I of this report. Site survey work was performed during February, 2010, by appropriately credentialed personnel as required. Collected suspect ACM samples were submitted to a certified analytical laboratory for asbestos analysis by polarized light microscopy (PLM) using positive stop methodology and transmission electron microscopy (TEM) where indicated. When necessary, paint chip samples were collected and submitted to a certified analytical laboratory for lead content analysis using atomic absorption spectroscopy. The survey effort involved the collection of the following samples, resulting in the following conclusions:

- 49 bulk samples for suspect ACM were collected in this building.
- **Based on laboratory analysis of suspect ACM, 6 of the collected samples contained asbestos greater than or equal to 1%.**
- 39 XRF analyzer measurements of building surfaces were taken in this building.
- **7 of the XRF measurements revealed concentrations of lead that exceeded 0.1 mg/cm<sup>2</sup>.**

This building report consists of a summary of findings, floor plans indicating positive sample locations, detailed analytical findings for the specific surveyed building materials, and photos of identified ACM. In addition, photos of lead containing paint greater than 1.0 mg/cm<sup>2</sup> and in an other than intact condition, when observed, were provided. Laboratory certificates of analysis and field data sheets for this building report are available in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

## 2.0 BUILDING DESCRIPTION

According to information provided by the VAMC Office of Facilities Management and observations made by the M&A team at the time of the survey, the Brockton tunnels are ground-level or underground corridors which connect numerous buildings at the Brockton facility. The tunnels occupy approximately 25,200 square feet.

## 3.0 ASBESTOS SURVEY

### 3.1 Sampling Methodology

A visual screening inspection was conducted by state licensed asbestos inspectors throughout the building to identify locations of suspect ACM. Only areas that were accessible during the field work phase were inspected. Every effort was made during the initial field survey work to access areas as necessary to complete the survey. However, if any areas remained inaccessible to the survey team, they are indicated in Table 1 below.

Table 1 – Specific Inaccessible Areas Brockton VA Medical Center, Brockton Tunnels			
Building	Floor	Room No.	Reason Area Was Inaccessible and Survey Impacts, If Applicable
There were no inaccessible areas identified during this survey.			

Other general areas that were inaccessible or where the survey was limited to visual observation only are identified below:

- Within walls
- Enclosed pipe/duct chases
- Above fixed drywall or plaster ceilings
- Within fire doors
- Inside mechanical equipment/ductwork

ACM surveys should be performed prior to any proposed renovations or maintenance involving inaccessible areas.

Bulk samples were collected of suspect ACM in accordance with US Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA) and VISN 1 approved M&A VISN 1 Survey Program Standard Operating Procedure (SOP). Roofing materials were not sampled unless otherwise indicated in order to maintain applicable warranties. Bulk suspect ACM sampling was conducted according to the following sampling plan:

(a) Surfacing material:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft<sup>2</sup> or less.
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft<sup>2</sup> but less than or equal to 5,000 ft<sup>2</sup>.
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.

(b) Thermal system insulation:

- (1) At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
- (2) At least one bulk sample shall be collected from each homogeneous area of patched area of thermal system insulation.
- (3) Sufficient samples shall be collected from elbows and fittings to determine if it contains ACM.
- (4) Bulk samples shall not be collected from any homogeneous area where the state licensed asbestos inspector determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) Miscellaneous material:

- (1) At least one bulk sample shall be collected from each homogeneous area that is less than 100 ft<sup>2</sup>.
- (2) At least three bulk samples shall be collected from each homogeneous area that is greater than 100 ft<sup>2</sup>.

### **3.2 Analytical Methodology**

The collected bulk samples were submitted under chain of custody procedures to ProScience Analytical Services, Inc. (ProScience) of Woburn, MA for polarized light microscopy (PLM) analysis of bulk materials via EPA 600/R-93/116 Method. If applicable, sample results that revealed trace concentrations of asbestos by PLM were re-analyzed using transmission electron microscopy (TEM) analysis. ProScience is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 200090-0). Duplicate bulk samples were submitted to Covino. Covino is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101781-0). A summary table containing the duplicate bulk sample results is provided in Volume I, Table 5. Copies of the laboratory accreditations are included in Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report.

Bulk sample results are summarized in Table 5 – ACM Building Survey Results. The EPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contains equal to or greater than one percent (≥1%) asbestos as being an ACM. As such, the analytical laboratory identified bulk samples as positive for asbestos that met the regulatory criteria of equal to or greater than one percent (≥1%) asbestos.

### **3.3 Summary of Asbestos Containing Materials (ACM) Findings**

#### **3.3.1 Data Tables, Laboratory Results, and Field Notes**

Collected bulk samples confirmed by the analytical laboratory to contain ≥1% asbestos are listed in Table 2 - Summary of Positive ACM Samples. Samples analyzed by PLM containing trace levels of asbestos, defined as < 1%, are listed in Table 5 with the TEM analysis results. Volume III of the Comprehensive VAMC Lead and Asbestos Survey Report includes copies of the laboratory certificates of analysis (including duplicate samples) and Inspector Data Sheets.

Table 2 - Summary of Positives ACM Samples Brockton VA Medical Center, Tunnels							
Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
4	1-3	Inside Wall Cavity at Tunnel Entrance to Building 2	Pipe Insulation	10% Chrysotile 10% Amosite	1 SF	Good	4
5A 5B 5C	2-3	Connecting Corridor Between Buildings 2 and 3	9"x9" White Floor Tile	2% Chrysotile	1,250 SF	Good	4
6A 6B 6C	2-3		9"x9" White Floor Tile Mastic	5% Chrysotile		Good	4
2A 2B 2C	1-3 8-25 4-21		12"x12" Shelter White Floor Tile Mastic	2% Chrysotile	35,000 SF	Good	4
11B 11C	At Bldg. 23 4-21	Throughout Connecting Corridors and Entrances to Buildings	12"x12" Blue/Gray Floor Tile Mastic	3% Chrysotile		Good	4
15A 15B 15C	7-23 23-20 20-4	Exterior Windows	Exterior Window Caulk	3% Chrysotile	6,600 LF (Approx. 225 Window Openings)	Good	4

\* The VISN 1 AHERA hazard assessment scale 1 – 4 is a relative indicator of the risk and need for response/remediation. (1) represents the highest priority (e.g. removal or encapsulation) where as a (4) represents the lowest priority (monitor as part of 6 month O&M program). The rating assigned by an Asbestos Management Planner, takes into account: condition, friable vs. non-friable, accessibility, occupancy (e.g. continuous, intermittent or occasional and patients/staff/visitors), potential for air erosion, potential for vibration damage, potential for disturbance / damage (e.g. exposed and in an accessible location), and potential for water damage.

### 3.3.2 Photographs

Representative photographs of identified ACM are provided in Appendix D of this report.

### 3.3.3 CADD Drawings

The location of each ACM sample and its abridged sample ID is shown on the CADD drawings in the Figures Section of this report. The sample ID on the drawings has been abridged (by excluding the individual room number from the full sample ID) for aesthetic purposes. Each positive ACM sample location is colored red and marked with an asterisk (\*). Building areas containing ACM have been indicated with hatching to identify the location of the identified ACM.

## 4.0 LEAD SCREENING SURVEY

### 4.1 Screening Survey Methodology

M&A completed a Lead Containing Paint Risk Analysis in accordance with the SOP and determined that a LCP screening survey was warranted in this building. The LCP screening survey was performed by trained lead inspectors/screeners meeting the qualifications outlined in the SOP. The screening survey measured lead concentrations in accessible building surfaces by using a Niton XLp 303A XRF (serial number 18580 and 22552). The XRF instrument was calibrated at the frequency specified in the SOP.

### 4.2 Summary of Lead Screening Survey Findings

#### 4.2.1 Data Tables

As specified by VISN 1, a description of XRF-screened painted interior and exterior building components containing lead at concentrations greater than 0.1 mg/cm<sup>2</sup> have been included in Table 3 below:

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Tunnels							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
419	Tunnel Between 1 & 3	Unknown	Concrete Ceiling	NA	Fair	White	0.19
424	Tunnel Between 2 & 3	Unknown	Metal Duct	NA	Intact	White	0.19
425	Tunnel Between 2 & 3	Unknown	Metal Duct	NA	Intact	White	0.3
452	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	NA	Intact	White	0.6
453	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	NA	Intact	White	0.4
454	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	NA	Intact	White	0.5

Table 3 - Summary of Positive XRF Measurements Brockton VA Medical Center, Tunnels							
Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
464	Tunnel Between 1 & 3	Tunnel	Concrete Baseboard	East	Intact	Gray	0.4
NA – Not Applicable							

In addition, XRF measurements collected during the screening survey of interior and exterior building components are included in Table 6 – Summary of XRF Measurements. Table 6 includes a description of each screened surface and resulting XRF-measured lead concentration.

#### 4.2.2 Photographs

Representative photographs of building materials greater than or equal to 1.0 mg/cm<sup>2</sup> and where in other in intact condition (e.g. fair, peeling, cracking) are provided in Appendix D of this report.

#### 4.2.3 CADD Drawings

Based on the results of the lead screening survey a table of LCP components identified with > 0.1 mg/cm<sup>2</sup> was developed. This table is available on the CADD drawings for use by the VAMC for exposure assessments and preliminary renovation planning. Based on the results of the survey these components identified in the CADD table and on the plan should be assumed to be LCP unless otherwise determined.

### 5.0 LIMITATIONS

This inspection report is the result of a diligent search of the building for ACM and LCP. Only accessible areas were included in this survey. However comprehensive this inspection appears, it does not claim to have identified all of the ACM and LCP that could be present in the facility. M&A's survey was performed with limitations inherent to visual inspections. M&A has conducted this assessment with reasonable care and has performed this project within generally accepted industry standards. There can be no assurances, and M&A makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results provided.

### 6.0 CLOSING REMARKS

Prior to initiating plans for maintenance, renovation or demolition activities, the VAMC should review the asbestos and lead survey results to determine if any of these materials will be disturbed by proposed work activities.



## 6.1 Asbestos

The purpose of the ACM survey was to identify ACM in the building within the limitations of the survey for worker protection purposes and future renovation or demolition planning purposes. In regards to asbestos, any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise. Suspect ACM that may be present within the walls, above inaccessible hard ceilings, or in other inaccessible locations, that was not inspected should be assumed to contain asbestos if discovered during any renovation process or until otherwise verified. If ACM must be disturbed, the ACM must be removed by a licensed asbestos abatement contractor and be performed in accordance with applicable regulations. If proposed work activities will not disturb ACM, continuous monitoring of ACM should be conducted throughout work activities to ensure the ACM remains in an intact condition. Additionally, prior to commencing work activities, contractors involved with the work activities should be made aware of the location of ACM, within the building in which they will be working. Additional information regarding asbestos management and the Operations & Maintenance (O&M) program is outlined in the VAMC campus wide Asbestos Management Plan available in Volume I of the Comprehensive VAMC Lead and Asbestos Survey Report.

The VAMC must submit a quarterly ACM liability report. At the time of the survey the following estimated quantities of ACM were identified and should be included in the liability report until removed from the building.

<b>Table 4 – Summary of ACM Quantities for Liability Report Brockton VA Medical Center, Brockton Tunnels</b>	
<b>General Description of Material</b>	<b>Estimated Quantity</b>
Floor Tile and/or Mastic	36,250 SF
Pipe Insulation	1 SF
Window Caulking	6,600 LF
SF – Square feet LF – Linear Feet	

## 6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey, representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers who are involved with paint disturbing activities and related waste disposal activities.

Worker protection is regulated by OSHA regulations as well as applicable state regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing paint containing measurable lead. A lead based paint determination can not determine a safe level of lead, but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. VA employees and contractors may use this information to better determine exposures of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Worker exposure controls can then be implemented and air monitoring can then be performed during activities that disturb paint on representative surfaces.

A concentration of lead greater than or equal to  $1.0 \text{ mg/cm}^2$  exceeds HUD residential standards and is an indicator of risk. OSHA does not specify a safe concentration of LCP. However, for the purposes of this LCP screening survey the lead concentrations greater than  $0.1 \text{ mg/cm}^2$  have been utilized as a threshold established by VISN 1 for areas where possible worker exposures may occur.

## Figures

## Appendix A

### Table 5 Summary of ACM Building Results

**Table 5 - ACM Survey Building Results  
Brockton VA Medical Center, Tunnels**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
1A	1-3	-	12x12 Shelter White Floor Tile	NAD	-	-	-
1B	8-25	-	12x12 Shelter White Floor Tile	NAD	-	-	-
1C	4-21	-	12x12 Shelter White Floor Tile	NAD	-	-	-
2A	1-3	Throughout Connecting Corridors and Entrances to Building	12x12 Shelter White Floor Tile Mastic	2% Chrysotile	20,000 SF	Good	4
2B	8-25		12x12 Shelter White Floor Tile Mastic	Stop Positive See 2A			
2C	4-21		12x12 Shelter White Floor Tile Mastic	Stop Positive See 2A			
3A	1-3	-	Expansion Joint Caulking	NAD	-	-	-
3B	7-23	-	Expansion Joint Caulking	NAD	-	-	-
3C	23-20	-	Expansion Joint Caulking	NAD	-	-	-
4	1-3	Inside Wall Cavity	Pipe Insulation	10% Chrysotile 10% Amosite	1 SF	Good	4
5A	2-3	Connecting Corridors between Buildings 2 and 3	9x9 White Floor Tile	2% Chrysotile	1,250 SF	Good	4
5B	2-3		9x9 White Floor Tile	Stop Positive See 5A			
5C	2-3		9x9 White Floor Tile	Stop Positive See 5A			

**Table 5 - ACM Survey Building Results  
Brockton VA Medical Center, Tunnels**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
6A	2-3	Connecting Corridors between Buildings 2 and 3	9x9 White Floor Tile Mastic	5% Chrysotile	1,250 SF	Good	4
6B	2-3		9x9 White Floor Tile Mastic	Stop Positive See 6A			
6C	2-3		9x9 White Floor Tile Mastic	Stop Positive See 6A			
7A	2-3	-	Red Fire Caulk	NAD	-	-	-
7B	2-3	-	Red Fire Caulk	NAD	-	-	-
7C	2-3	-	Red Fire Caulk	NAD	-	-	-
8A	2-3	-	Expansion Joint Caulking	NAD	-	-	-
8B	2-3	-	Expansion Joint Caulking	NAD	-	-	-
8C	2-3	-	Expansion Joint Caulking	NAD	-	-	-
9A	3-21	-	12x12 Blue Floor Tile	NAD	-	-	-
9B	At Building 23	-	12x12 Blue Floor Tile	NAD	-	-	-
9C	4-21	-	12x12 Blue Floor Tile	NAD	-	-	-
10A	3-21	-	12x12 Gray Floor Tile	NAD	-	-	-
10B	At Building 23	-	12x12 Gray Floor Tile	NAD	-	-	-

**Table 5 - ACM Survey Building Results  
Brockton VA Medical Center, Tunnels**

<b>Sample No.</b>	<b>Sample Location</b>	<b>ACM Location</b>	<b>Description of Material</b>	<b>Percent and Type of Asbestos</b>	<b>Estimated Quantity</b>	<b>Condition</b>	<b>VISN 1 RISK AHERA Hazard Category 1-4*</b>
10C	4-21	-	12x12 Gray Floor Tile	NAD	-	-	-
11A	3-21	-	12x12 Blue/Gray Floor Tile Mastic	NAD	-	-	-
11B	At Building 23	Throughout Connecting Corridors	12x12 Blue/Gray Floor Tile Mastic	3% Chrysotile	15,000 SF	Good	4
11C	4-21		12x12 Blue/Gray Floor Tile Mastic	Stop Positive See 11B			
12A	8-25	-	6" Gray Cove Base Mastic	NAD	-	-	-
12B	23-20	-	6" Gray Cove Base Mastic	NAD	-	-	-
12C	3-21	-	6" Gray Cove Base Mastic	NAD	-	-	-
13A	3-21	-	2x8 Ceiling Tile	NAD	-	-	-
13B	25-22	-	2x8 Ceiling Tile	NAD	-	-	-
13C	23-20	-	2x8 Ceiling Tile	NAD	-	-	-
14A	21-24	-	Interior Window Caulk	NAD	-	-	-
14B	25-22	-	Interior Window Caulk	NAD	-	-	-
14C	23-20	-	Interior Window Caulk	NAD	-	-	-

**Table 5 - ACM Survey Building Results  
Brockton VA Medical Center, Tunnels**

Sample No.	Sample Location	ACM Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	Condition	VISN 1 RISK AHERA Hazard Category 1-4*
15A	7-23	Exterior Windows	Exterior Window Caulk	3% Chrysotile	6,600 LF (Approx. 225 Window Openings)	Good	4
15B	23-20		Exterior Window Caulk	Stop Positive See 15A			
15C	20-4		Exterior Window Caulk	Stop Positive See 15A			
16A	23-2	-	Exterior Door Caulk	NAD	-	-	-
16B	23-2	-	Exterior Door Caulk	NAD	-	-	-
16C	20-4	-	Exterior Door Caulk	NAD	-	-	-
17A	At Building 20	-	Interior Door Caulk	NAD	-	-	-
17B	At Building 20	-	Interior Door Caulk	NAD	-	-	-
17C	At Building 20	-	Interior Door Caulk	NAD	-	-	-



## Appendix B

### Table 6 Summary of XRF Measurements

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Tunnels**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
418	Tunnel Between 1 & 3	Unknown	Concrete Wall (Exterior)	North	Fair	White	0.08
419	Tunnel Between 1 & 3	Unknown	Concrete Ceiling	Ceiling	Fair	White	0.19
423	Tunnel Between 2 & 3	Unknown	Concrete Ceiling	Ceiling	Fair	White	0.08
424	Tunnel Between 2 & 3	Unknown	Metal Duct	NA	Intact	White	0.19
425	Tunnel Between 2 & 3	Unknown	Metal Duct	NA	Intact	White	0.3
427	Tunnel Between 2 & 3	Unknown	Metal Duct	North	Intact	Beige	0.05
428	Tunnel Between 3 & 21	Unknown	Concrete Wall (Exterior)	North	Intact	Blue	0.02
430	Tunnel Between 3 & 21	Unknown	Concrete Ceiling	Ceiling	Poor	White	0.03
431	Tunnel Between 3 & 24	Unknown	Tectum Ceiling	Ceiling	Intact	White	0
432	Tunnel Between 3 & 24	Unknown	Concrete Wall (Exterior)	South	Intact	White	0.06
433	Tunnel Between 3 & 24	Unknown	Wood Window Casing	South	Intact	White	0
434	Tunnel Between 3 & 24	Unknown	Metal Radiator	West	Intact	White	0
435	Tunnel Between 3 & 24	Unknown	Wood Door Casing	West	Fair	Gray	0.01
436	Tunnel Between 3 & 24	Unknown	Metal Door	West	Fair	Gray	0.01
437	Exterior	Unknown	Metal Door Casing	West	Fair	Brown	0
438	Exterior	Unknown	Metal Door	West	Fair	Brown	0.01
440	Tunnel Between 3 & 24	Unknown	Brick Wall (Exterior)	West	Intact	White	0.01
441	Tunnel Between 8 & 25	Tunnel	Metal Radiator	North	Intact	White	0
442	Tunnel Between	Tunnel	Wood Window Casing	North	Intact	White	0

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Tunnels**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
	8 & 25						
443	Tunnel Between 8 & 25	Tunnel	Concrete Wall (Exterior)	West	Intact	White	0.04
444	Tunnel Between 8 & 25	Tunnel	Concrete Wall (Exterior)	East	Intact	Beige	0.01
445	Tunnel Between 7 & 23	Tunnel	Brick Wall (Exterior)	West	Intact	Pink	0.03
446	Tunnel Between 7 & 23	Tunnel	Metal Radiator	West	Intact	Pink	0
447	Tunnel Between 7 & 23	Tunnel	Wood Window Casing	West	Intact	Pink	0
448	Tunnel Between 7 & 23	Tunnel	Brick Window Casing	West	Intact	Pink	0.03
449	Tunnel Between 7 & 23	Tunnel	Tectum Ceiling	Ceiling	Intact	Pink	0
451	Tunnel Between 7 & 23	Tunnel	Concrete Ceiling	Ceiling	Poor	White	0.08
452	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	Ceiling	Intact	White	0.6
453	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	Ceiling	Intact	White	0.4
454	Tunnel Between 23 & 5	Tunnel	Concrete Ceiling	Ceiling	Intact	White	0.5
455	Tunnel Between 5 & 20	Tunnel	Metal Expansion Plate	South	Intact	White	0
456	Tunnel Between 5 & 20	Tunnel	Brick Wall (Exterior)	North	Intact	Green	0.01
458	Tunnel Between 20 & 4	Tunnel	Concrete Window Sill	East	Intact	Beige	0
459	Tunnel Between 20 & 4	Tunnel	Metal Radiator	East	Poor	Beige	0
461	Tunnel Between 20 & 4	Tunnel	Metal Beam	NA	Intact	Brown	0
462	Tunnel Between	Tunnel	Concrete Wall (Exterior)	North	Intact	Blue	0.01

**Table 6 - Summary of XRF Measurements  
Brockton VA Medical Center, Tunnels**

Reading No.	Floor	Location	Substrate and Component	Side	Condition	Color	Results (mg/cm <sup>2</sup> )
	4 & 21						
463	Tunnel Between 4 & 21	Tunnel	Metal Expansion Joint	North	Intact	Blue	0
464	Tunnel Between 1 & 3	Tunnel	Concrete Baseboard	East	Intact	Gray	0.4
466	Tunnel Between 1 & 3	Tunnel	Concrete Baseboard	East	Intact	Gray	0.08

Font Color Annotation:

Black – Below the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>  
Blue – Above the VISN 1 Threshold of 0.1 mg/cm<sup>2</sup>, But less than 1.0 mg/cm<sup>2</sup>  
Red – Greater than 1.0 mg/cm<sup>2</sup>

## Appendix C

### Relevant Photographs of ACM



Mastic Associated with 12"x12" Shelter White Floor Tile, Sample 2A



Pipe Insulation, Sample 4



9"x9" White Floor Tile and Mastic, Sample 5A, 6A



Mastic Associated with 12"x12" Blue/Gray Floor Tile, Sample 11B



Window Caulking, Sample 15A



## Appendix D

Relevant Photographs of Damaged Lead Containing Paint  
Greater than 1.0 mg/cm<sup>2</sup>

(Not Applicable)