RETURN TO NTCRA AR INDEX

Sevenson Environmental Services, Inc.

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US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
Total Environmental Restoration Contract
USACE Contract Number: DACW33-03-D-0006
Task Order No. 0001

FINAL
2006 AEROVOX ASBESTOS AND LEAD-BASED PAINT SURVEY

New Bedford Harbor Superfund Site
New Bedford, MA

June 2006

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ACE-J23-35BG0107-M21-0002

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TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS iii
1.0 INTRODUCTION 1-1
1.1 SITE BACKGROUND 1-1
1.2 REGULATORY GUIDELINES 1-2
1.3 OBJECTIVES 1-3
2.0 SCOPE OF WORK PERFORMED 2-1
2.1 DEVELOPMENT OF SAMPLING APPROACH 2-1
2.2 SAMPLING AND ANALYTICAL ACTIVITIES 2-2
3.0 RESULTS 3-1
3.1 DATA MANAGEMENT SYSTEM 3-1
3.2 ESTIMATED TOTAL VOLUMES AND CLASSIFICATIONS OF ASBESTOS 3-1
3.3 SUMMARY OF ESTIMATED TOTAL VOLUMES OF LEAD-BASED PAINT 3-2
3.4 ADDITIONAL CONSIDERATIONS 3-3

Figures

Figure 1 Aerial Photo of the Aerovox Facility
Figure 2 Lead and Oakum Sealed Drain Connections
Figure 3 Insulated Electrical Wiring
Figure 4 Smoke Stack Fire Box
Figure 5 Sample Identification Labeling
Figure 6 Overhead Piping Obstructions
Figure 7 Reinsulated Valve with Fiberglass
Figure 8 Stokes Tank Insulation
Figure 9 Vertical Mix Tank Labeling/Identification
Figure 10 Cylindrical Impregnation Tank
Figure 11 Remaining Aircell Insulation
Figure 12 Perched Boiler Room Vessel
Figure 13 Three Bigelow Boilers
Figure 14 Individual Bigelow Boiler

Figure 15 Aerovox Facility Roofing And Exterior Asbestos Containing Materials
Figure 16 Aerovox First Floor Asbestos Lagged Pipe Insulation
Figure 17 Aerovox First Floor Asbestos Containing Devices and Building Materials
Figure 18 Aerovox Second Floor Asbestos Lagged Pipe
Figure 19 Aerovox Second Floor Asbestos Containing Devices and Building Materials
Figure 20 Aerovox Third Floor Asbestos Lagged Pipe
Figure 21 Aerovox Third Floor Asbestos Containing Devices
Figure 22 Aerovox Boiler Room Asbestos Lagged Pipe
Figure 23 Aerovox Boiler Room Asbestos Insulated Devices
Figure 24 Rejected Capacitors
Figure 25 Small Containers of Mercury

Tables

Table 1 Homogenous Group Reference Sheet for Asbestos Containing Materials
Table 2 Homogenous Group Reference Sheet for Lead-Based Paint
Table 3 Aerovox Sampling Data Sheet
Table 4 Asbestos Containing Materials Volume Summary
Table 5 Lead-Based Paint Materials Volume Summary
Table 6 Other Materials Requiring Disposition

Attachments

Attachment A Data Management System CD
Attachment B Field Sampling Guides
Attachment C Laboratory Certification
Attachment D Chains of Custody and Analytical Results
Attachment E Material Volume Calculations

ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
AHERA	Asbestos Hazard Emergency Response Act
AVA	Aerovox asbestos (sample)
AVP	Aerovox paint (sample)
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
ft^2	square feet
ft^3	cubic feet
HG	Homogenous Groups
Jacobs	Jacobs Engineering Group
LBP	lead-based paint
LF	linear feet
NAE	U.S. Army Corps of Engineers New England District
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NVLAP	National Voluntary Laboratory Accreditation Program
OD	outside diameter
PLM	polarized light microscopy
RACM	Regulated Asbestos-Containing Materials
TSCA	Toxic Substances Control Act

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1.0 INTRODUCTION

The purpose of this technical report is to summarize key activities associated with the 2006 asbestos and lead based paint survey conducted at the Aerovox facility in New Bedford, Massachusetts (Figure 1). Jacobs Engineering Group (Jacobs) along with assistance from U.S. Army Corps of Engineers (NAE) personnel, conducted the survey under the NAE Total Environmental Restoration Contract No. DACW33-03-D-0006.

This document is not intended to be used by a future contractor to identify or quantify all health and safety concerns or determine the means and methods with which to perform additional work, such as demolition, at the Aerovox Facility. It is the responsibility of other contractors to inspect the facility, assess health and safety hazards including, but not limited to, asbestos and lead paint, and determine appropriate strategies to use for their particular scope of work.

The intention of the 2006 survey was to identify and estimate the volumes of asbestos and lead-based materials that will have to be removed and disposed prior to demolition of the Aerovox facility. The entire Aerovox facility was physically surveyed to determine the type, location and estimated quantities of asbestos containing materials (ACM) and lead-based paint (LBP).

1.1 SITE BACKGROUND

The Aerovox building is an approximately 450,000 square foot (ft^2) brick building used as a manufacturing facility of various items from circa 1900 through the year 2000. Aerovox, Inc. purchased the facility around 1940 and used it to produce capacitors and other electrical components until the facility was vacated in 2001. The former Aerovox building has been vacant since that time. Building deterioration has resulted in the loss of available plumbed facility water other than from the fire water system, limited power supply, water damage in several locations and extensive mold growth.

1.2 REGULATORY GUIDELINES

This section outlines the regulatory guidelines followed by Jacobs during the 2006 sampling of the Aerovox facility. The National Emissions Standard for Hazardous Air Pollutants (commonly referred to as NESHAP and found in 40 CFR Part 61, Subpart M) presents guidelines for the demolition of "facilities" that may contain asbestos containing materials (ACM). These "facilities," as defined by NESHAP, (with the exception of residential buildings having four or fewer units), include any institutional, commercial, public, industrial, or residential structure or building. The NESHAP guidance defines ACM as material containing greater than 1 percent asbestos as determined by polarized light microscopy (PLM) utilizing the method specified in the U.S. Environmental Protection Agency's (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulation (40 CFR Part 763 EPA 600/R-93/116).

NESHAP requires that certain ACM must be removed from a building prior to demolition. These include friable ACM (such as pipe insulation, boiler and duct insulation, sprayed-on fireproofing, and trowel-applied finishes, etc.) and non-friable ACM that have already become friable prior to the demolition or are likely to become friable during the demolition process. Friable ACM is defined as a material that when dry can be crumbled, pulverized, or reduced to a powder by hand pressure (and will therefore readily release its asbestos fibers from the binding matrix). Non-friable materials cannot be crumbled, pulverized, or reduced to a powder by hand pressure (and thus will not readily release fibers from the binding matrix). Floor tiles, roofing, and various mastics are considered non-friable (if they are in good condition). The friable ACM and non-friable ACM that have to be removed prior to demolition of a building are referred to as Regulated Asbestos-Containing Materials (RACM).

Category I non-friable ACM include flooring materials, asphalt-type roofing products, valve packing and gaskets, and pliable mastics and sealants that are in good condition. Category I non-friable ACM may be left in a demolished building under certain circumstances. Figure 2 is an example of bell and spigot floor drains sealed with lead

and oakum. Oakum is an asbestos packing material that is considered a Category I non-friable ACM.

A third category of material, Category II non-friable ACM, includes all other non-friable materials that are not Category I. A common Category II non-friable material is asbestos-cement products (often referred to as "Transite®"). However, Category II non-friable ACM must be removed from a building prior to demolition regardless of their condition.

In addition to requiring removal of RACM prior to demolishing a building, NESHAP has other requirements (notification, emissions control, disposal of asbestos waste, etc.) that must be addressed by the building owner.

1.3 OBJECTIVES

The primary objective of this survey was to identify and estimate the volume of asbestos and lead-based materials that will have to be removed and disposed prior to demolition of the Aerovox facility. The information provided in this report includes a written description, photographs, and diagrams with the following information:

- type of ACM/LBP;
- condition of ACM/LBP;
- location of ACM/LBP; and
- quantities of ACM/LBP.

Additionally, there is a data management system description in Section 3.0 and a compact disk of the data management system included in Attachment A.

The following areas and/or items were excluded from this survey and therefore, no volumes were calculated for these areas. The reasons for not including them were they were not physically accessible, were not safe to sample, and/or were not readily visible.

- Insulated electrical wiring attached to the building structure, which is likely insulated with ACM (Figure 3).
- Fire brick or liner that may be ACM within the smoke stack located outside the Boiler Room (Figure 4).
- Metal sheathed steam line running between the Aerovox and Titleist facilities. Based on sample results within the Aerovox Boiler Room, this line should be assumed to be insulated with ACM.
- Insulation underlain between drying, tempering, and testing ovens and the floor.
- Locked electrical switch gear located on the south side of the property.

2.0 SCOPE OF WORK PERFORMED

The Scope of Work defined by NAE was to identify, locate/mark and quantify all potential ACM and LBP within the Aerovox facility.

2.1 DEVELOPMENT OF SAMPLING APPROACH

Jacobs and the NAE developed a sampling approach to identify potential sources of ACM and LBP that could be anticipated for a one hundred-year old building and a capacitor/electronic component manufacturer. The approach was based on previous physical inventory work completed in the winter of 2004–2005, during which 17 possible homogenous groups for ACM and six possible homogenous groups for LBP were identified. The final Aerovox Homogenous Groups (HG) Reference Sheet for ACM (Table 1) and LBP (Table 2) were used as a general guide to select building materials and process equipment to sample and has been adjusted after the field survey identified additional ACM not previously recognized. The reference sheets also served to help track the various HG likely to be encountered within the facility. Table 1 outlines the final HG used during the survey.

The overall survey approach was designed to allow the collection and analysis of materials believed most likely to contain ACM or LBP. This targeted approach provided sufficient time to return to positive detections and collect physical measurements needed for area or volume calculations.

2.2 SAMPLING AND ANALYTICAL ACTIVITIES

Analytical Methods

Unlike sample collection for other contaminants such as volatile or semi-volatile organic compounds, ACM and LBP bulk samples require no special preparation or temperature controls. The only real consideration was to ensure a sufficient quantity of sample was collected that is representative of the material sampled. Field sampling guides provided by EMSL were used as reference. These guides are included in Attachment B.

The laboratory selected to complete the analysis of all of the samples submitted for ACM and LBP was EMSL Analytical, Inc., 7 Constitution Way, Suite 107, Woburn, MA 01801 (EMSL). EMSL maintains current accreditations for analyzing ACM and LBP, which is presented in Attachment C. The analytical method used for bulk asbestos was "Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy". The analytical methods used for lead were "Lead in Paint Chips by Flame Atomic Absorption (SW 846 3050B and 7420)". Samples were shipped under chain of custody to the laboratory, copies of chains of custody and results are attached in Attachment D.

Sample Identification Assignment

In the field, Jacobs used Table 1 and Table 2 to assign sample identification numbers. The sample number consisted of three primary components and a secondary component. The first three letters are an identifier used to denote the type of analysis required, for instance, AVA (Aerovox Asbestos) or AVP (Aerovox Paint). The second portion of the sample identification is the six digit date of sample collection in a month, day, year format. The final primary component of the identifier is the homogenous group designation. Table 1 lists the different homogenous groups identifying the type of material from which the sample is observed to represent.

The secondary component of the identifier is included as a suffix, this is a sequential number used to differentiate samples collected for similar analysis on the same day from

the same homogenous group. For example, a piece of boiler insulation collected on February 15, 2006 for PLM analysis would be identified as AVA to indicate suspected asbestos, 021506 would follow to denote date of collection. and the homogenous group is then included as indicated on Table 1 as -05 to illustrate the sample represents insulation from heated equipment. Since this is the first such sample collected on this day it would be followed by a -001. The complete sample ID would read AVA021506-05-001. If a second sample was collected on the same day of similar material it would be identified by AVA021506-05-002.

Sample Collection Protocol

At each sampling location, a small amount of suspect material was obtained and placed in a "Ziploc®" bag and sealed. Previously damaged or deteriorated locations were used as the collection site wherever possible in an effort to preserve the integrity of intact items. The sample identification number was written on the bag with an indelible marker. In turn, the article sampled was marked with the sample identification number in either spray paint as show in Figure 5 or with an indelible marker.

This information, as well as the location and description of the item sampled, were recorded on field sample data sheets and an example of the form is presented in Table 3. This information was transferred to the EMSL chain of custody at the end of each sample collection day.

Each time a sample was taken, a set of new nitrile gloves was worn. The material was sampled typically by hand and on occasion a clean disposable spoon was used. The labeled bag was then placed in a secondary bag. These three measures were performed to prevent cross-contamination between samples.

Field Observations

During the surveillance portion of the survey, it was noted that varying levels and forms of renovation were undertaken throughout the facility. This and manufacturing process changes over time posed difficulties in properly locating and identifying ACM. Figure 6

shows how at one time the ceiling was painted black. It is assumed this was done for aesthetic purposes. However, ACM was painted over as well, obscuring the piping and building materials. Additionally, one can see that new ventilation ducting was installed as well as a drop ceiling system further obstructing the pipe runs.

The apparent practice of random pipe lagging management was particularly troublesome. During the initial inspection of the pipe insulation it was determined the lines were insulated with ACM, then fiberglass and then no insulation at all. Therefore, in order to quantify with confidence the piping insulated with ACM, the entire length of the piping was viewed and measured, (where practical).

Spot checks also were made of valves and controls that were apparently abated and reinsulated with fiberglass, as shown in Figure 7. To ensure new insulation was not placed over original ACM, the fiberglass was cut open to view the valve. None of the inspections revealed ACM covered with fiberglass.

Likewise, certain vessels and tanks had been partially abated for asbestos. Three grab samples were collected to represent five Stokes brand tanks located in the basement. Each tank had been covered with brick type insulation held in place with a wire mesh. The brick was sealed with a layer of "mud" to fill the gaps and to provide a smooth surface. The tanks were then covered with canvas sheeting. This brick, "mud", and canvas configuration is shown in Figure 8. Historically, all three layers would be ACM. However it appears in all cases the outer canvas layer has been replaced with a woven mineral wool while the remaining brick and mud insulation contain asbestos.

Once the sample results were obtained from the laboratory, those items or building materials positively identified as ACM or LBP were marked with spray paint. An example of the marking is shown in Figure 9.

3.0 RESULTS

3.1 DATA MANAGEMENT SYSTEM

A simple electronic data management system in Microsoft® Access format is included in Attachment A. The system has been loaded with information that provides a searchable program for all of the samples collected in the survey. The sample identification number, sample result, location, description, per cent abatement and floor plan are found in the system. The intent was that the future abatement contractor and oversight management could specifically monitor progress during the abatement process. Reports can be tailored and generated in the program to facilitate progress reporting. An example of the input screen and a sample output sort are also found in Attachment A.

Sample AVA-031006-2A-001 was split into two layers by the laboratory for analysis. The second layer has the same sample identification number as the first and the data management system reports only the first layer at 50% chrysotile asbestos. The second layer was reported at 2% chrysotile asbestos but this is most likely from the adjacent first layer. No other samples were separated into two layers by the laboratory. The sample count between the data management system will therefore be short one sample compared to the laboratory report.

3.2 ESTIMATED TOTAL VOLUMES AND CLASSIFICATIONS OF ASBESTOS

Table 4 provides a summary of items identified to contain asbestos, the quantity of asbestos, the type and percentage of asbestos and the regulatory classification of the ACM. Attachment E lays out the dimensions of each of the devices insulated with ACM and the total linear footage of the various sizes of pipe lagging [measured by the outside diameter (OD)].

As previously noted, the random abatement practices have left primarily only the more difficult areas/items to be abated. Four distinct examples of this situation are discussed. Shown in Figure 10 is one of seven, red ACM insulated pressure vessels that protrude through the second floor into the first floor. Pipe lagging that is remaining is typically

overhead and/or is obstructed as shown in Figure 11. One large ACM insulated vessel in the Boiler Room is perched more than 20 feet above the floor (Figure 12). Lastly, there are three circa 1920 Bigelow boilers that contain asbestos-contaminated fire brick within the metal base of the boiler and insulated stacks as shown in Figure 13 and Figure 14, respectively.

Nine figures were developed for the purpose of facilitating the presentation of ACM identified within the Aerovox facility. Each of the three floors are split into two figures, one showing the length of the pipe runs on that floor and one showing the insulated device locations. Each figure outlines the location of the ACM whether it be pipe lagging or an ACM insulated device. Figures outlining the pipe lagging are based on estimated field measurements and scaled floor plans. Likewise, the roofing material quantities were estimated from scaled floor plans. The figures are well labeled and self explanatory. They are listed as follows:

- Figure 15 Aerovox Facility Roofing And Exterior Asbestos Containing Materials
- Figure 16 Aerovox First Floor Asbestos Lagged Pipe Insulation
- Figure 17 Aerovox First Floor Asbestos Containing Devices and Building Materials
- Figure 18 Aerovox Second Floor Asbestos Lagged Pipe
- Figure 19 Aerovox Second Floor Asbestos Containing Devices and Building Materials
- Figure 20 Aerovox Third Floor Asbestos Lagged Pipe
- Figure 21 Aerovox Third Floor Asbestos Containing Devices
- Figure 22 Aerovox Boiler Room Asbestos Lagged Pipe
- Figure 23 Aerovox Boiler Room Asbestos Insulated Devices

3.3 SUMMARY OF ESTIMATED TOTAL VOLUMES OF LEAD-BASED PAINT

Table 5 lists the LBP Volume Summary of the 10 samples taken at the facility. The action limit for lead disposal is 0.5% by weight per the Toxic Substances Control Act (TSCA). If abatement activities are required, compliance with 29 CFR 1926 and 1910.1052 are required for worker protection.

3.4 ADDITIONAL CONSIDERATIONS

During the course of the ACM and LBP survey, several additional potential hazardous items/materials were identified. Although this portion of the report is considered outside the prescribed scope of work, the information is provided to supplement future environmental stewardship in the demolition of the Aerovox facility. These items are listed in Table 6 for reference, photographs of two of the items, rejected capacitors and containers of mercury are in Figure 24 and Figure 25, respectively. This list should not be considered comprehensive.

Legend

0 50 100 Feet

1:1,200

Aerial Photography MASSGIS 2003

JACOBS

Aerial Photo of
Aerovox Facility

New Bedford Harbor Superfund Site

NAME: croberts DATE: 02/20/2006

Figure 1

Y:\NBH\Projects\35BG0101\07\20060220\ArcGIS\aerovox_roof.mxd

Figure 2 Lead and Oakum Sealed Drain Connections

Figure 3 Insulated Electrical Wiring

Figure 4 Smoke Stack Fire Box

Figure 5 Sample Identification Labeling

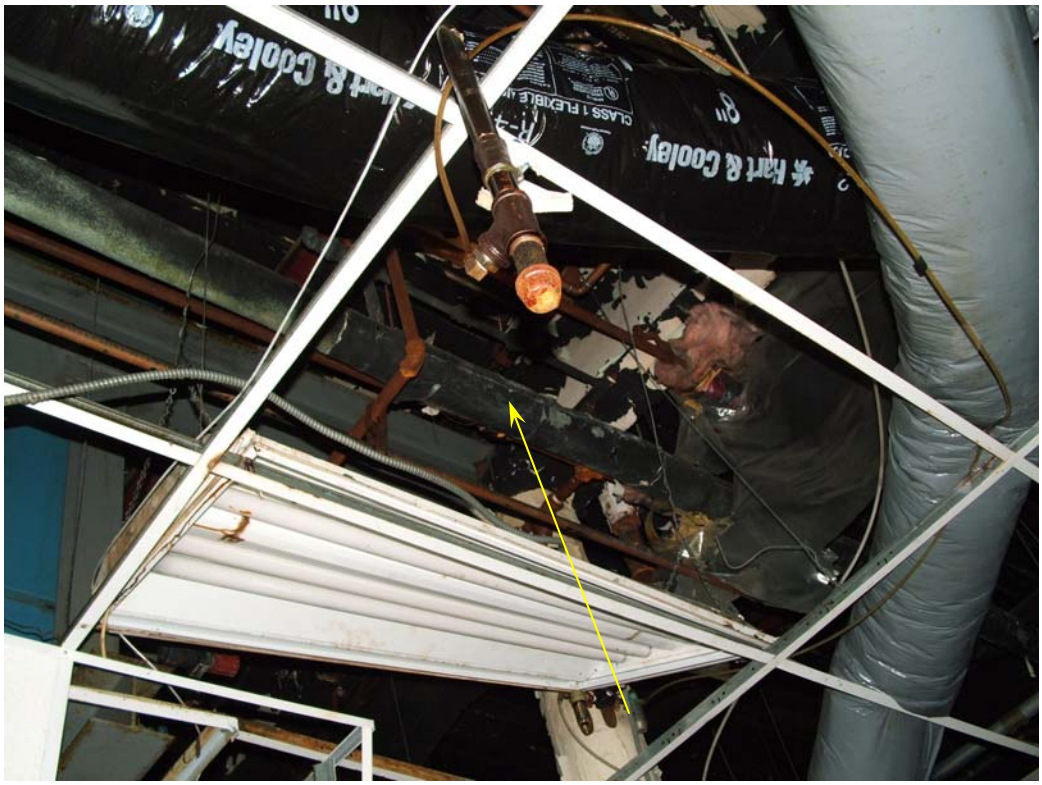


Figure 6 Overhead Piping Obstructions (Arrow shows asbestos insulated pipe.)

Figure 7 Reinsulated Valve with Fiberglass

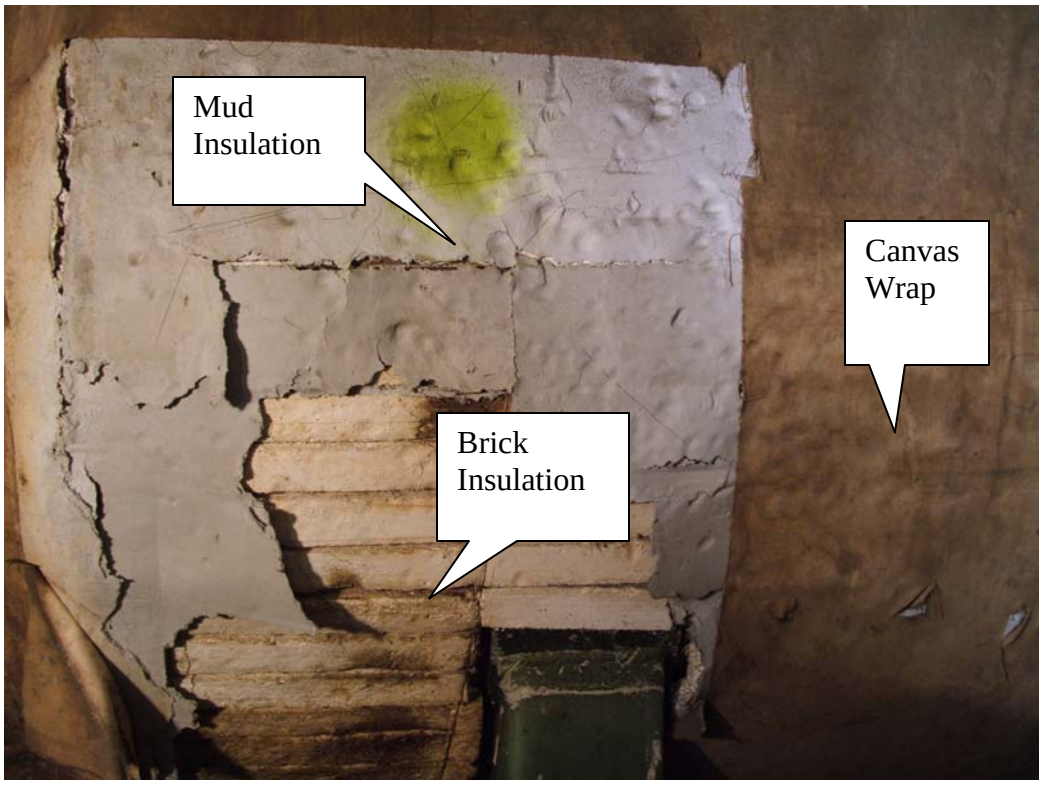


Figure 8 Stokes Tank Insulation

Figure 9 Vertical Mix Tank Labeling/Identification

Figure 10 Cylindrical Impregnation Tank

Figure 11 Remaining Aircell Insulation

Figure 12 Perched Boiler Room Vessel

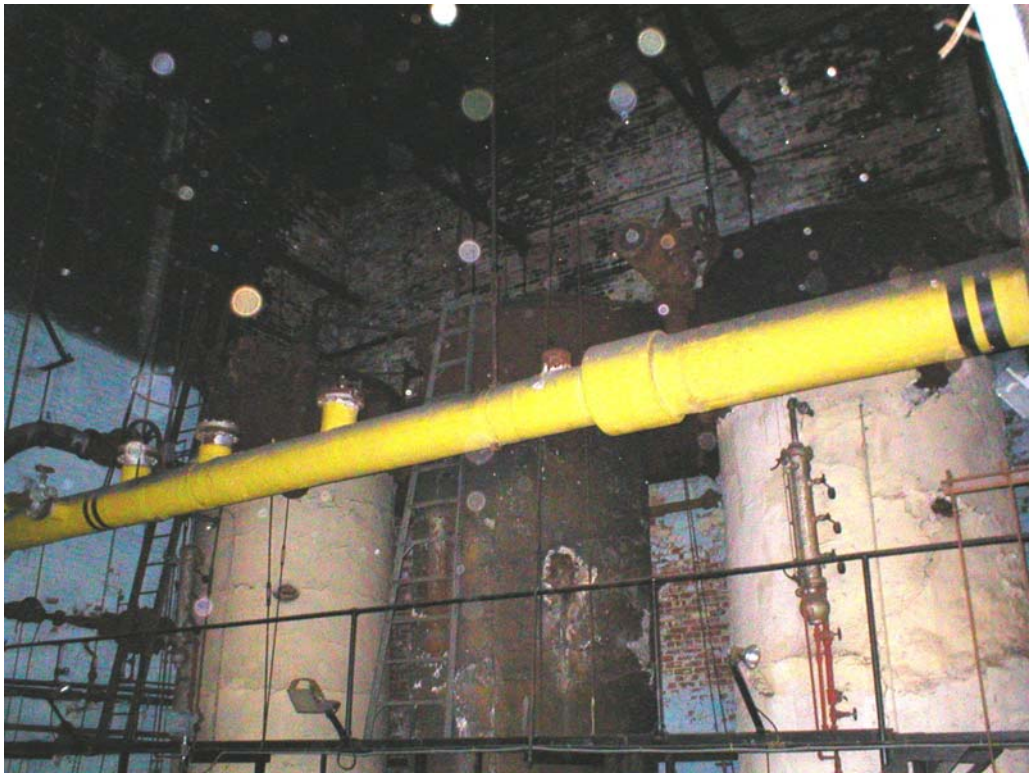
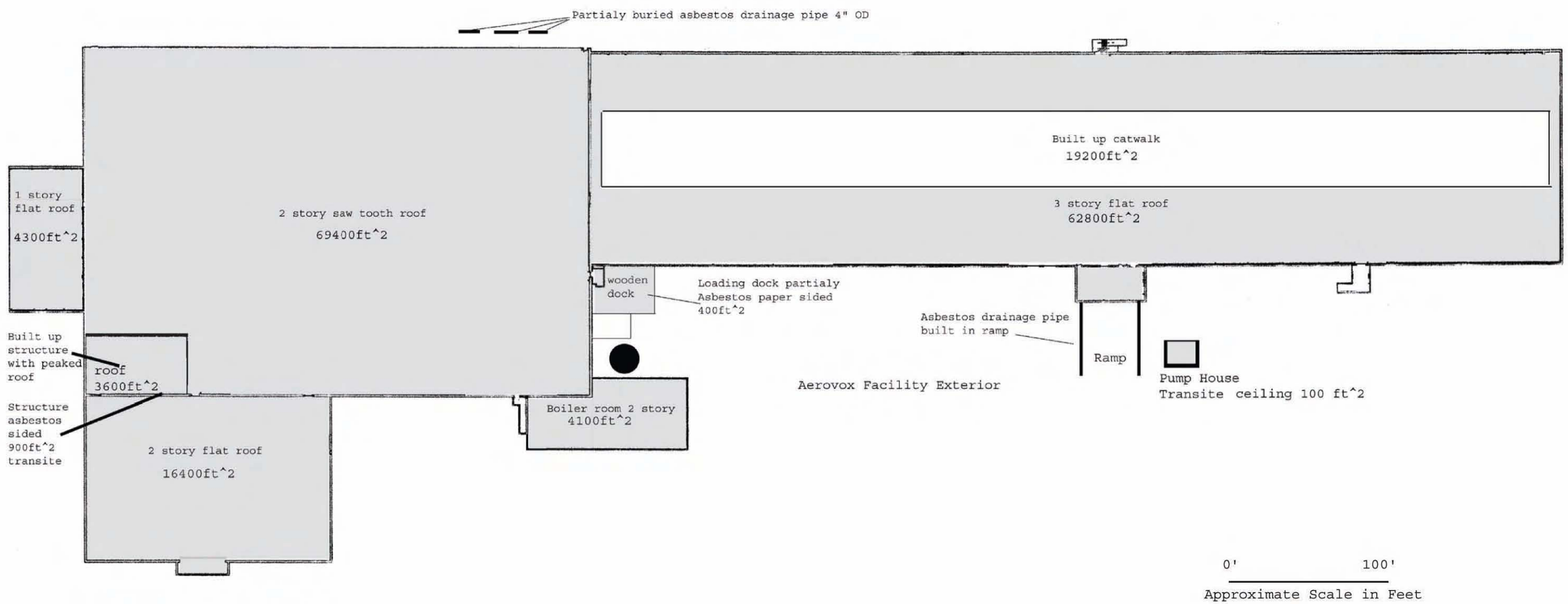


Figure 13 Three Bigelow Boilers

Figure 14 Individual Bigelow Boiler. Note – the blue storage cabinet to the left of the boiler is approximately 6' tall.



Legend

Roof or Siding Known to Contain Asbestos

Note: Roof surface areas were estimated from floor plans and aerial photographs.
Areas were rounded up to the nearest 100 ft^2.

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Aerovox Facility Roofing and Exterior Asbestos Containing Materials

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 15

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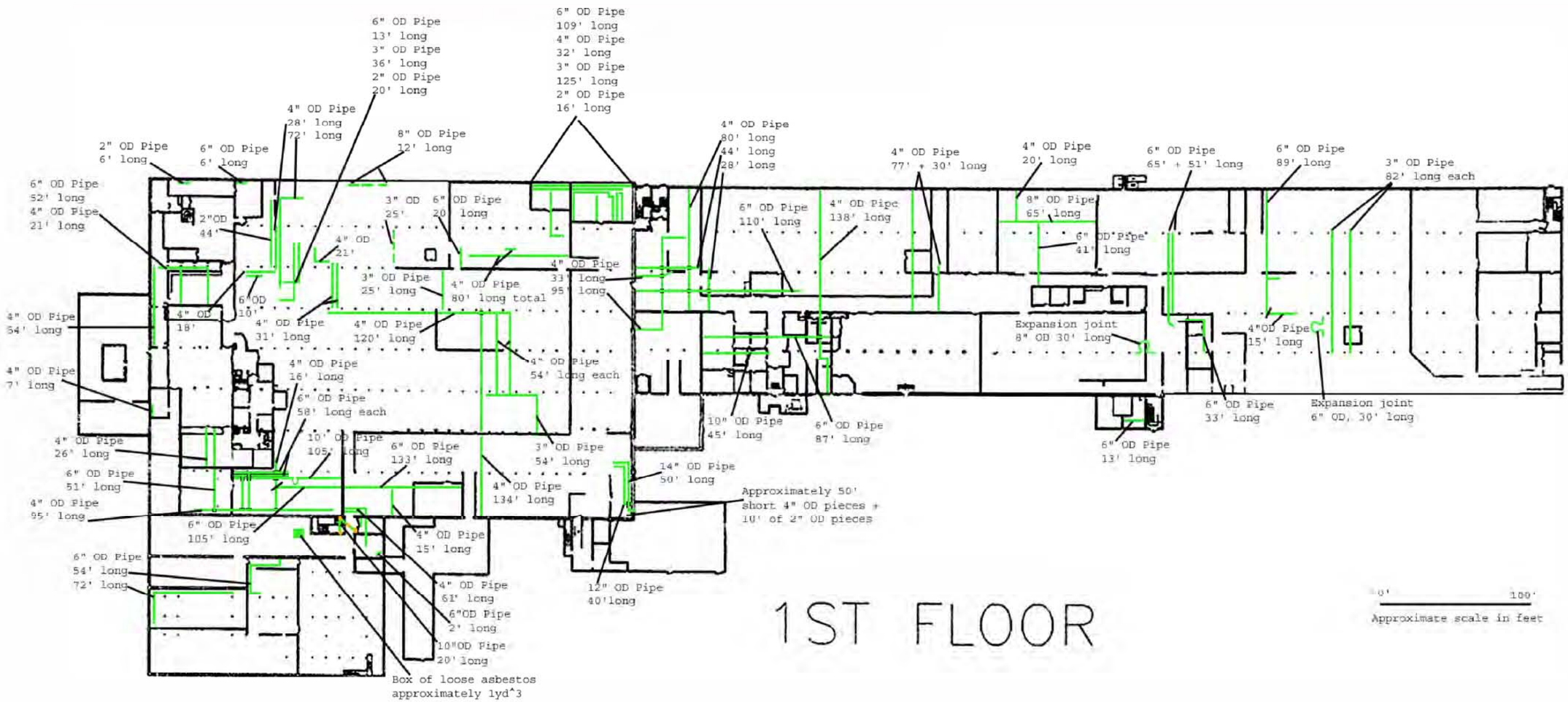

Legend

• • • • • Structural Columns

Asbestos Lagged Pipe Insulation

Note: Pipe lengths were estimated by direct measurement as well as estimation vis scaled floor plans.

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JACOBS

Aerovox First Floor Asbestos Lagged Pipe Insulation

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 16

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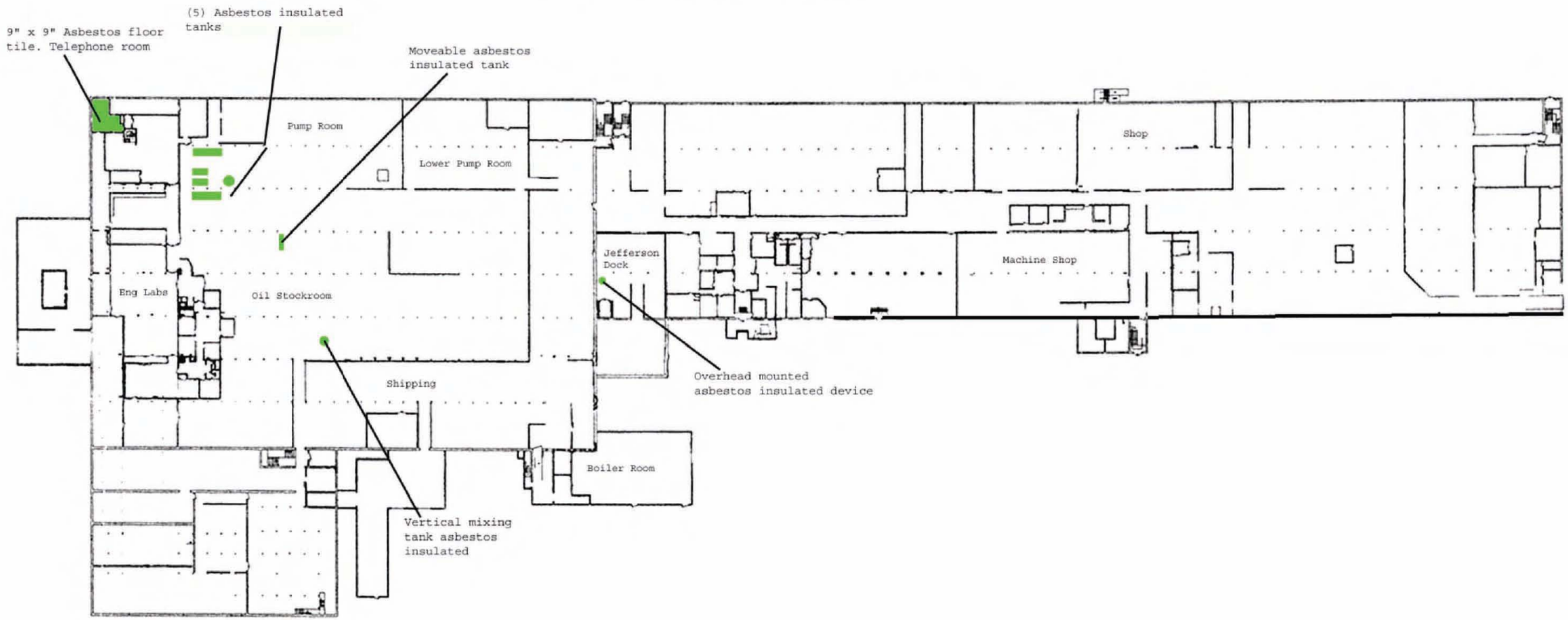
1ST FLOOR



Note: Diagram for ACM location purposes only, not to scale.

Legend

· · · · · Structural Columns

Devices Known to Contain Asbestos

Note: Asbestos device volumes were estimated by direct measurement as well as estimation via scaled floor plans.

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JACOBS

Aerovox First Floor Asbestos Containing Devices

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 17

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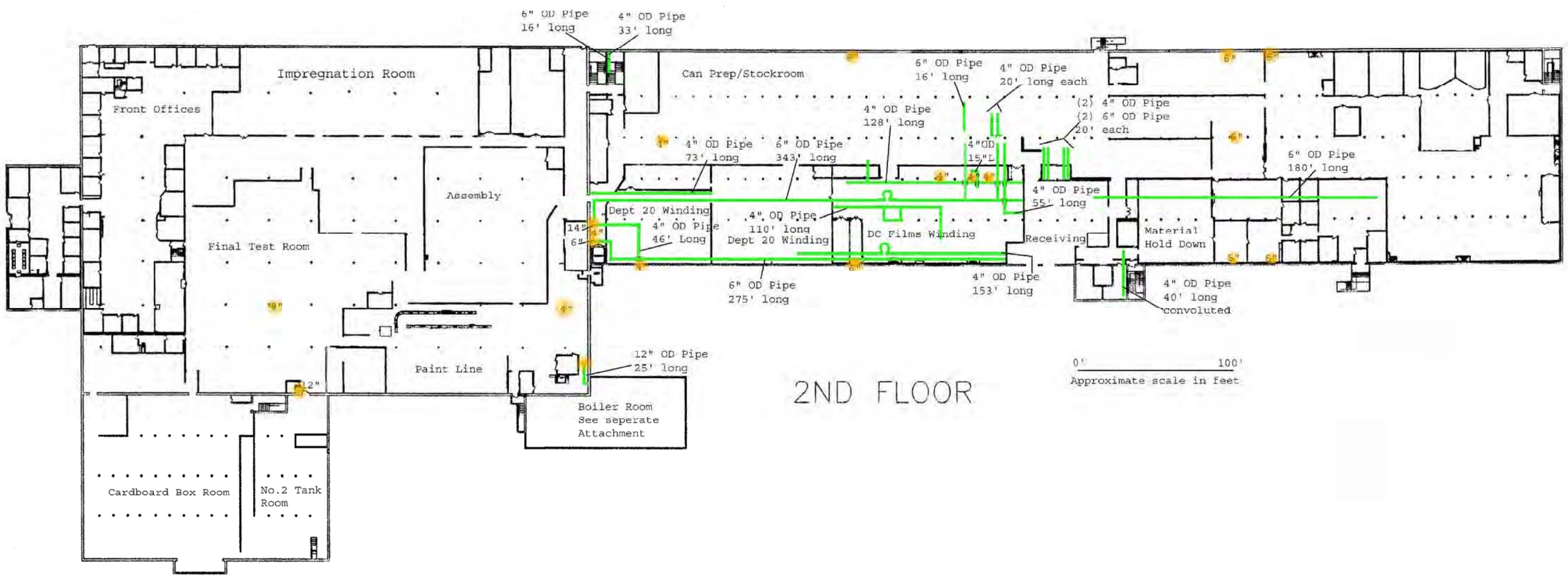

2ND FLOOR

Legend

- Structural Columns
- Overhead Asbestos Lagged Pipe Insulation
- 6" — Vertical Asbestos Lagged Pipe Insulation, Measurement Denotes OD of Lagging, Length 16' Unless Otherwise Noted

Note: Asbestos pipe lengths were estimated by direct measurement as well as estimation via scaled floor plans.

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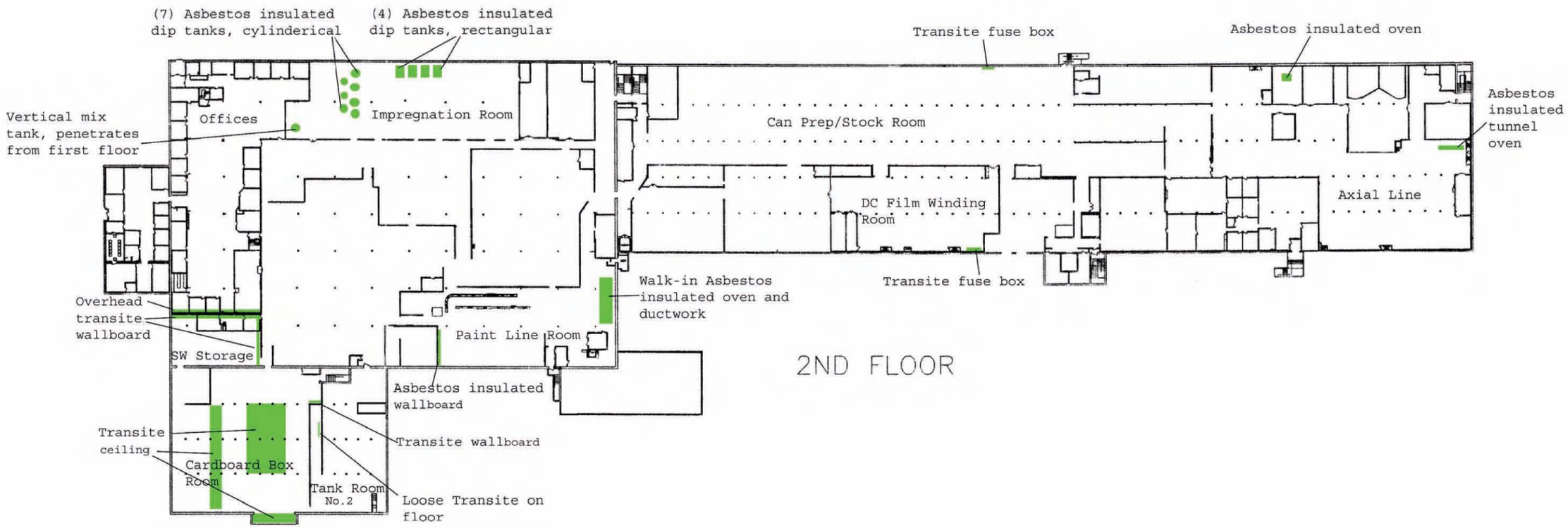
Aerovox Second Floor
Asbestos Lagged Pipe

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 18

Y:\NBH\Projects\358\G01010\72006\04\26\ArcGIS\second_floor_asbestos_pipe2.mxd



Note: Diagram for ACM location purposes only, not to scale.

Legend

· · · · · Structural Columns

Known Asbestos Containing Devices or Asbestos Containing Building Material

Note: Asbestos device volumes were estimated by direct measurement as well as estimation via scaled floor plans.

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Aerovox Second Floor Asbestos Containing Devices and Building Materials

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 19

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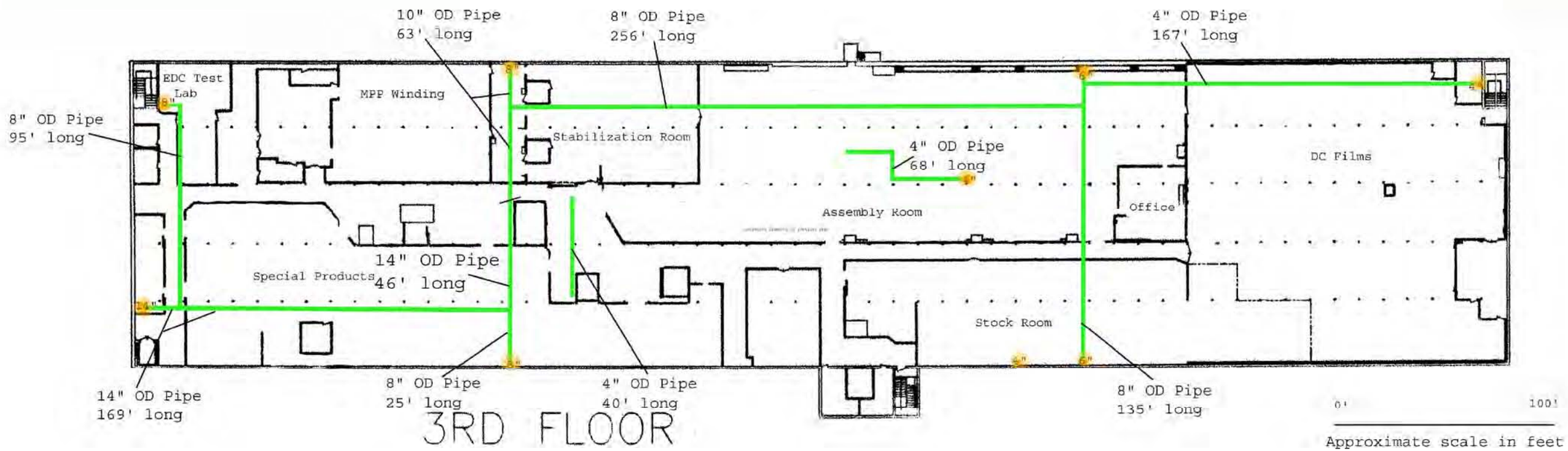

3RD FLOOR

Legend

- Structural Columns
- Overhead Asbestos Lagged Pipe Insulation
- 6" — Vertical Asbestos Lagged Pipe Insulation, Penetrates to Second Floor, Height 13' to Overhead Pipe, Estimated Diameter of Vertical Pipe Insulation

Note: Asbestos pipe lengths were estimated by direct measurement as well as estimation via scaled floor plans.

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Aerovox Third Floor
Asbestos Lagged Pipe

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 20

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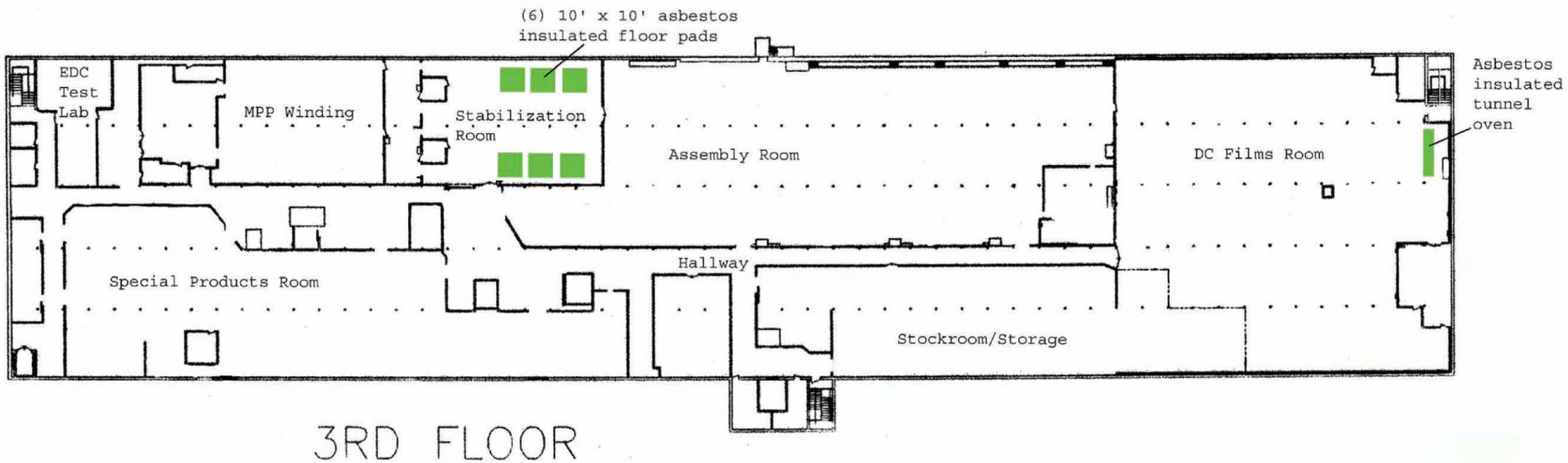

Note: Diagram for ACM location purposes only, not to scale.

Legend

- - - - - Structural Columns

Devices Known to Contain Asbestos

Note: Asbestos device volumes were estimated by direct measurement as well as estimation via scaled floor plans.

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JACOBS

Aerovox Third Floor Asbestos Containing Devices

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 21

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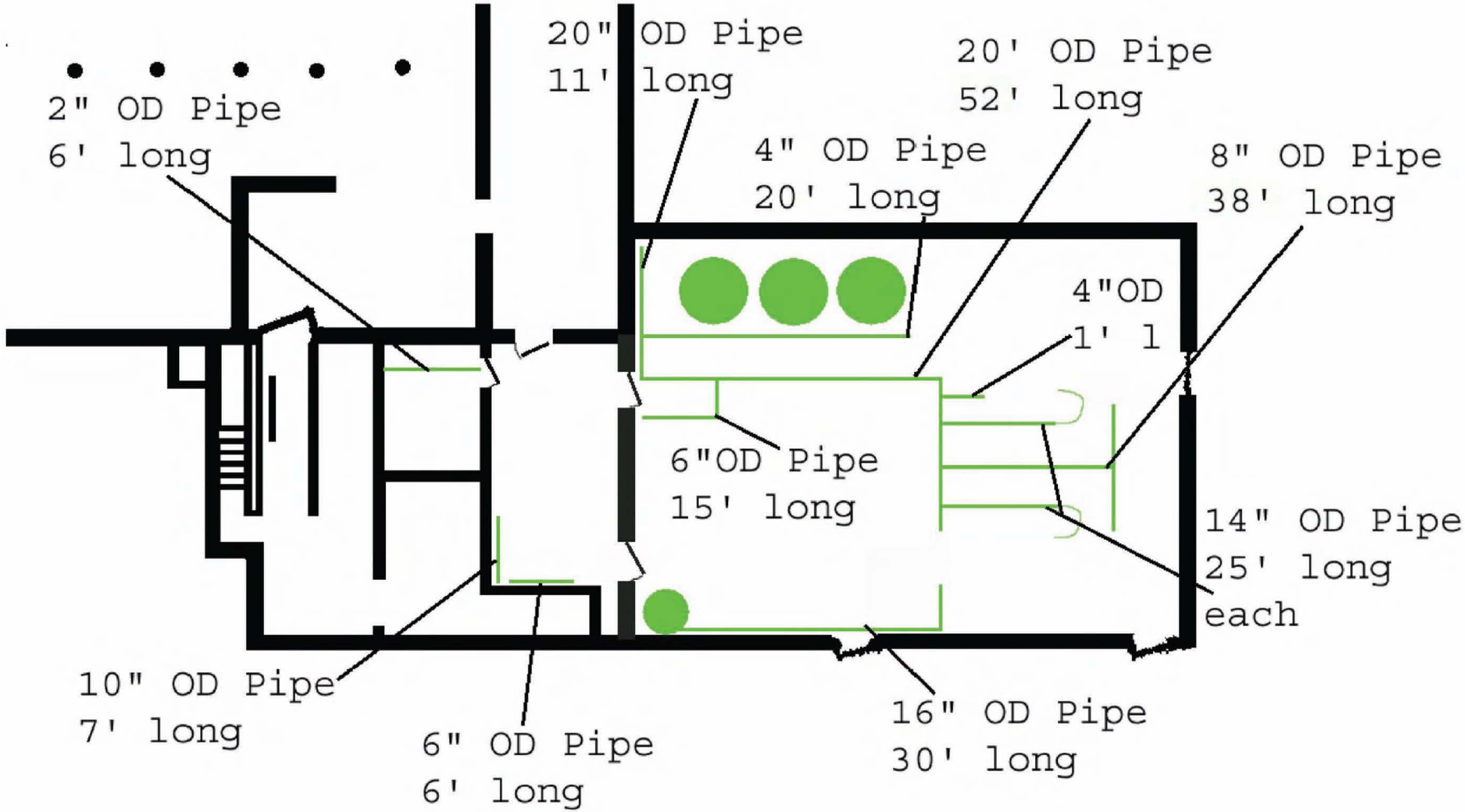

Note: Diagram for ACM location purposes only, not to scale.

Legend

· · · · · Structural Columns

Overhead Asbestos Lagged Pipe Insulation

Note: Pipe lengths and device sizes were determined by direct measurement, photographic analysis or estimation using scaled floor plans.

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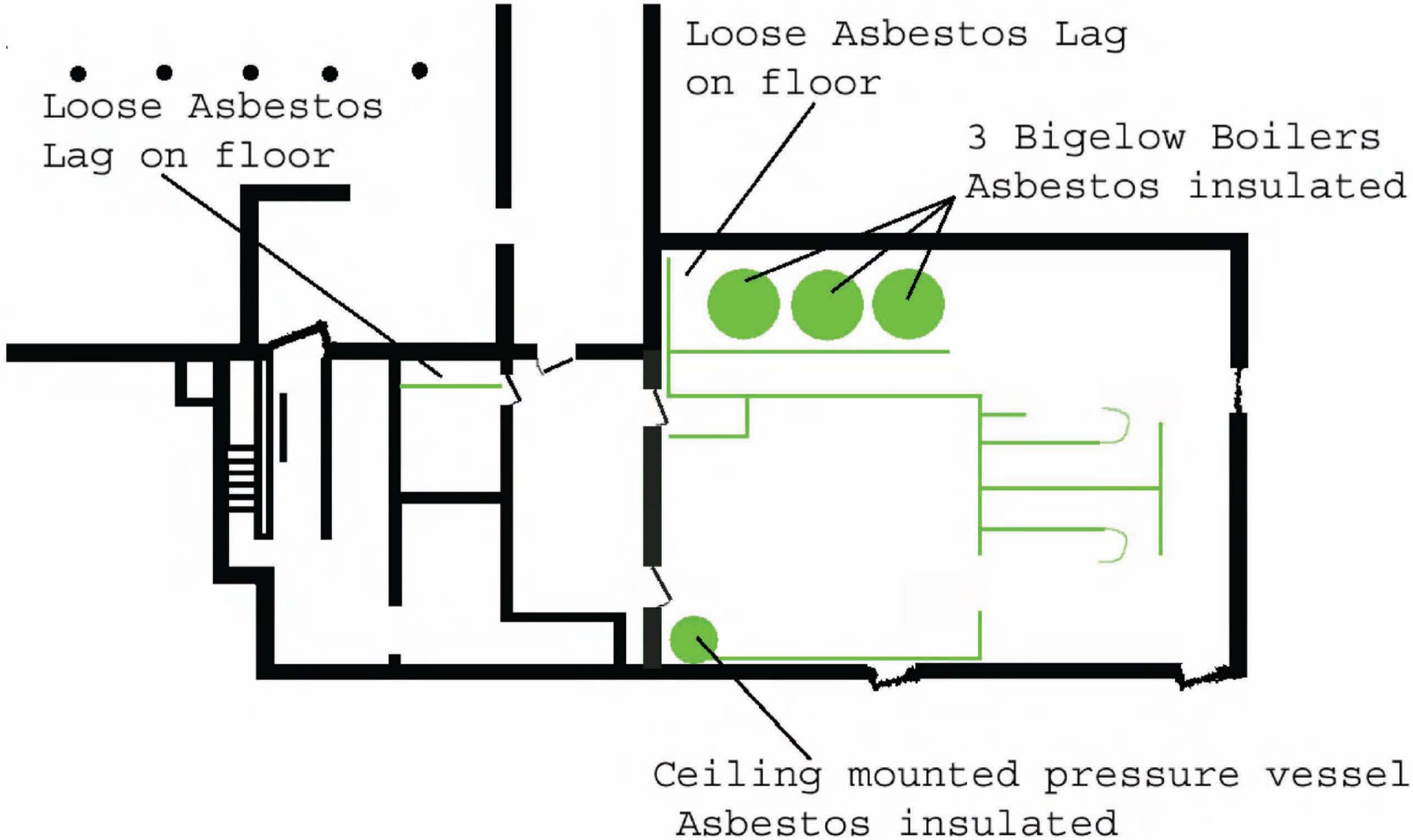
Aerovox Boiler Room
Asbestos Lagged Pipe

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 22

Y:\NBH\Projects\358G0101\07\20060426\ArcGIS\boiler_room2.mxd



Note: Diagram for ACM location purposes only, not to scale.

Legend

- Structural Columns
- Asbestos Insulated Devices

Note: Pipe lengths and device sizes were determined by direct measurement, photographic analysis or estimation using scaled floor plans.

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JACOBS

Aerovox Boiler Room
Asbestos Insulated Devices

740 Belleville Ave.
New Bedford, MA 02746

NAME: jpiccuito DATE: 04/26/2006

Figure 23

Y:\NBH\Projects\3BG01019\20060426\ArcGIS\boiler_room_device2.mxd

Figure 24 Rejected Capacitors

Figure 25 Small Containers of Mercury

Table 1
Homogenous Group Reference Sheet for Asbestos Containing Materials

Homogenous Group	Material	Location
1A	Gray floor tiles with mastic	2nd & 3rd Floors
1B	Dark gray floor tiles with mastic	2nd & 3rd Floors
1C	Tan floor tiles with mastic	2nd & 3rd Floors
2	Roofing	Roof
3	Building Fireproofing – thermospray system insulation (TSI)	Electrical room on 3rd floor; Basement near transformers
4	Electrical back panels	Insulation panel of electrical knife switches
5	Heated equipment insulation	Boiler room (insulation and jacket). Stack liner
6	Liquid Process Equipment	Basement holding tank, 2nd floor dip tanks, 2nd floor presses
7	Wall board	All floors
8	Fire doors	Stair wells (look for label first)
9	Drying Ovens	3rd floor processing
10	Fume hood	Laboratory
11	Mortar	Brick stack; boiler building; processing building
12	Exterior Siding	Around windows
13	Window Glazing	Saw-tooth roof
14	Process piping (lagging)	Basement
15	Piping L's; T's	Basement
16	Ceiling Board	Second Floor Drying Rooms
17	Masonry Wall Material	Interior Build-outs
18	Ceiling Tile	Office Spaces
19	Tongue/Groove Paper	2nd & 3rd Floors

Table 2
Homogenous Group Reference Sheet for Lead-Based Paint

Homogenous Group	Material	Location
1	Structural Beams	Basement
2	Structural Trusses	3rd floor
3a	Walls	Stairwells
3b	Walls	QA/testing on 3rd floor
4	Fire doors	Stairwells
5	Spray coating	3rd floor paint room; exhaust duct exterior
6	Sheeting	Building exterior

Table 3
Aerovox Sampling Data Sheet

Date:_____

Homogenous Group	Description	Sample Number	Location
New Group? ( )		001	
		002	
		003	
		004	
		005	

Homogenous Group	Description	Sample Number	Location
New Group? ( )		001	
		002	
		003	
		004	
		005	

Homogenous Group	Description	Sample Number	Location
New Group? ( )		001	
		002	
		003	
		004	
		005	

Homogenous Group	Description	Sample Number	Location
New Group? ( )		001	
		002	
		003	
		004	
		005	

Table 4
Asbestos Containing Materials Volume Summary

Items	Estimated Volumes		Asbestos (% and type)	Classification (RACM or Non-RACM)*
Pipe Lagging (LF)	7057 (~75% Aircell; ~25% magnesium block)		10% Chrysotile/15% Amosite in boiler room	RACM
			75% Chrysotile in building	RACM
Floor Tiles (ft^2)	9”x 9”	325	Assumed ACM.	Non-RACM
	12” x 12”	0	n/a	None Identified
Vessels/Boilers (ft^3)	(5) Stokes Oil Tanks	178.8 total	40 - 70% Chrysotile/15% Amosite	RACM
	Vertical Mix Tank	7.8	60% Chrysotile	
	Moveable Storage Tank	5.5	50 -60% Chrysotile/5% Amosite	
	(3) Bigelow Boilers	337.5 total	25 - 30% Chrysotile	
	Ceiling Mounted Vessel	25	Assumed ACM from boiler results.	
Roofing/Siding Materials (ft^2)	Flat Roof	62,800	40% Chrysotile	RACM
	Saw Tooth	69,400	50% Chrysotile	
	Office Annex	4,300	Assumed ACM from roof results.	
	Cardboard Box Room	16,400	Assumed ACM from roof results.	
	SW built-up Storage Area	3,600	Assumed ACM from roof results.	
	Boiler Room	4,100	Assumed ACM from roof results.	
	Jefferson Dock Siding	400	30 - 60% Chrysotile	
Transite® Sheeting (ft^2)	S wall of Front Offices	375	30% Chrysotile	RACM
	SW built-up Storage Area	900	Assumed ACM from roof results.	
	Exterior Pump House	100	18% Chrysotile	
	N/E walls of SW Storage Room	1,560	18% Chrysotile	
	Cardboard Box Room	3,046	18% Chrysotile	
	Walk-in Drying Oven (box)	1,200	18% Chrysotile	
	(3) Electrical Fuse Box	18 total	Assumed ACM.	
Process Equipment (ft^3)	(7) Cylindrical Impregnation Tank	42.3 total	35% Chrysotile	RACM
	(2) Tunnel Oven	10.2 total	35% Chrysotile	
	Walk-in Drying Oven (flue)	360	40 - 80% Chrysotile	
	(4) Rectangular Impregnation Tank	149.6 total	30% Amosite	
	Wax Impregnation Oven	23.4	Assumed ACM from lagging results.	
Fireproofing	n/a		n/a	None Identified
Miscellaneous	Stabilization Room Floor Pads	25.2 (ft^3)	15% Chrysotile	RACM
	Paint Line Wall board	280 (ft^2)	80% Chrysotile	
	Large Diameter Steam Structure	3 (ft^3)	Assumed ACM from lagging results.	
	Transite® Drain Pipes (underground)	Unknown	Assumed ACM.	

Notes:
* Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition as defined by NESHAP regulations.

Table 5
Lead-Based Paint Materials Volume Summary

Location	Result	Quantity
3rd Floor West End beam paint	1.30% by wt	36,000 ft^2
2nd Floor Northwest Paint Room	<0.01% by wt.	n/a
3rd Floor Assembly Room solder dust	<0.01% by wt.	n/a
3rd Floor Special Products ceiling paint	0.02% by wt.	n/a
2nd Floor DC Winding Room	0.17% by wt.	n/a
2nd Floor Impregnation Room wall paint	<0.01% by wt.	n/a
3rd Floor Fire Door paint	0.29% by wt.	3,550 ft^2
3rd Floor Paint Booth West Side overspray	99mg/kg	2 ft^3
1st Floor Security Entrance ceiling paint	0.02% by wt.	n/a
Exterior Duct Work interior coating	<0.01% by wt.	n/a

Table 6
Other Materials Requiring Disposition

Article	Hazardous	Location	Recycle	Special Disposal
Fluorescent light ballasts	PCBs	Throughout facility	No	Yes
Fluorescent light tubes	Mercury gas and other heavy metals	Throughout facility	No	Yes
Thermostats	Elemental mercury	Throughout facility	Yes	Yes
Process Controllers	Elemental mercury	Boiler room (8 vials and stored containers) Upper pump room (8 vials)	Yes	Yes
Refrigeration Compressors	Difluorochloromethane (Freon 22) Difluorodichloromethane (Freon 12)	Building roof; several locations within 2nd and 3rd floors; and building exterior.	Yes	No
UPS Battery Bank	Lead-acid batteries	1st floor engineering labs	Yes	Yes
Fire suppression system	Halon	1st Floor Computer room	Yes	No
Fire suppression system	Carbon Dioxide (under pressure)	Portable extinguishers throughout building. Two cylinders behind security office.	Yes	No
Fire suppression system	Ammonium Phosphate (under pressure)	Several extinguishers in storage behind security office.	Yes	Yes
Forklift fuel	Liquid Propane	Shipping department	No	Yes
Rejected Capacitors	Possibly PCBs and lead	Throughout facility	No	Yes
Personal Computers	Heavy Metals	Throughout facility	Yes	No
Batteries	Lead-acid batteries	Forklifts, boiler room, 2nd floor tank room, and all exit and emergency lighting	Yes	Yes
Facility Pipe Contents*	PCBs, TCE, Acids, Oils, Glycols, etc.	Primarily 1st floor piping and drains	No	Yes

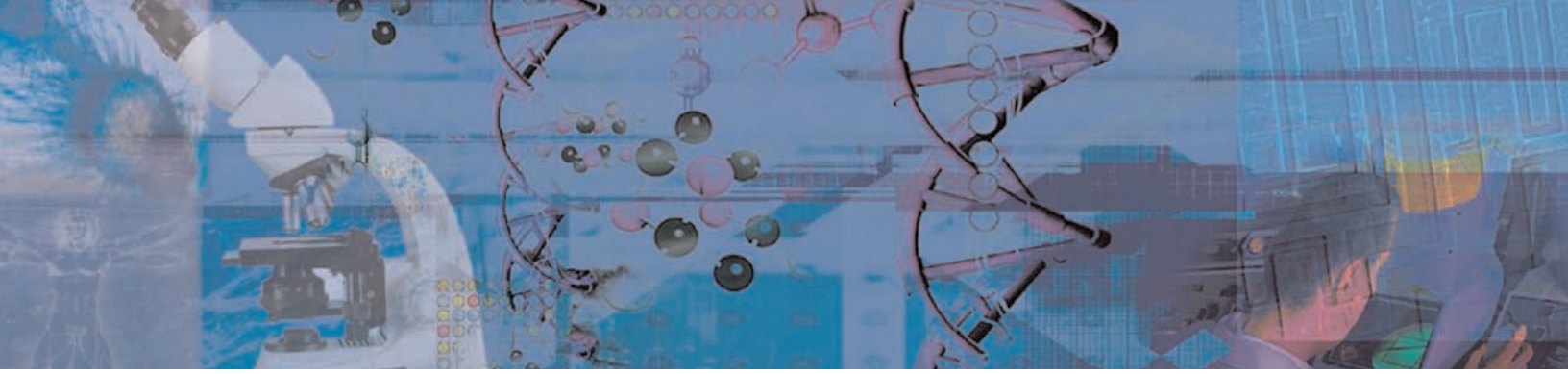
Notes:
Freon-22- Difluorochloromethane, refrigerant
Freon-12- Difluorodichloromethane, refrigerant
PCBs- Polychlorinated Biphenyls
TCE- Trichloroethene
*EPA's removal program tested residual fluids in tanks, etc., and did not detect PCBs. EPA considers it unlikely that the piping contains PCB residues.

ATTACHMENT A

Data Management CD

ATTACHMENT B

Field Sampling Guides



FIELD SAMPLING GUIDE
(ASBESTOS IN BULK MATERIALS BY PLM)

Interim Method for the Determination of Asbestos in Bulk Insulation Samples EPA600/M4-82-020.
NY State PLM Methods for Identifying and Quantitating Asbestos in Bulk Materials ELAP 198.1

The following field sampling guide is designed for use as a reference for the field consultant. It summarizes procedures and techniques for the sampling of asbestos for analysis using polarized light microscopy as they impact the analytical procedures.

For additional information on field sampling equipment, field health and safety, regulatory requirements for field sampling , sampling strategies and data interpretation, refer to the appropriate documented methodology and/or regulatory agency.

Matrix	Method	Collection Type	Receommended Volume	Detection Limit	Blanks
Bulk	EPA/600/R-93/116	Grab	Size representative of material of interest. For example: Floor tiles, roofing material – 3 to 4 in2 Ceiling tiles, loose fill insulation - 1 in3 Mastics, paints – enough to represent the material being tested	1%	N/A

Samples should be placed in a 'zip lock' bag.

There are a variety of field conditions which can effect the analytical process. These include:

- Sample wet Non homogeneity
- Layers Soil
- Sample amount

Title: Lead Field Sample Guide

FIELD SAMPLING GUIDE

PROCEDURE FOR ENVIRONMENTAL LEAD SAMPLING

The following field sampling guide is designed for use as a reference for the field sampling consultant. It summarizes procedures and techniques for the sampling of lead in soil, paint, air and wipes as they impact the analytical procedures.

For additional information on field sampling equipment, field health and safety, certain regulatory requirements for field sampling , sampling strategies and data interpretation, refer to the appropriate documented methodology and/or regulatory agency.

Matrix	Method	Collection Type	Recommended Volume	Preservation	Blanks	Comments
Soil	SW 846-7420	Jar, heavy mil zip lock bag	300gms. (approx 1 cup)	NA	NA	
Paint	SW 846-7420	Heavy mil zip lock bag	Minimum 0.05gms. (approx. 2 square inches)	NA	Non-LBP in the general vicinity of the sampling	
Wipe	SW 846-7420	Sampling wipes meeting ASTM standard E1792. (wipes are available at: PaceWipes – 919 467 0466 Palintest USA – 800 835 9629 Ghost Wipes – 800 343 5319	1 ft^2 total area sampled	NA	Same type wipe as used in sampling	Under the AIHA Accreditation Program, the lab must report data for each individual sample as submitted. Reporting Composite results are not acceptable. The final report will include a disclaimer if samples are submitted on non-ASTM wipes
Air	NIOSH 7082	.8 micron cellulose ester filter	200 – 1200 liters @ flow rate 1-4 L/min	NA	Unsampled cassette	

ATTACHMENT C

Laboratory Certification

EMSL Analytical, Inc.

NVLAP Lab Code: 101147-0

Address and Contact Information:

7 Constitution Way, Suite 107
Woburn, MA 01801
Contact: Ms. Karin Nelson
Phone: 781-933-8411
Fax: 781-933-8412
E-Mail: knelson@emsl.com
Send E-Mail to Laboratory: EMSL Analytical, Inc.
URL: http://www.emsl.com

NVLAP Accreditation Information

Listed below is the scope of accreditation for this laboratory as of April 27, 2006. For additional information, contact NVLAP at (301) 975-4016.

Send E-Mail to NVLAP at: NVLAP@nist.gov

Bulk Asbestos Analysis (PLM)

Accreditation Valid From: July 1, 2005 Through: June 30, 2006

[18/A01] PLM
EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

---

Airborne Asbestos Analysis (TEM)

Accreditation Valid From: July 1, 2005 Through: June 30, 2006

[18/A02] TEM
U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and

Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

Return to NVLAP Program Listing

For questions concerning the National Voluntary Laboratory Accreditation Program, contact us:

National Voluntary Laboratory Accreditation Program, Standards Services Division, NIST, 100 Bureau Drive, Stop 2140, Gaithersburg, MD 20899-2140
Phone: (301) 975-4016, Fax: (301) 926-2884, Email: NVLAP@nist.gov

Date created: July 26, 2002
Last Updated: April 27, 2006

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ELLAP Accredited Laboratory List

Accredited laboratories participating in the Environmental Lead Laboratory Accreditation Program (ELLAP) are listed below. Please click "View Scopes" to view the FoT(s)/Method(s) for which a laboratory is currently accredited.

Please note: a laboratory for which a published standard method (e.g., NIOSH 7082) is listed may have been assessed and accredited for that method as modified by the laboratory, rather than as published. Please contact the laboratory to verify exact procedures.

Total Accredited **ELLAP** Labs: **128**

Country	State	City	Organization Name	Contact	Contact Phone	Accred Begin	Accred End	Commercial	Scopes
	MO	Jefferson City	Missouri Department of Health State Public Health Laboratory	Alan Schaffer	(573) 751-0633	08/01/2005	08/01/2007	No	View Scopes
	MT	Billings	Northern Analytical Laboratories, Inc.	Kathleen Smit	(406) 254-7226	04/01/2005	04/01/2008	Yes	View Scopes
	NC	Kernersville	EMSL Analytical, Inc.	Robert De Malo	(800) 220-3675	06/01/2004	06/01/2007	Yes	
	NC	Research Triangle Park	Research Triangle Institute	Cynthia Salmons	(919) 541-6948	04/01/2006	04/01/2008	Yes	View Scopes
	NC	Raleigh	State Of North Carolina	Mike Kaufman	(919) 807-8980	04/01/2006	04/01/2008	No	View Scopes
	NH	Concord	State of New Hampshire	Mary Holliday	(603) 271-4450	10/01/2002	05/01/2006	Yes	
	NH	Concord	The Scott Lawson Group, Ltd.	Stephanie Roy	(800) 645-7674	09/01/2003	09/01/2006	Yes	
	NJ	Westmont	EMSL Analytical, Inc.	Robert DeMalo	(800) 220-3675	09/01/2003	09/01/2006	Yes	View Scopes

ATTACHMENT D

Chains of Custody and Analytical Results

130 600352

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
7 Constitution Way
Suite 107
Woburn, MA 01801
Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Company:	Jacobs Engineering	***Bill To:***	Jacobs Engineering
Address1:	103 Sawyer Street	*Address1:*	103 Sawyer Street
Address2:		*Address2:*	
City, State:	New Bedford, MA	*City, State:*	New Bedford, MA
Zip/Post Code:	02746	*Zip/Post Code:*	02746
Country:	USA	*Country:*	USA
Contact Name:	Carl Wilson	***Attn:***	Carl Wilson
Phone:	5089965462 ext206	*Phone:*	5089965462 ext206
Fax:	5089966742	*Fax:*	5089966742
Email:	carl.l.wilson@jacobs.com	*Email:*	carl.l.wilson@jacobs.com
EMSL Rep:	Chris Nardozzi	***P.O. Number:***	35BG0107PO6002
Project Name/Number: Aerovox/35BG0107			

MATRIX			TURNAROUND			
☐ Air	☐ Soil	☐ Micro-Vac	☐ 3 Hours	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours (1 day)
☒ Bulk	☐ Drinking Water		☐ 48 Hours (2 days)	☐ 72 Hours (3 days)	☐ 96 Hours (4 days)	☐ 120 Hours (5 days)
☐ Wipe	☐ Wastewater		☒ 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

***12 hours (must arrive by 11:00a.m. Mon -Fri.), Please Refer to Price Quote**

PCM - Air
- ☐ NIOSH 7400(A) Issue 2: August 1994
- ☐ OSHA w/TWA
- ☐ Other:

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ NIOSH 9002:
- ☐ EMSL Standard Addition:

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

TEM Air
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP - 1988-02
- ☐ TEM NOB (Gravimetric) NYS 198.4
- ☐ EMSL Standard Addition:

PLM Soil
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

TEM Microvac/Wipe
- ☐ ASTM D 5755-95 (quantative method)
- ☐ Wipe Qualitative

XRD
- ☐ Asbestos
- ☐ Silica NIOSH 7500

OTHER
- ☐

AVA·020206

~~1 of 2~~ 2/10/06 130600352

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
7 Constitution Way
Suite 107
Woburn, MA 01801
Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Client Sample # (s) AVA 020206-1A-001 - AVA-020206-16A-005 **Total Samples #:** ~~13~~ ~~16~~ 13 2/10

Relinquished: [signature] **Date:** 2/10/06 **Time:** 1430

Received: [signature] **Date:** 2/13/06 **Time:** 1045

Relinquished: **Date:** **Time:**

Received: **Date:** **Time:**

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)	~~Collected~~
AVA-020206-1A-001	12"x12" gray floor tile ~~w/ Mastik~~ 3rd floor next to 13.8 KV power	NA	1
~~AVA-020206-1B-001~~	~~12"x12" Dark gray Mastik Tile 3rd floor. Special assembly rm~~ VOID 2/10/06		
AVA-020206-1A-002	Mastik glue on Tile		2
AVA-020206-1B-001	12"x12" dark gray Tile special assembly room 3rd floor		3
AVA-020206-1B-002	Mastik glue on Tile		4
AVA-020206-1C-001	Tan Floor Tile 12"x12" 3rd floor assembly room		5
AVA-020206-1C-002	Mastik glue on Tile		6
AVA020206-5A-001	Heated Equip insulation, Tunnel Oven 3rd floor NE		7
AVA-020206-17A001	Wall stucco, interior structure 3rd floor Paint room		8
AVA-020206-16A-001	Ceiling Board, drying rooms 3rd floor middle corridor across from Assembly room, gray skim coat		9
AVA-020206-16A 002	Ceiling Board 1st white layer in from Gray side		10
AVA-020206-16A-003	2nd white layer in from Gray side		11
AVA-020206-16A-004	3rd layer in from Gray side		12
AVA-020206-16A 005	Paper sandwich layer between white layers.		13

EMSL Analytical, Inc.
7 Constitution Way. Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/13/06 10:45 AM
EMSL Order: 130600352

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
AVA-020206-1A-001 *130600352-0001*	12x12 Gray FT-3rd Fl Next to 13.8 Kv Power	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-1A-002 *130600352-0002*	Mastic Glue on Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-1B-001 *130600352-0003*	12x12 Dk Gray Tile-Special Assembly Room 3rd Fl	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-1B-002 *130600352-0004*	Mastic Glue on Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-1C-001 *130600352-0005*	12x12 Tan FT-3rd Floor Assembly Room	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-1C-002 *130600352-0006*	Mastic Glue on Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (13)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/13/06 10:45 AM
EMSL Order: 130600352

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
AVA-020206-5A-001 *130600352-0007*	Heated Equip Insulation-Tunnel Oven-3rd Floor NE	Gray Fibrous Homogeneous		65% Non-fibrous (other)	**35% Chrysotile**
AVA-020206-17A-001 *130600352-0008*	Wall Stucco-Interior Sturcture-3rd Floor Paint Rm	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-16A-001 *130600352-0009*	Ceiling Board-Grey Skim Coat-Drying Rooms-3rd Fl	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-16A-002 *130600352-0010*	Ceiling Board-1st White Layer in from Gray Side	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-16A-003 *130600352-0011*	2nd White Layer in from Gray Side	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
AVA-020206-16A-004 *130600352-0012*	3rd Layer in from Gray Side	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Steve Grise (13)

Karin Nelson
or other approved signatory

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Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/13/06 10:45 AM
EMSL Order: 130600352

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	Location	Appearance	%	Fibrous	%	Non-Fibrous	% Type
AVA-020206-16A-005 *130600352-0013*	Paper Sandwich Layer Between White Layers	Brown Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	None Detected

Analyst(s)

Steve Grise (13)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600354

Chain of Custody

Asbestos Lab Services

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Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Company:	Jacobs Engineering	***Bill To:***	Jacobs Engineering
Address1:	103 Sawyer Street	*Address1:*	103 Sawyer Street
Address2:		*Address2:*	
City, State:	New Bedford, MA	*City, State:*	New Bedford, MA
Zip/Post Code:	02746	*Zip/Post Code:*	02746
Country:	USA	*Country:*	USA
Contact Name:	Carl Wilson	***Attn:***	Carl Wilson
Phone:	5089965462 ext206	*Phone:*	5089965462 ext206
Fax:	5089966742	*Fax:*	5089966742
Email:	carl.l.wilson@jacobs.com	*Email:*	carl.l.wilson@jacobs.com
EMSL Rep:	Chris Nardozzi	***P.O. Number:***	35BG0107PO6002
Project Name/Number:	Aerovox/35BG0107		

MATRIX			TURNAROUND			
☐ Air	☐ Soil	☐ Micro-Vac	☐ 3 Hours	☐ 6 Hours	☐ Same Day or 12 Hours*	☐ 24 Hours (1 day)
☒ Bulk	☐ Drinking Water		☐ 48 Hours (2 days)	☐ 72 Hours (3 days)	☐ 96 Hours (4 days)	☐ 120 Hours (5 days)
☐ Wipe	☐ Wastewater		☒ 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

***12 hours (must arrive by 11:00a.m. Mon -Fri.), Please Refer to Price Quote**

PCM - Air
- ☐ NIOSH 7400(A) Issue 2: August 1994
- ☐ OSHA w/TWA
- ☐ Other:

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ NIOSH 9002:
- ☐ EMSL Standard Addition:

SEM Air or Bulk
- ☐ Qualitative
- ☐ Quantitative

TEM Air
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402
- ☐ EPA Level II

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP - 1988-02
- ☐ TEM NOB (Gravimetric) NYS 198.4
- ☐ EMSL Standard Addition:

PLM Soil
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

TEM Microvac/Wipe
- ☐ ASTM D 5755-95 (quantative method)
- ☐ Wipe Qualitative

XRD
- ☐ Asbestos
- ☐ Silica NIOSH 7500

OTHER
- ☐

COC AVA · 020806

1306000354

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
7 Constitution Way
Suite 107
Woburn, MA 01801
Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Client Sample # (s) AVA-020806-7A-001 - AVA-020806-18A-001 **Total Samples #:** 9

Relinquished: [signature] **Date:** 2/10/06 **Time:** 1430

Received: [signature] **Date:** 2/10/06 **Time:** 1045

Relinquished: **Date:** **Time:**

Received: **Date:** **Time:**

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)	
AVA-020806-7A-001	3rd floor drying room Center corridor East Side	NA	
AVA-020806-1C-001	Tan floor Tile w/ Mastic 2nd floor Cafeteria		
AVA-020606-9A-001	Drying oven (6.5x10x6) 2nd floor Impregnation room		
AVA-020806-6A-001	Insulation from Blue dip tank in impregnation room 2nd floor		appears - Highly friable
AVA-020806-6A-002	Insulation from Top of Blue dip Tank 2nd floor impregnation room		- appears highly friable
AVA-020806-6B-001	1 of 7 Tanks, exterior insulation from red dip tank, vessel not fully jacketed, 2nd floor impreg room		
AVA-020806-6C-001	Exterior insulation from green dip tanks in impreg room		- highly friable
AVA-020806-5A-001	Interior Brick Kiln liner Blue Kiln 2nd floor impreg room		- highly friable
AVA020806-18A-001 2/10/06	Celing tile white, 12"x12" w/ hole pattern 2nd floor front office	✓	

2/10/06

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Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/13/06 10:45 AM
EMSL Order: 130600354

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA-020806-7A-001 *130600354-0001*	3rd Fl Drying Room Center Corridor E Side	Gray Fibrous Homogeneous	5% 5%	Glass Cellulose	90%	Non-fibrous (other)	**None Detected**
AVA-020806-1C-001 *130600354-0002*	Tan FT w/Mastic-2nd Floor Cafeteria	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
AVA-020806-9A-001 *130600354-0003*	Drying Oven-2nd Floor Imprgnation Room	White Fibrous Heterogeneous	70%	Min. Wool	30%	Non-fibrous (other)	**None Detected**
AVA-020806-6A-001 *130600354-0004*	Insulation from Blue Dip Tank-2nd Fl Imp Rm	Blue Fibrous Homogeneous	20%	Synthetic	80%	Non-fibrous (other)	**None Detected**
AVA-020806-6A-002 *130600354-0005*	Insulation from Top of Blue Dip Tank-2nd Fl Imp Rm	White Fibrous Homogeneous	20%	Synthetic	80%	Non-fibrous (other)	**None Detected**
AVA-020806-6B-001 *130600354-0006*	1 of 7 Tanks-Exterior Insulation from Red Dip Tank	Gray Fibrous Homogeneous			65%	Non-fibrous (other)	**35% Chrysotile**

Analyst(s)

Steve Grise (9)

Karin Nelson
or other approved signatory

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Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

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			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA-020806-6C-001 *130600354-0007*	Exterior Insulation from Green Dip Tank in Imp Rm	Gray Fibrous Homogeneous			70%	Non-fibrous (other)	**30% Amosite**
AVA-020806-5A-001 *130600354-0008*	Interior Brick Kiln Liner-blue Kiln-2nd Fl Imp Rm	Tan Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
AVA-020806-18A-001 *130600354-0009*	White Ceiling Tile-12x12 w/Hole Pattern-2nd Fl	Brown Fibrous Heterogeneous	70%	Cellulose	30%	Non-fibrous (other)	**None Detected**

Analyst(s)

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130600341

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Asbestos Lab Services

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Woburn, MA 01801
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Company:	Jacobs Engineering	***Bill To:***	Jacobs Engineering
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Phone:	5089965462 ext206	*Phone:*	5089965462 ext206
Fax:	5089966742	*Fax:*	5089966742
Email:	carl.l.wilson@jacobs.com	*Email:*	carl.l.wilson@jacobs.com
EMSL Rep:	Chris Nardozzi	***P.O. Number:***	35BG0107PO6002
Project Name/Number: Aerovox/35BG0107			

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- ☐ EPA Point Count
- ☐ NY Stratified Point Count
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ NIOSH 9002:
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- ☐ Asbestos
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- ☐

COC - AVA - 020906
Pg 1 of 2

130600341

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Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Client Sample # (s) AVA-020906-7A-001 - AVA-020906-5H-002 **Total Samples #:** 17

Relinquished: [signature] **Date:** 2/10/06 **Time:** 1430

Received: [signature] **Date:** 2/13/06 **Time:** 1047

Relinquished: **Date:** **Time:**

Received: **Date:** **Time:**

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
1	AVA-020906-7A-001	Green Painted wall board on top of Lath + Plaster wall, Tank rm #2, second floor	
2	AVA-020906-7B-001	Lath + Plaster Tank rm #2 2nd floor	
3	AVA-020906-7C-001	Grey wall board behind 7A-001, Tank rm #2, 2nd floor	
4	AVA-020906-3A-001	Grey fire proofing on wooden columns Tank room 2nd floor.	
5	AVA-020906-7d-001	Grey transite wall Board 2nd floor Storage near Final Test	
6	AVA-020906-5A-001	Wickes Boiler Top, woven "Canvas" on East end cap, Boiler room	
7	AVA-020906-5B-001	Wickes Boiler mud on east end cap, Boiler room	
8	AVA-020906-14a-001	Pipe lagging on steam line in expansion section, SE Boiler room	
9	AVA-020906-5C-001.	Bottom rear Boiler room mud drum 1 on "Canvas" wickes Boiler	
10	AVA-020906-5d-001	Mud drum 1 interior insulation Boiler room	
1	AVA-020906-5E-001	Wall Gasket on wickes Boiler, Boiler room.	NA
2	AVA-020906-5F-001	Packing gasket, Bottom hatch of Wickes Boiler, Boiler room.	
3	AVA-020906-5H-001 ~~Bigelo~~ 2/10/06 G 2/10	Bigelow Boiler Stack insulation Boiler #3 Boiler room	
4	AVA-020906-5H-002 G 2/10	Bigelow Boiler stack insulation Boiler #2, Boiler room	

Cox - AVA - 020906
pg 2 of 2

1306000341

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Phone: (781) 933-8411
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http://www.emsl.com

Please print all information legibly.

Client Sample # (s) AVA-020906-TA-001 - AVA-020906-5H-002 **Total Samples #:** 17

Relinquished: [signature] **Date:** 2/10/06 **Time:** 1430

Received: **Date:** **Time:**

Relinquished: **Date:** **Time:**

Received: **Date:** **Time:**

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
AVA-020906-5H-003	Bigelow Boiler Stack insulation Boiler #1, Boiler room	NA
AVA-020906-5H-001	#2 Bigelow fire Brick @ Base Soft Powder (Possible degraded brick)	✓
AVA-020906-5H-002	#2 Bigelow fire Brick @ Base, intact Brick	✓
	2/9/06	

EMSL Analytical, Inc.
7 Constitution Way. Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **AVA-020906**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/13/06 10:45 AM
EMSL Order: 130600341

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos %	Asbestos Type
AVA-020906-7A-001 *130600341-0001*	2nd Floor-Tank Rm-Grn Wallbaord on Top of Lathe	Gray Fibrous Homogeneous			82%	Non-fibrous (other)	**18%**	**Chrysotile**
AVA-020906-7B-001 *130600341-0002*	2nd Floor-Tank Rm-Lath & Plaster	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
AVA-020906-7C-001 *130600341-0003*	2nd Floor-Tank Rm 2-Grey Wall Board	Brown Fibrous Homogeneous	15%	Cellulose	85%	Non-fibrous (other)		**None Detected**
AVA-020906-3A-001 *130600341-0004*	2nd Floor-Tank Rm-Grey Fire Proofing on Columns	Gray Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)		**None Detected**
AVA-020906-7D-001 *130600341-0005*	2nd Floor-Storage-Grey Transite Wall Board	Gray Fibrous Homogeneous			82%	Non-fibrous (other)	**18%**	**Chrysotile**
AVA-020906-5A-001 *130600341-0006*	Boiler Room-East End Cap-Wickes Boiler Top Canvas	Gray Fibrous Homogeneous	85%	Glass	15%	Non-fibrous (other)		**None Detected**

Analyst(s)

Steve Grise (17)

Karin Nelson
or other approved signatory

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Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

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Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
AVA-020906-5B-001 *130600341-0007*	Boiler Room-Wickes Boiler Mud on East End Cup	Gray Fibrous Homogeneous	10%	Min. Wool	90%	Non-fibrous (other)	**None Detected**
AVA-020906-14A-001 *130600341-0008*	SE Boiler Room-Pipe Lagging on Steam Line	White Fibrous Homogeneous			75%	Non-fibrous (other)	**10% Chrysotile 15% Amosite**
AVA-020906-5C-001 *130600341-0009*	Boiler Room-Mud Drum 1 on Canvas Wickes Boiler	Gray Fibrous Homogeneous	85%	Glass	15%	Non-fibrous (other)	**None Detected**
AVA-020906-5D-001 *130600341-0010*	Boiler Room-Mud Drum 1 Interior Insulation	White Fibrous Homogeneous	95%	Glass	5%	Non-fibrous (other)	**None Detected**
AVA-020906-5E-001 *130600341-0011*	Boiler Room-Wall Gasket on Wickes Boiler	Yellow Fibrous Homogeneous	90%	Glass	10%	Non-fibrous (other)	**None Detected**
AVA-020906-5F-001 *130600341-0012*	Boiler Room-Packing Gasket-Btm Hatch of Wck Boiler	White Fibrous Homogeneous	80%	Min. Wool	20%	Non-fibrous (other)	**None Detected**

Analyst(s)

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
AVA-020906-5G-001 *130600341-0013*	Boiler Room-Bigelow Boiler Stack Insulation-Blr 3	Gray Fibrous Homogeneous		70% Non-fibrous (other)	**30% Chrysotile**
AVA-020906-5G-002 *130600341-0014*	Boiler Room-Bigelow Boiler Stack Insulation-Blr 2	Gray Fibrous Homogeneous		70% Non-fibrous (other)	**30% Chrysotile**
AVA-020906-5G-003 *130600341-0015*	Boiler Room-Bigelow Boiler Stack Insulation-Blr 1	White Fibrous Homogeneous		75% Non-fibrous (other)	**25% Chrysotile**
AVA-020906-5H-001 *130600341-0016*	No. 2 Bigelow Fire Brick @ Base Soft Powder	Brown Fibrous Heterogeneous		75% Non-fibrous (other)	**25% Chrysotile**
AVA-020906-5H-002 *130600341-0017*	No. 2 Bigelow Fire Brick @ Base-Intact Brick	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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EMSL Rep:	Chris Nardozzi	***P.O. Number:***	35BG0107PO6002
Project Name/Number: Aerovox/35BG0107			

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- ☐

COC - AVA 021006-~~06~~ 2/10 ~~190~~ 3 130600350

Chain of Custody

Asbestos Lab Services

EMSL Analytical, Inc.
7 Constitution Way
Suite 107
Woburn, MA 01801
Phone: (781) 933-8411
Fax: (781) 933-8412
http://www.emsl.com

Please print all information legibly.

Client Sample # (s) AVA-021006-18A-001 - AVA-021006-12d-001 **Total Samples #:** 5

Relinquished: [signature] **Date:** 2/10/06 **Time:** 1430

Received: [signature] **Date:** 2/13/06 **Time:** 1045

Relinquished: **Date:** **Time:**

Received: **Date:** **Time:**

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
AVA-021006-18A001	Celing Board, Exterior PUMP house, South	NA
AVA-021006-12A-001	Insulating Paper exterior SW Exterior loading dock (near large stack)	↓
AVA-021006-12B-001	Insulating paper Middle SW Exterior loading dock (near large stack)	↓
AVA-021006-12C-001	Insulating paper interior SW Exterior loading dock (near large stack)	↓
AVA-021006-12d-001	Faux red Brick SW Exterior loading dock (near large stack)	↓
	2/10/06	

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6002
Received: 02/17/06 4:30 PM
EMSL Order: 130600350

EMSL Proj:
Analysis Date: 2/19/2006
Report Date: 2/20/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos %	Asbestos Type
AVA-021006-18A001 *130600350-0001*	Ceiling board, Exterior Pump House South	Gray Fibrous Homogeneous			82%	Non-fibrous (other)	**18%**	**Chrysotile**
AVA-021006-12A-001 *130600350-0002*	Insulating Paper Exterior SW Exterior Loading Dock	Black Fibrous Homogeneous	20%	Cellulose	50%	Non-fibrous (other)	**30%**	**Chrysotile**
AVA-021006-12B-001 *130600350-0003*	Insulationg Paper Middle SW Exterior Loading Dock	Black Fibrous Homogeneous	10%	Cellulose	55%	Non-fibrous (other)	**35%**	**Chrysotile**
AVA-021006-12C-001 *130600350-0004*	Insulating Paper Interior SW Exterior Loading Dock	Brown Fibrous Heterogeneous			40%	Non-fibrous (other)	**60%**	**Chrysotile**
AVA-021006-12D-001 *130600350-0005*	Faux Red Brick SW Exterior Loading Dock	Black Fibrous Heterogeneous	25%	Cellulose	75%	Non-fibrous (other)	**None Detected**	

Analyst(s)

Steve Grise (5)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600424

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206
Project Name/Number: AEROVOX 35B60107

Fax Results to:
Name:
Fax #:
Purchase Order #: 35B60107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☒ 6-10 Days

SAMPLE MATRIX

☐ Air	☒ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420☐ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010☐ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS
- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterizaton
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitrous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air O Cell
- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS
- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S) - TOTAL SAMPLE #

Relinquished:		Date:		Time:	
Received:	[signature]	Date:	02/21/06	Time:	1200pm FAX.
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

13x00424

AVA-021506

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
1	AVA021506-17a-001	CARDBOARD ROOM BATH (CW)	—	—
2	AVA021506-17b-001	Dimpled CINDER BLOCKS CW	—	—
3	AVA021506-17c-001	Top layer Cardboard Rm. BATH (CW)	—	—
4	AVA021506-7a-001	WALL BOARD, Paint Rm 2nd floor (CW)		
5	AVA021506-5a-001	GAS furnace INSULATION @ PAINT LINE (CW)	—	—
6	AVA021506-7b-001	WALL BOARD @ gas furnace (CW)	—	—
7	AVA021506-1a-001	Blue floor tile - Nurse's office 2nd fl. (CW)	—	—
8	AVA021506-7c-001	WALLBOARD 7/8" 2nd floor high voltage (CW)	—	—
9	AVA021506-7d-001	Wallboard Axial Line Rom. - skim coat (CW)	—	—
10	AVA021506-7d-002	" - Board (CW)	—	—
11	AVA021506-7d-003	" - Kraft paper (CW)	—	—
12	AVA021506-12a-001	CEILING tile 2nd floor office TV room (CW)	—	—

2/15/06

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
7 Constitution Way. Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 02/27/06 9:55 AM
EMSL Order: 130600424

EMSL Proj:
Analysis Date: 3/6/2006
Report Date: 3/6/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA021506-17a-001 *130600424-0001*	Cardboard Room Bath	White Non-Fibrous Homogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**
AVA021506-17b-001 *130600424-0002*	Dimpled Cinder Block	White Non-Fibrous Homogeneous	5%	Cellulose	95%	Non-fibrous (other)	**None Detected**
AVA021506-17c-001 *130600424-0003*	Top Layer Cardboard Room Bath	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
AVA021506-7a-001 *130600424-0004*	Wallboard, Paint Room 2nd Floor	Tan/White Fibrous Heterogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**
AVA021506-5a-001 *130600424-0005*	Gas Furnace Insulation @ Paint Line	White Fibrous Homogeneous	95%	Min. Wool	5%	Non-fibrous (other)	**None Detected**
AVA021506-7b-001 *130600424-0006*	Wallboard @ Gas Furnace	Gray Fibrous Homogeneous	10%	Cellulose	10%	Non-fibrous (other)	**80% Chrysotile**
AVA021506-1a-001 *130600424-0007*	Blue Floor Tile - Nurses Office 2nd Floor	Blue Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (12)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 02/27/06 9:55 AM
EMSL Order: 130600424

EMSL Proj:
Analysis Date: 3/6/2006
Report Date: 3/6/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA021506-7c-001 *130600424-0008*	Wallboard 7/8" 2nd Floor High Voltage	White Non-Fibrous Homogeneous	10%	Glass	90%	Non-fibrous (other)	**None Detected**
AVA021506-7d-001 *130600424-0009*	Wallboard Axial Line Room - Skim Coat	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
AVA021506-7d-002 *130600424-0010*	Wallboard Axial Line Room - Board	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
AVA021506-7d-003 *130600424-0011*	Wallboard Axial Line Room - Kraft Paper	Tan Fibrous Homogeneous	100%	Cellulose			**None Detected**
AVA021506-18a-001 *130600424-0012*	Ceiling Tile 2nd Floor Office TV Room	Gray Fibrous Homogeneous	80%	Cellulose	20%	Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (12)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600425

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206
Project Name/Number: AEROVOX 35B60107

Fax Results to:
Name:
Fax #:
Purchase Order #: 35B60107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 6-10 Days

SAMPLE MATRIX

☐ Air	☑ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS

- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterizaton
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitrous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air O Cell
- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other

IAQ ANALYSIS

- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other

Client Sample # (S) - TOTAL SAMPLE #

Relinquished:		Date:		Time:	
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

AVA-022006

1306000425

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
1	AVA-022006-7A-001	SW office Sawtooth Transite Wall board Top sheet @ Saw Tooth		
2	AVA-022006-14A-001	oven flue outter cover layer 2nd floor paint room		
3	AVA-022006-14a-002	oven flue inner corrigated layer 2nd floor paint room		
4	AVA-022006-14A-003	steam line pipe Cover Second floor paint room.		
5	AVA-022006-14A-004	flue Plenum Transition Cover 2nd floor paint room		
6	AVA-022006-14A-001	Paper insulation below lounge + groove 2nd floor paint room		

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 02/27/06 9:55 AM
EMSL Order: 130600425

EMSL Proj:
Analysis Date: 3/6/2006
Report Date: 3/6/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos %	Asbestos Type
AVA-022006-7A-001 *130600425-0001*	Transite Wallboard Top Sheet @ Sawtooth SW Office	Gray Fibrous Homogeneous			70%	Non-fibrous (other)	30%	Chrysotile
AVA-022006-14A-001 *130600425-0002*	Oven Flue Outer Cover Layer 2nd Floor Paint Room	Gray Fibrous Homogeneous	50%	Cellulose	10%	Non-fibrous (other)	40%	Chrysotile
AVA-022006-14A-002 *130600425-0003*	Oven Flue Inner Corrigated Layer 2nd Fl. Paint Rm.	Gray Fibrous Homogeneous			20%	Non-fibrous (other)	80%	Chrysotile
AVA-022006-14A-003 *130600425-0004*	Steam Line Pipe Cover 2nd Floor Paint Room	Tan Fibrous Homogeneous			60%	Non-fibrous (other)	10% 30%	Chrysotile Amosite
AVA-022006-14A-004 *130600425-0005*	Flue Plenum Transition Cover 2nd Floor Paint Room	White Fibrous Homogeneous			60%	Non-fibrous (other)	10% 30%	Chrysotile Amosite
AVA-022006-19A-001 *130600425-0006*	Paper Insulation Below Tongue & Groove 2nd Fl. Pai	Tan Fibrous Homogeneous	95%	Cellulose	5%	Non-fibrous (other)	None Detected	

Analyst(s)
Kevin Pine (6)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600426

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206

Fax Results to:
Name:
Fax #:

Project Name/Number: AEROVOX 35B60107

Purchase Order #: 35B60107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 6-10 Days

SAMPLE MATRIX

☐ Air	☑ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS

- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterizaton
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitrous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air O Cell
- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS

- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S) - TOTAL SAMPLE #

Relinquished:		Date:		Time:	
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

AVA-022106 1306000426

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
1	AVA-022106-18A-001	Fire rated Ceiling Tile Rain Damaged 2nd floor Winding room		
2	AVA-022106-14A-001	Pipe lagging corrugated Paper East 2nd floor Dept 20 winding room		
3	AVA-022106-14B-002	Paper wrap on horse hair insulated Pipe 2nd floor East Dept 20 winding room		
4	AVA-022106-7A-001	Painted wallboard (nailed) 2nd floor dept 20 winding room west wall		

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
7 Constitution Way. Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 02/27/06 9:55 AM
EMSL Order: 130600426

EMSL Proj:
Analysis Date: 3/6/2006
Report Date: 3/6/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA-022106-18A-001 *130600426-0001*	Fire Rated Ceiling Tile Rain Damaged 2nd Fl Windin	Tan Fibrous Heterogeneous	35% 35%	Min. Wool Cellulose	30%	Non-fibrous (other)	**None Detected**
AVA-022106-14A-001 *130600426-0002*	Pipe Lagging Corrugated Paper East 2nd Fl Dept. 20	Brown Fibrous Homogeneous	85%	Cellulose	15%	Non-fibrous (other)	**None Detected**
AVA-022106-14B-002 *130600426-0003*	Paper Wrap On Horse Hair Insulated Pipe 2nd Fl E.	Brown Fibrous Homogeneous	35%	Cellulose	65%	Non-fibrous (other)	**None Detected**
AVA-022106-7A-001 *130600426-0004*	Painted Wallboard (Nailed) 2nd Fl Dept 20 Winding	Brown/White Fibrous Homogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**

Analyst(s)

Matthew Perry (4)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600553

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206
Project Name/Number: AEROVOX 35B60107

Fax Results to:
Name:
Fax #:
Purchase Order #: 35B60107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 10 Days

SAMPLE MATRIX

☐ Air	☐ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

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- ☐ ASTM D 5755-95 (Quantitative)

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- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

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- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

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Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
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- ☐ Air, NIOSH 7105
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- ☐ Soil, SW846-7421
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- ☐ Wipe, SW846-6010 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
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- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitrous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
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- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

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IAQ ANALYSIS

- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S) - TOTAL SAMPLE #

Relinquished:		Date:	3/10/06	Time:	1630
Received:	SM	Date:	03/13/06	Time:	940am
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

130600553

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
1	AVA030606-6A-001	Mix tank - cloth layer Basement		
2	AVA 030606-6A-002	MIXTank - Mud basement		
3	AVA030606-6B-001	MIXTank Vertical Mud exterior Basement		
4	AVA 030606-6B-002	MIXTank Vertical Mud interior basement		
5	AVA 030606-6C 001	Oil Tanks cloth basement		
6	AVA 030606-6C-002	Oil Tanks Mud basement		
7	AVA 030606-14A-001	Paper Pipe lagging basement		
8	AVA 030606-14A-002	Formed Pipe lagging basement		
9	AVA 030606-6D-001	Process Tank insulation outer mud basement		
10	AVA 030606-6D-002	Process Tank brick basement		
11	AVA 030606-6E-001	Spray on insulation over foam basement		
12	AVA 030606-6f-001	Stokes tanks Canvas basement		
13	AVA030606-6f-002	Stokes Tanks brick basement		
14	AVA030606-6f-003	Stokes Tanks Mud basement		
15	AVA030606-17A-001	Inductor room Pyro bar brick		
16	AVA 030606-17B-001	Pyro bar Mortar Inductor rm		
17	AVA 030606-~~17C~~ 17C-001	USGC Rockwall brick Inductor room		

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6-000
Received: 03/13/06 9:23 PM
EMSL Order: 130600553

EMSL Proj:
Analysis Date: 3/17/2006
Report Date: 3/18/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
AVA030606-6A-001 *130600553-0001*	Mix Tank Cloth Layer Basement	White Fibrous Homogeneous	95%	Glass	5%	Non-fibrous (other)	**None Detected**
AVA030606-6A-002 *130600553-0002*	Mix Tank Mud Basement	Gray Fibrous Homogeneous	40%	Min. Wool	60%	Non-fibrous (other)	**None Detected**
AVA030606-6B-001 *130600553-0003*	Mix Tank Vertical Basement Mud Exterior	Gray Fibrous Homogeneous			40%	Non-fibrous (other)	**60% Chrysotile**
AVA030606-6B-002 *130600553-0004*	Mix Tank Vertical Basement Mud Interior	White Fibrous Homogeneous			40%	Non-fibrous (other)	**60% Chrysotile**
AVA030606-6C-001 *130600553-0005*	Oil Tanks Cloth Basement	White Fibrous Homogeneous	95%	Glass	5%	Non-fibrous (other)	**None Detected**
AVA030606-6C-002 *130600553-0006*	Oil Tanks Mud Basement	Gray Fibrous Homogeneous	35%	Min. Wool	65%	Non-fibrous (other)	**None Detected**
AVA030606-14A-001 *130600553-0007*	Paper Pipe Lagging Basement	Gray Fibrous Homogeneous			25%	Non-fibrous (other)	**75% Chrysotile**

Analyst(s) for KNelson
Karin Nelson (17)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

EMSL Analytical, Inc.
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Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6-000
Received: 03/13/06 9:23 PM
EMSL Order: 130600553

EMSL Proj:
Analysis Date: 3/17/2006
Report Date: 3/18/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
AVA030606-14A-002 *130600553-0008*	Formed Pipe Lagging Basement	White Fibrous Homogeneous	25%	Synthetic	75%	Non-fibrous (other)	**None Detected**
AVA030606-6D-001 *130600553-0009*	Process Tank Insulation Outer Mud Basement	Brown Fibrous Homogeneous			50%	Non-fibrous (other)	**50% Chrysotile**
AVA030606-6D-002 *130600553-0010*	Process Tank Brick Basement	Gray Fibrous Homogeneous			35%	Non-fibrous (other)	**60% Chrysotile** **5% Amosite**
AVA030606-6E-001 *130600553-0011*	Spray on Insulation Over Foam Basement	Gray Non-Fibrous Homogeneous	15% 15%	Glass Cellulose	70%	Non-fibrous (other)	**None Detected**
AVA030606-6F-001 *130600553-0012*	Stokes Tanks Canvas Basement	Brown Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
AVA030606-6F-002 *130600553-0013*	Stokes Tanks Brick Basement	White Fibrous Homogeneous			45%	Non-fibrous (other)	**40% Chrysotile** **15% Amosite**
AVA030606-6F-003 *130600553-0014*	Stokes Tanks Mud Basement	White Fibrous Homogeneous			30%	Non-fibrous (other)	**70% Chrysotile**

Analyst(s) KN for KNelson
Karin Nelson (17)

Karin Nelson
or other approved signatory

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Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

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Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
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103 Sawyer Street
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Customer ID: JAEN77
Customer PO: 35BG0107PO6-000
Received: 03/13/06 9:23 PM
EMSL Order: 130600553

EMSL Proj:
Analysis Date: 3/17/2006
Report Date: 3/18/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA030606-17A-001 *130600553-0015*	Inductor Room Pyrobar Brick	White Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
AVA030606-17B-001 *130600553-0016*	Pyrobar Mortar Inductor Room	Gray Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
AVA030606-17C-001 *130600553-0017*	USCG Rockwall Brock/Inductor Room	Gray Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**

Analyst(s) for KNelson
Karin Nelson (17)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

130600557

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206

Fax Results to:
Name:
Fax #:

Project Name/Number: AEROVOX 35B60107
Purchase Order #: 35BA0107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 6-10 Days

SAMPLE MATRIX

☐ Air	☐ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☑ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative ☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

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Flame Atomic Absorption
- ☐ Wipe, SW846-7420 ☐ ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
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- ☐ TCLP LEAD SW846-1311/7420

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- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
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- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
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- ☐ Mold & Fungi by Agar Plate count & id
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Wipe and Bulk Samples
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- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S)

TOTAL SAMPLE # 1630

Relinquished:		Date:	3/10/06	Time:	
Received:	JM	Date:	03/13/06	Time:	940am
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

13060055 1

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

	SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L.)	Area (Inches sq.)
1	AVA031006-6A-001	Blue Impreg Tank, East brick		
2	AVA 031006-6B-001	blue impreg tank, West, brick		
3	AVA031006-6C-001	Brown impreg Tanks		
4	AVA 031006-18A-001	celing board Front offices above Tile		
5	AVA031006-2A-001	Saw Tooth NW edgehouse Top		
6	002	" " mid		check for layers
7	003	" " bottom		
8	AVA 031006-5A-001	Floor pads under ovens oven room, Stabilization		

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6-000
Received: 03/13/06 9:09 PM
EMSL Order: 130600551

EMSL Proj:
Analysis Date: 3/17/2006
Report Date: 3/18/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
AVA031006-6A-001 *130600551-0001*	Blue Impreg Tank East Brick	White Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
AVA031006-6B-001 *130600551-0002*	Blue Impreg Tank West Brick	White Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
AVA031006-6C-001 *130600551-0003*	Brown Impreg Tanks	Green Fibrous Homogeneous	15%	Synthetic	85%	Non-fibrous (other)	**None Detected**
AVA031006-18A-001 *130600551-0004*	Ceiling Board Above Tile Front Offices	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
AVA031006-2A-001 Silver/Black Layer *130600551-0005*	Saw Tooth NW Edgehouse Top	Silver/Black Non-Fibrous Homogeneous	2%	Cellulose Chrysotile may be from adjacent layer	96%	Non-fibrous (other)	**2% Chrysotile**
AVA031006-2A-001 Fibrous Layer *130600551-0009*	Saw Tooth NW Edgehouse Top	Black Fibrous Homogeneous	10%	Cellulose	40%	Non-fibrous (other)	**50% Chrysotile**
AVA031006-2A-002 *130600551-0006*	Saw Tooth NW Edgehouse Mid	Black Fibrous Homogeneous	10%	Cellulose	40%	Non-fibrous (other)	**50% Chrysotile**

Analyst(s) for KNelson
Karin Nelson (9)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: 781-933-8411 Fax: 7819338412 Email: bostonlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (206) -
Project: **Aerovox 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107PO6-000
Received: 03/13/06 9:09 PM
EMSL Order: 130600551

EMSL Proj:
Analysis Date: 3/17/2006
Report Date: 3/18/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
AVA031006-2A-003 *130600551-0007*	Saw Tooth NW Edgehouse Bottom	Black Fibrous Homogeneous	10%	Cellulose	40%	Non-fibrous (other)	**50% Chrysotile**
AVA031006-5A-001 *130600551-0008*	Floor Pads Under Ovens Oveer Room Stabilization	White Fibrous Homogeneous	15%	Cellulose	70%	Non-fibrous (other)	**15% Chrysotile**

Analyst(s) Ble for KNelson
Karin Nelson (9)

Karin Nelson
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted.
Analysis performed by EMSL Boston NVLAP# 101147-0 MA# AA000188

THIS IS THE LAST PAGE OF THE REPORT.

20062172

Chain of Custody

Lead Lab Services

EMSL Analytical, Inc.
307 West 38th Street
New York, NY 10018

Phone: (212) 290-0051
Fax: (212) 290-0058
http://www.emsl.com

Please print all information legibly.

Company:	Jacobs Engineering	***Bill To:***	Jacobs Engineering
Address1:	103 Sawyer Street	*Address1:*	103 Sawyer Street
Address2:		*Address2:*	
City, State:	New Bedford, MA	*City, State:*	New Bedford, MA
Zip/Post Code:	02746	*Zip/Post Code:*	02746
Country:	USA	*Country:*	USA
Contact Name:	Carl Wilson	***Attn:***	Carl Wilson
Phone:	5089964562	*Phone:*	5089964562
Fax:		*Fax:*	
Email:	carl.l.wilson@jacobs.com	*Email:*	carl.l.wilson@jacobs.com
EMSL Rep:	Chris Nardozzi	***P.O. Number:***	35BG0107PO60002
Project Name/Number: Aerovox/35BG0107			

MATRIX	METHOD	INSTRUMENT	RL (Reporting Limit)	TAT
Lead Chips*	SW846-7420, 3050B Mod./AOAC(974.02)	Flame Atomic Absorption	0.01% ++	10day
Lead WasteWater	SW846-7420	Flame Atomic Absorption	0.4 mg/l water 40 mg/kg (ppm) soil	
Lead Soil +	or SW846-6010B	ICP	0.1 mg/l water 10 mg/kg (ppm) soil	
Lead in Air ***	NIOSH 7082 Mod.	Flame Atomic Absorption	4 ug/filter	
	or NIOSH 7300 Mod.	ICP	3.0 ug/filter	
Lead in Wipe^ ☐-ASTM *List Wipe Type* _____ ☐-non ASTM	SW846-7420 / HUD Appendix 14.2 Digest	Flame Atomic Absorption	10 ug/wipe	
	or SW846-6010B	ICP	3.0 ug/wipe	
TCLP Lead **	SW846-1311/ 7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
STLC Lead (California) #	CA Title 22 66261.126/ SW846-7420	Flame Atomic Absorption	0.4 mg/l (ppm)	
	or SW846-6010B	ICP	0.1 mg/l (ppm)	
Lead in Air ****	NIOSH 7105 Mod.	Graphite Furnace Atomic Absorption	0.03 ug/filter	
Lead WasteWater	SW846-7421	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm) water	
Lead Soil +			0.03 mg/kg (ppm) soil	
Lead in Drinking Water (check state Certification requirements)	EPA 239.2 / 200.9	Graphite Furnace Atomic Absorption	0.003 mg/l (ppm)	
Total Dust	NIOSH 0500-0600	Gravimetric Reduction	0.0001g	

2006 FEB 14 AM 11:26
RECEIVED
EMSL
WESTMONT, N.J.

TAT (Turnaround) - Same day, 24 hr - 1 Day, 2 Days, 3 Days, 4 Days, 5 Days, 6-10 Days
*, **, ***, ****, +, ++ ,# Please Refer to Price Quote
^ If no box is checked, non-ASTM is assumed

20060212

Chain of Custody

Lead Lab Services

EMSL Analytical, Inc.
307 West 38th Street
New York, NY 10018

Phone: (212) 290-0051
Fax: (212) 290-0058
http://www.emsl.com

Please print all information legibly.

SAMPLE #	LOCATION	Air Volume, L Area, in^2	LAB #
* AVP-020206-03-001	B/ve green wall paint, dip tank 2nd flr	Paint	02172-1
~~AVP-020206-03-001 VOID~~	~~Red Paint 3rd floor fire door~~	Chips	
* AVP-020206-04-001	Red paint 3rd floor fire door	Only.	-2
* AVP-020206-05-001	Paint Booth 3rd floor paint-		-3
	room Coverspray/ West Side		

@Relinquished By: (Person) _____ **Date:** 2/10/06 1445

Received at EMSL by: _____ **Date:** 2/13/06 1045

Received at EMSL by: L Valenzo **Date:** 2/14/06 11:00 AM

Note: Please duplicate this form and use additional sheets if necessary.

@ The individual signing and relinquishing these samples to the laboratory attests to the accuracy of the information reported on this chain of custody.

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: westmontleadlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (508) 996-5462
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO:
Received: 02/14/06 11:26 AM
EMSL Order: 200602172
EMSL Proj:
Report Date: 2/24/2006

Lead in Paint Chips by Flame AAS (SW 846 3050B and 7420*)

Client Sample Description	*Lab ID*	*Analyzed*	*Lead Concentration*
AVP-020206-03-001	*0001*	2/23/2006	<0.01 % wt
AVP-020206-04-001	*0002*	2/23/2006	0.29 % wt

Laboratory Director
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied

ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100194

Date Printed: 2/24/2006 9:07:34 AM

EMSL Analytical
3 Cooper St., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-9551 Email: westmontleadlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (508) 996-5462
Project: **Aerovox/35BG0107**

Customer ID: JAEN77
Customer PO:
Received: 02/14/06 11:26 AM
EMSL Order: 200602172
EMSL Proj:
Report Date: 2/24/2006

Pb by Flame Atomic Absorption

Client Sample Description	*Lab ID*	*Analyzed*	*Lead Concentration*
AVP-020206-05-001	*0003*	2/17/2006	99.0 mg/Kg

Laboratory Director
or other approved signatory

Detection limit is 40 mg/kg. This report relates only to those items tested.
ACCREDITATIONS: NJ-NELAP: 04653, AIHA Environmental Lead Laboratory Approval Program: 100194

03061043 7 AVP-031406

EMSL
107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Third Party Billing requires written authorization from third party

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206
Project Name/Number: AEROVOX 35B60107

Fax Results to:
Name:
Fax #:
Purchase Order #: 35B60107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 6-10 Days

SAMPLE MATRIX

☐ Air	☐ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☑ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☐ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420☐ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☑ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010☐ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS

- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterizaton
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitreous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air O Cell
- ☐ Mold & Fungi by Agar Plate count & Id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS

- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S)

TOTAL SAMPLE #

Relinquished:	[illegible]	Date:	4/5/06	Time:	9:30
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

EMSL 0306 10437 AVP-031406

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
AVP-031406-1A-001	3rd Floor West end beam Paint		
AVP-031406-7A-001	2nd floor NW Paint room (metal chips)		
AVP-031406-7B-001	Assembly room 3rd floor solder station dust/duct work		
AVP-031406-3B-001	3rd Floor sp Products Celing Paint white		
AVP-031406-1B-001	2nd Floor DC Winding room		

Relinquished: Date: Time:
Received: Date: Time:
Relinquished: Date: Time:
Received: Date: Time:

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (508) 996-5462
Project: **AEROVOX 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 04/06/06 10:30 AM
EMSL Order: 030610437
EMSL Proj:
Report Date: 4/7/2006

Lead in Paint Chips by Flame AAS (SW 846 3050B and 7420*)

Client Sample Description		*Lab ID*	*Analyzed*	*Lead Concentration*
AVP-031406-1A-001	3RD FLOOR WEST END BEAM PAINT	0001	4/7/2006	1.30 % wt
AVP-031406-7A-001	2ND FLOOR NW PAINT ROOM (METAL CHIPS)	0002	4/7/2006	<0.01 % wt
AVP-031406-7B-001	ASSEMBLY ROOM 3RD FL SOLDIER ST DUST/DUCT WORK	0003	4/7/2006	<0.01 % wt
AVP-031406-3B-001	3RD FLOOR SP PRODUCTS WHITE CEILING PAINT	0004	4/7/2006	0.02 % wt
AVP-031406-1B-001	2ND FLOOR DC WINDING ROOM	0005	4/7/2006	0.17 % wt

M. Apfeldorfer

Miron Apfeldorfer
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied

ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program #102581

Date Printed: 4/7/2006 1:23:58 PM

PB w/o QC-1

0306 10433 AUP 040316

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

EMSL ANALYTICAL, Inc. CHAIN OF CUSTODY

EMSL Rep: CHRIS NARDOZZI

Your Name:
Company: JACOBS
Street: 103 SAWYER ST
Box #:
City/State: NEW BEDFORD MA Zip 02746

Phone Results to:
Name: CARL WILSON
Telephone #: 508.996.5462 x206
Project Name/Number: AEROVOX 35B60107

Third Party Billing requires written authorization from third party

EMSL-Bill to: SAME
Street:
Box #:
City/State: Zip

Fax Results to:
Name:
Fax #:
Purchase Order #: 35BA0107P06-0002

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☐ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☑ 6-10 Days

SAMPLE MATRIX

☐ Air	☐ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☐ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- ☐ California Air Resource Board (CARB) 435
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- ☐ EPA Protocol Qualitative
- ☐ EPA Protocol Quantitative
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420☐ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☑ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐Wipe, SW846-6010☐ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS
- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterization
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitreous Fibers - MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other

MICROBIAL ANALYSIS

Air Samples
- ☐Mold & Fungi by Air O Cell
- ☐Mold & Fungi by Agar Plate count & Id
- ☐Bacterial Count and Gram Stain
- ☐Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS
- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S) TOTAL SAMPLE #

Relinquished:	[signature]	Date:		Time:	
Received:		Date:	4/5/06	Time:	930
Relinquished:		Date:		Time:	
Received:		Date:		Time:	

USUC 104433

AVP-040306

EMSL

107 Haddon Avenue, Westmont, New Jersey 08108 1-800-220-3675 http://www.emsl.com

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L)	Area (Inches sq.)
AVP-040306-1A-001	ceiling paint chips cream/gray, Entrance @ security		
AVP-040306-7A-001	Coating from inside, Exterior duct work		

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Carl Wilson**
Jacobs Engineering
103 Sawyer Street
New Bedford, MA 02746

Fax: (508) 996-6742 Phone: (508) 996-5462
Project: **AEROVOX 35BG0107**

Customer ID: JAEN77
Customer PO: 35BG0107P06-000
Received: 04/06/06 10:30 AM
EMSL Order: 030610433
EMSL Proj:
Report Date: 4/7/2006

Lead in Paint Chips by Flame AAS (SW 846 3050B and 7420*)

Client Sample Description		*Lab ID*	*Analyzed*	*Lead Concentration*
AVP-040306-1A-001	CREAM/GREY, ENTRANCE @ SECURITY - CELIING	*0001*	4/7/2006	0.02 % wt
AVP-040306-7A-001	COATING FROM INSIDE EXTERIOR DUCT WORK	*0002*	4/7/2006	<0.01 % wt

M Apfeldorfer

Miron Apfeldorfer
or other approved signatory

Reporting limit is 0.01 % wt. The QC data associated with these sample results included in this report meet the method quality control requirements, unless specifically indicated otherwise. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities.

* slight modifications to methods applied

ACCREDITATIONS: AIHA Environmental Lead Laboratory Approval Program #102581

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ATTACHMENT E

Material Volume Calculations

Calculations

Area calculations of wallboard, flooring or roofing were derived from direct measurement or estimation via scaled floor plans.

Measurements used to calculate the volume of asbestos in a device detailed below were derived from direct measurement, visual estimation or scaled floor plans. Measurements below are of exterior dimensions of the piping and include insulation. Thickness estimates were based on visual estimation and direct measurement and will vary somewhat depending on the method of insulation application, shape and purpose of the device and physical condition.

Volume estimates involved calculating total volume of device and subtracting it from a calculated volume of the device without insulation.

Example Calculations:

Volume of tank insulation: A cylindrical tank 9.0' long x 5.0' diameter which has an insulation thickness of 2", for this report the dimensions given are exterior and include the insulating layer. First the total volume (Vt) is calculated.

Vt = (length)(π)(r) ^2 = (9.0')(π)(2.5) ^2 = 176.7ft^3

The next step is to calculate the internal volume (Vi), which is the volume of the tank below the insulating layer.

Vi = (length – 4") (π) (r-2") ^2= (8.7) (π) (2.3) ^2 = 144.6ft^3

The asbestos volume (Va) is the difference between Vt and Vi,

Va = Vt-Vi = 176.7ft^3-144.6ft^3 = 32.1ft^3.

Area of asbestos wall board: An area of ceiling covered in Transite® measures 8.0' wide x 30.0' long; to calculate the area the two measurements are multiplied.

Area = Length times Width = 30.0' x 8.0' = 240ft^2 of area.

Linear feet of pipe lagging: To calculate the linear footage of asbestos lagged pipe the different lengths of pipe of each different outside diameter (OD) are tabulated and summed. For example, on the third floor there are a number of different runs of 8" OD pipe, they are 95', 25', 256', 135', 13', 13', 13'; the sum of these runs is 550 linear feet, this is the value given in the pipe inventory. The OD of the pipe is the OD of the lagging for the purposes of this inventory.

Aerovox Asbestos Lagged Pipe Inventory

	OD of Lagging (inches)	Total Linear Feet (feet)
First Floor	2	96
	3	429
	4	1580
	6	1262
	8	107
	10	170
	12	40
	14	50
Second Floor	4	845
	6	998
	8	16
	12	31
	14	16
Third Floor	4	314
	6	26
	8	550
	10	63
	14	228
Boiler Room	2	6
	4	21
	6	21
	8	38
	10	7
	14	50
	16	30
	20	63

Exterior - Inventory of Asbestos-Containing Building Material

Flat Roof. Roofing material was found to contain asbestos in tar-like substance and roofing felt covered in loose pea stone. A Catwalk running the length of the center of building was not shown to contain asbestos roofing. Approximate area of asbestos containing roofing material is 62,800 ft^2.

Sawtooth Roof. Roofing appears to be covered by a vinyl like membrane over an asbestos asphalt-coated material. Approximate area of asbestos containing roofing material is 69,400 ft^2.

Single-story office annex (Bellville Ave.) building entrance. Roofing material believed to be asbestos containing asphalt roof. Approximate area of asbestos containing roofing material is 4,300 ft^2.

Second story roof material over the Cardboard Box Room. Roofing material thought to be asbestos containing asphalt, roof observed to be leaking water and possibly structurally weak. Approximate area of asbestos containing roofing material is 16,400 ft^2.

Built up storage area in South Western end of building. Siding material known to contain asbestos on two sides, other sides brick. Approximate area of siding material is 900 ft^2.

Built up storage area in South Western end of building. Roofing material known to contain asbestos, approximate area of roofing material 3,600 ft^2.

Boiler Room Roof. Roofing material believed to contain asbestos in asphalt. Approximate area of asbestos containing roofing material is 4,100ft ^2.

Wooden loading dock, (Jefferson dock) located next to boiler stack. Asphalt siding known to contain asbestos, approximate area of asbestos siding is 400 ft^2.

Brick pump house, next to receiving ramp. Ceiling material of pump house known to be Transite®. Approximate area of Transite® is 100 ft^2.

Asbestos containing drainage pipe is located on the Northern and Southern sides of the building. Volume of pipe unknown as the majority is thought to be buried.

Total estimated exterior asbestos containing building materials is 162,000 ft^2.

First Floor Asbestos Insulated Devices and Building Materials Inventory

9”x 9” Asbestos containing floor tiles in Telephone Room, condition considered to be intact and non-friable. Approximate area of tiles is 325 ft^2.

Two Stokes brand process oil tanks in Oil Stock Room next to Engineering Labs. Tanks used but empty, constructed with inner asbestos brick layer under asbestos mud covered with a canvas outer layer. Approximate exterior dimensions 18.7’ long x 5.0’ diameter. Estimated average insulation thickness 2”. Approximate asbestos volume 50.2 ft^3 (1.86 yd^3) each.

Two Stokes brand process oil tanks in Oil Stock Room next to Engineering Labs. Tanks used but empty, constructed with inner asbestos brick layer under asbestos mud covered with a canvas outer layer. Approximate exterior dimensions 9.3’ long x 5.0’ diameter. Estimated average insulation thickness 2”. Approximate asbestos volume 26.4 ft^3 (0.98 yd^3) each.

Stokes brand vertical tank in Oil Stock Room next to Engineering Labs. Tank used but empty, constructed with inner asbestos brick layer under asbestos mud covered with a canvas outer layer. Approximate exterior dimensions 9.0’ tall x 5.0’ diameter. Estimated average insulation thickness 2”. Approximate asbestos volume 25.6 ft^3 (0.95 yd^3).

Large diameter steam structure (pipe elbow) that begins a main vertical steam line is located in entrance way to Jefferson loading dock. Elbow on wall penetrating to second floor, overhead. Estimated size is 4.0' long x 1.5' diameter, estimated insulation thickness 2". Approximate asbestos volume 3.0 ft^3 (0.11 yd^3).

Vertical mixing tank, located in Oil Stock Room area located at the entrance to the shipping ramp. Tank used but empty, constructed with inner asbestos brick layer under asbestos mud covered with a canvas outer layer. Approximate dimensions 3.0' diameter x 4.0' high, estimated insulation thickness 2". Approximate asbestos volume 7.8 ft^3 (0.29 yd^3).

Moveable asbestos insulated storage tank, located in Oil Stock Room. Tank used but empty, constructed with inner asbestos brick layer under asbestos mud covered with a canvas outer layer. Approximate dimensions 5.3' long x 2.0' diameter, estimated insulation thickness 2". Approximate asbestos volume 5.5 ft^3 (0.20 yd^3).

Total estimated first floor asbestos volume (not including pipe lagging or Boiler Room) is 195.1 ft^3 (7.23 yd^3). Total estimated first floor area of asbestos containing building materials is 325 ft^2.

Second Floor Asbestos Insulated Device and Building Material Inventory

Asbestos insulated tunnel oven in axial line, Eastern end of building, rectangular shaped, estimated size 9' long x 1' high x 1' wide, estimated insulation thickness 2". Approximate asbestos volume 5.1 ft^3 (0.19 yd^3).

Asbestos insulated oven in Wax Impregnation Room, Eastern end of building, square shaped, estimated size 5'high x 5' wide x 5' long, estimated insulation thickness 2". Approximate asbestos volume 23.4 ft^3 (0.87 yd^3).

Three Transite® fuse boxes, one in DC Film Winding Room, one in Can Prep / Stock Room and one in the front vault area. Estimated size 3' high x 2' wide, approximately 6 ft^2 of Transite® each.

Four rectangular green asbestos insulated dip tanks in Impregnation Room, estimated size 8.3' long x 3.5' wide x 3.1' high, estimated insulation thickness 4". Approximate asbestos volume 37.4 ft^3 (1.39 yd^3) each.

Three red cylindrical asbestos insulated impregnation tanks, lid un-insulated. Tanks penetrate to first floor approximately 1'. Estimated size is 2.6' diameter x 3.0' high, estimated insulation thickness 2". Approximate asbestos volume 4.5 ft^3 (0.17 yd^3) each.

Three red cylindrical asbestos insulated impregnations tanks, lid un-insulated. Tanks penetrate to first floor approximately 1'. Estimated size is 3.0' diameter x 3.5' high, estimated insulation thickness 2". Approximate asbestos volume 6.1 ft^3 (0.23 yd^3) each.

Red cylindrical asbestos insulated impregnation tank, lid un-insulated. Tank penetrates to first floor approximately 1'. Estimated size is 4.6' diameter x 3.5' high, estimated insulation thickness 2". Approximate asbestos volume 10.5 ft^3 (0.39 yd^3).

Asbestos insulated vertical mix tank penetrates from first floor Pump Room to second floor Impregnation Room approximately 1', asbestos volume considered in first floor inventory.

Southern wall of front offices, Transite® wallboard above suspended ceiling, approximately 375 ft^2 area.

On the Northern and Eastern walls of SW Storage Room, there is Transite® wallboard forming the overhead portion of walls. Room is cluttered with office equipment,

brochures, supplies, etc. making access to the wallboard difficult. There is approximately 1560 ft^2 of wall board total consisting of two layers of Transite®.

Overhead built up windows and ceiling in Cardboard Box Room is constructed with Transite® wallboard at approximately 2856 ft^2.

Wall in Cardboard Box Room next to Northern entrance of #2 Tank Room constructed with Transite® wallboard, approximately 160 ft^2 plus approximately 30 ft^2 loose Transite® nearby.

Asbestos insulating wallboard in Paint Line area behind furnace next to loading dock, partially overhead, approximately 280 ft^2 area. Wallboard is thicker and softer than Transite® wallboard used elsewhere.

Large (60' long, 8' wide and 6' high) blue walk-in drying oven that has Transite® exposed sheeting on the interior walls and ceiling. There is approximately 1,200 ft^2 of Transite®. Additionally, there is an insulated flue running the length of the oven that is 2' high by 3' wide giving approximately 360 ft^3 of asbestos containing insulation.

Total estimated second floor asbestos volume (not including pipe lagging) is 580.4 ft^3 of process equipment, 1,200 ft^2 of process equipment (Transite® sheeting) and 5,279 ft^2 of asbestos containing building materials.

Third Floor Asbestos Insulated Device Inventory

Six asbestos insulating floor pads in Stabilization Room. Estimated size is 10'x 10' x 0.5" thick each. Approximate asbestos volume 4.2 ft^3 (0.15 yd^3) each.

Asbestos insulated tunnel oven in DC Films Room, estimated size 9' long x 1' high x 1' wide, estimated insulation thickness 2". Approximate asbestos volume 5.1 ft^3 (0.19 yd^3).

Total estimated third floor asbestos volume (not including pipe lagging) 30.3 ft^3 (1.12 yd^3).

Boiler Room Asbestos Insulated Device Inventory

Three Bigelow vertical boilers. Upper portion asbestos insulated. 7.0' diameter x 30.0' high insulated portion, insulation is approximately 2" thick. Approximate asbestos volume 110 ft^3 each (4.07 yd^3) each.

Ring of insulation at base of each of the three Bigelow boilers is approximately 4.0" square by 7.5' diameter. Approximate asbestos volume 2.5ft^3 (0.09 yd^3) each.

Ceiling mounted asbestos insulated steam vessel. Approximately 4.0' diameter by 12.0' tall, insulation is approximately 2" thick. Approximate asbestos volume 25ft^3 (0.93 yd^3).

Loose asbestos lagging, 3' of 6" insulation is lying on the bathroom floor.

< 2 yd^3 on floor behind Bigelow boilers, water damaged.

Total estimated Boiler Room asbestos volume (not including intact pipe lagging) is estimated at 364 ft^3 (13.48 yd^3), to include loose lagging on floor.

Total Asbestos Inventory, Including All Known Sources

Total estimated interior building material area 4818 ft^2, includes Transite® wallboard, floor tiles and insulating wallboard.

Total estimated exterior building materials 162,000 ft^2, includes roofing, siding and outbuilding.

Total estimated Aerovox asbestos insulation volume 1169.8 ft^3 (43.33 yd^3), includes all device insulation, pipe lagging not included.

Total Asbestos Lagged Pipe

Outside Diameter of Pipe	Total Linear Feet
2”	102’
3”	429’
4”	2760’
6”	2307’
8”	711’
10”	240’
12”	71’
14”	344’
16”	30’
20”	63’