

3732 CHARTER PARK DRIVE  
SUITE A  
SAN JOSE, CA 95136  
TEL: 408.448.7594  
TOLL FREE: 800.988.7424  
FAX: 408.448.3849



## LEAD BASED PAINT SURVEY REPORT

### ARMY 87<sup>th</sup> EOD (ID: Building 156)

NASA-AMES

Moffett Field, CA 94035

*PREPARED FOR*

NASA AMES PAI CORPORATION  
NASA Ames Research Center  
Moffett Field, CA 94035-1000

*PREPARED BY*

Benchmark Environmental Engineering  
February 19, 2002  
Project Number: E01-612-L-SU

Prepared By:

A handwritten signature in black ink, appearing to read "Richard E. MacFarlane", written over a horizontal line.

Richard E. MacFarlane  
DHS Inspector/Assessor  
DHS# I-2241

Reviewed By:

\_\_\_\_\_  
Bryan K. Buller  
COO, UPIN, Inc  
14946

BUILDING INSPECTIONS

ENVIRONMENTAL ENGINEERING

SPECIALIZED TRAINING

CONTRACT MANAGEMENT

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## EXECUTIVE SUMMARY

Benchmark Environmental Engineering was retained by PAI Corporation, to conduct a lead-based paint survey at Building located at Moffett Field, California.

In order to determine if lead based paint was present, 243 assays were taken using an X-RAY FLUORESCENCE (XRF) instrument. The results indicated that the following building components were above the EPA and DHS level of 1.0 mg/cm<sup>2</sup> or 5000 PPM.

### **Lead-based Paint was identified on the following building components:**

#### **Exterior:**

- ◆ Handrail, Stair Riser, Door Frame.

#### **Interior:**

- ◆ Basement Munitions Storage – Steel Entry Cage.
- ◆ Basement Stairwell – Handrail, Stair Tread, Stair Riser.
- ◆ 1<sup>st</sup> Floor Hallway – Door Frame.
- ◆ 1<sup>st</sup> Floor Stairwell – Wall, Door Frame.
- ◆ 2<sup>nd</sup> Floor Occupied Hall Hallway – Riser, Door Frame.
- ◆ 2<sup>nd</sup> Floor Men's Restroom – Tile Walls.
- ◆ 2<sup>nd</sup> Floor Room 201 – Tile Walls, Wall.

## INTRODUCTION

Benchmark Environmental Engineering was retained by Mr. Kris McGlothlin, to conduct a lead-based paint survey at NASA Ames-PAI Corporation, Moffett Field, California.

Authorization to perform this survey was received via signed agreement to BENCHMARK from Mr. Kris McGlothlin, on or about August 1, 2001, as referenced by BENCHMARK'S proposal E01-612.

### BACKGROUND

This facility is a two-story building with a basement. It was built in 1953. The construction is concrete over a concrete foundation and with a flat composite roof.

### WARRANTY

Benchmark Environmental Engineering warrants that the findings contained herein have been prepared with the level of care and skill exercised by experienced and knowledgeable environmental consultants who are appropriately licensed or otherwise trained to perform lead-related construction risk assessments and inspections pursuant to the scope of work required on this Project.

The survey included inspection of accessible materials. BENCHMARK did not inspect or sample inaccessible areas such as behind walls or within ductwork, and did not dismantle any part of the structure to survey inaccessible areas. For the purpose of this warranty, inaccessible is defined as areas of the building that could not be tested (sampled) without destruction of the structure or a portion of the structure. Inaccessible materials that are not visible to Benchmark's inspectors are assumed to be lead containing.

Authorization to perform this survey was received by BENCHMARK from Mr. Kris McGlothlin, of The PAI Corporation, on August 1, 2001, as referenced by Benchmark's Proposal E01-612.

The survey was conducted on February 19, 2002.. A comprehensive site survey was performed based on the building plan. All building components identified in the specifications that may contain lead-based paint/coating were targeted for testing. (Exterior and interior walls, exterior and interior windows, doors and numerous associated components).

Sampling protocol for identification of lead-based paint was in accordance with The U.S. Department of Housing and Urban Development (HUD) Guidelines for

the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 7. All suspect lead-coated surfaces were identified by building, wall, and building component, as such each component had a unique identification number.

The report establishes lead concentrations in painted surfaces as a general guidance tool for the purpose of conducting demolition activities for Building 156.

A total of 243 XRF assays were collected within this building.

## SCOPE OF SERVICES

Benchmark recognized the scope of work for the NASA Ames-PAI Corporation, to be composed of a Lead Based Paint Inspection for the Army 87<sup>th</sup> EOD (ID: Building 156). The survey consisted of testing for lead-base paint in general accordance with the U.S Department of Housing and Urban Development (HUD) guidelines for the evaluation and control of Lead-Based Paint Hazards in Housing, Chapter 7.

Certain building components that are adjacent to each other and not likely to have different painting histories have been grouped together into a single testing combination, as follows: Window Casings/Stops/Jambs/Aprons -Or- Door Jambs/Stops/Transoms/Casings and other door frame parts.

The following building components were inspected when applicable:

- Exterior Areas:

Walls	Windows
Windowsills	Stair Handrails
Doors	Door Molding
Downspouts	Window Screen
Building Trim	Skylight
Balusters	Stair Handrail
Stair Risers	Support Pillar

- Interior Areas:

Walls	Windows
Windowsills	Stair Treads
Balusters	Doors
Door Molding	Stair Stringer
Ceilings	Ceiling Molding
Skylight	Floors
Ceiling Molding	Grates
Baseboards	Support Beams
Electrical Box	Book Shelf
Chair Rail	Wainscot

# METHODOLOGY

## GENERAL REFERENCES

Inspection, sampling, and assessment procedures were performed in general accordance with the guidelines published by The Department of Housing and Urban Development's (HUD) 1995 Guidelines, Chapter 7. The survey consisted of three major activities: visual inspection, sampling, and analysis. Although these activities are listed separately, they are integrated tasks.

## VISUAL INSPECTION

An inspector that is a Department of Health Services Certified Lead Inspector/Risk Assessor performed the inspection. An initial building walkthrough was conducted to determine the presence of suspect materials that were accessible or exposed.

## SAMPLING PROCEDURES

Following the walkthrough, the inspector selected samples areas of exposed or accessible materials identified as suspect LBP. EPA and HUD guidelines were used to determine the sampling protocol. Sampling locations were chosen to be representative of the homogeneous material.

## X-RAY FLUORESCENCE (XRF) ANALYSIS

XRF instruments measure lead in paint by directing high energy X-rays and gamma rays into the paint, causing the lead atoms in the paint to emit X-rays which are detected by the instrument and converted to a measurement of the amount of lead in the paint. The EPA approved technology allows for measurement of X-rays without scraping or samples preparation to characterize substrate or matrix effects. The Spectrum Analyzer, Metals Analysis Probe (MAP 4) is combined with a microprocessor system that enables field-testing with a high degree of quality control and speed. Sample locations, descriptions, conditions, and measurement results are automatically recorded by the instrument and easily downloaded to a PC or laptop.

## QUALITY CONTROL PROGRAM

Benchmark Environmental Engineering utilizes only DHS approved inspectors, which are certified to use radioactive instruments. The MAP 4 Spectrum Analyzer has on-board calibration routines, which continuously operate, and self-correct to minimize sampling error. This is known as substrate correcting software.



# FINDINGS AND OBSERVATIONS

## LEAD

A total of 243 assays were taken. The results indicated that eighteen (18) assays contained lead above the EPA and DHS level of 1.0 mg/ cm<sup>2</sup> or greater. The components, which contain lead-based paint, are:

### Exterior:

- ◆ Handrail, Stair Riser, Door Frame.

### Interior:

- ◆ Basement Munitions Storage – Steel Entry Cage.
- ◆ Basement Stairwell – Handrail, Stair Tread, Stair Riser.
- ◆ 1<sup>st</sup> Floor Hallway – Door Frame.
- ◆ 1<sup>st</sup> Floor Stairwell – Wall, Door Frame.
- ◆ 2<sup>nd</sup> Floor Occupied Hall Hallway – Riser, Door Frame.
- ◆ 2<sup>nd</sup> Floor Men's Restroom – Tile Walls.
- ◆ 2<sup>nd</sup> Floor Room 201 – Tile Walls, Wall.

Cal/OSHA's Lead in Construction Standard, Title 8, CCR section 1532.1, is primarily concerned with worker protection when disturbing any detectable level of lead in paint or surface coatings.

Assays with results **less than** 1.0 mg/cm<sup>2</sup> and paint chip samples with results less than 5000 ppm may create hazardous conditions if subjected to poor and/or prohibited work practices. Refer to Work Activities on the following page.

## OSHA LEAD REGULATION SUMMARY

The Federal Occupational Safety and Health Administration (OSHA) has enacted an interim lead standard, which was adopted by Cal/OSHA as 8 CCR 1532.1. The purpose of both standards is to protect construction workers from exposure to lead. OSHA is primarily concerned with activities that disturb lead-containing material. Lead was used in most paints until the mid 1950's and was banned in amounts in excess of 0.06% by weight in 1978 for most non-industrial paints by the Consumer Product Safety Commission (CPSC).

The new standard requires contractors and employers who perform activities that would disturb lead, must monitor their employees to determine whether they are being exposed in excess of the Action Level (AL) of 30 micrograms per cubic meter of air (ug/m<sup>3</sup>) over an eight-hour time weighted average (TWA) or the



Permissible Exposure Limit (PEL) of 50 ug/m<sup>3</sup> TWA. Monitoring is performed by personal exposure air sampling.

Even when concentrations are below the AL, an employer must provide employees with High Efficiency Particulate Air (HEPA) filtered vacuums, wetting agents and hand-washing facilities. If the exposure exceeds the AL or the PEL, other procedures such as containing the area, decontamination facilities and medical monitoring are required.

OSHA has identified several activities that pose varying levels of potential lead exposure to laborers disturbing lead-containing paint. Estimated exposure levels of lead are founded on the activity itself, rather than the concentrations of lead present in paint. Therefore, as an example, paints that contain 0.5% versus 15% of lead by weight or 0.8 mg/cm<sup>2</sup> versus 3.5 mg/cm<sup>2</sup> of lead in paint could present the same levels of potential exposure to workers depending on the activities that cause the disturbance and the administrative and engineering controls that are followed.

The following is a summary of work activities that disturb paint, the expected exposures and the respiratory protection requirements as outlined in the OSHA standards:

**Class I Activities:**

Class I activities include: Manual demolition, manual scraping, manual sanding, heat gun application, general cleanup, power tool cleaning with dust collection systems and spray painting activities.

Potential Exposure: 50 ug/m<sup>3</sup> to 500 ug/m<sup>3</sup>  
Minimum Respiratory Protection: Half mask air purifying respirator equipped with HEPA filters having a protection factor of 10.

**Class II Activities:**

Class II activities include: Using lead-containing mortars, lead burning, lead riveting, rivet busting, power tool cleaning without dust collection systems, cleanup of dry expendable abrasives and abrasive blasting.

Potential Exposure: 500 ug/m<sup>3</sup> to 2,500 ug/m<sup>3</sup>  
Minimum Respiratory Protection: Full face powered air-purifying respirators equipped with HEPA filters having a protection Factor of 100.

**Class III Activities:**

Class III activities include: Abrasive blasting, welding, cutting and torch

burning on steel structures.

Potential Exposure: Greater than 2,500 ug/m<sup>3</sup>.  
Minimum Respiratory Protection: Full face supplied - air respirator operated in pressure demand mode or - the positive pressure mode.

DOSH 8 CCR 1532.1 requires that an initial exposure assessment be performed if workers will be performing any of the trigger tasks found in 1532.1. It should be noted that the California Department of Health Services (DHS) has issued emergency work procedures for lead paint materials that in the absence of any other procedures are recommendations.

The following recommendations are general site specific work practice specifications.

- You must use "containment" when you sand, scrape, or disturb any detectable level of lead in paint or surface coatings.
- Containment is required for abatement and/or any activity that or disturb any detectable level of lead in paint or surface coatings.
- You must be DHS-certified (workers, supervisors, monitors, and inspectors) if you are conducting abatement.
- You must follow an abatement plan.
- A DHS -certified supervisor, monitor, and/or project designer must design an abatement project.
- A clearance inspection by dust wipe sampling is required for abatement.

## **LEAD WASTE DISPOSAL**

The visual determination indicated that all building components that tested positive were in intact to poor condition (minor cracking to flaking and peeling). As such, these components need to be considered a lead hazard if flaking paint is not stabilized. All small debris (paint chips, rags, filters, and components smaller than 2"x2") that may be generated during the paint stabilization process (paint preparation) should be considered Class I, lead hazardous waste. The debris generated from paint stabilization of LBP building components should be segregated from all other dust and debris. Building components, which tested positive, should be stabilized by a DHS-accredited Contractor.

Power washing may be conducted on the building. Run off water must be collected and analyzed by an accredited laboratory to meet the criteria established by the Clean Water Act, Resource Conservation and Recovery Act (RCRA 1972). Lead levels must not exceed 5mg/L.

## CODES AND REGULATIONS - LEAD-BASED PAINT

Federal and state regulations, which govern lead-based, paint work or hauling and disposal of lead-based paint waste materials include but are not limited to the following:

### FEDERAL

Housing and Urban Development (HUD) 1995 Guidelines For The Evaluation and Control of Lead-Based Paint in Housing

### OSHA

Lead In Construction  
29 CFR 1926.62

### NESHAP

Emissions Standards  
40 CFR 50.12

Lead-Based Paint Poisoning Prevention Act (LBPPPA), 1970.

Title 10 - Residential LBP Hazard Reduction Act, 1992, (amendment for LBPPPA, 1970)

Resource Conservation Recovery Act (RCRA)

### STATE

#### Cal/OSHA

Lead In Construction  
Title 8 CCR 1532.1

Department of Health Services (DHS)

Emergency Work Practice Regulations  
Title 17 CCR, Division 1, Chp.

**APPENDIX A**  
**XRF - DATA RESULTS TABLE**

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	Base.		Negative		Munition Storage	1	Wall	0.86	
156	Base.		Negative		Munition Storage	1	I-Beam Ceiling	-0.83	
156	Base.		Negative		Munition Storage	4	Wall	-0.43	
156	Base.		Negative		Munition Storage	2	Security Gate	0.38	
156	Base.		XRF Positive		Munition Storage	2	Steel Entry Cage	1.09	
156	Base.		Negative		Munition Storage	2	Floor	0.37	
156	Base.		Negative		Munition Storage	2	Wall	0.51	
156	Base.		Negative		Munition Storage	2	Safe Door	0.74	
156	Base.		Inconclusive		Munition Storage	3	Security Gate	0.99	
156	Base.		Negative		Munition Storage	3	Steel Panel	0.53	
156	Base.		Negative		Stairwell	1	Wall	0.93	
156	Base.		XRF Positive		Stairwell	1	Handrail	3.07	
156	Base.		XRF Positive		Stairwell	1	Stair Tread	3.38	
156	Base.		XRF Positive		Stairwell	1	Stair Riser	8.36	
156	Base.		XRF Positive		Stairwell	3	Handrail	4.92	
156	0001		Negative		Exterior	3	Wall	0.56	
156	0001		XRF Positive		Exterior	3	Handrail	1.29	
156	0001		Negative		Exterior	3	Ceiling	0.06	
156	0001		Negative		Exterior	3	Fire Exit	-0.12	
156	0001		Negative		Exterior	3	Fascia	-0.11	
156	0001		XRF Positive		Exterior	3	Stair Riser	4.45	
156	0001		Negative		Exterior	3	Stair Tread	-0.3	
156	0001		XRF Positive		Exterior	3	Door Frame	3.93	
156	0001	Room 124	Negative		Office	1	Wall	0.43	
156	0001	Room 124	Negative		Office	2	Wall	0.2	
156	0001	Room 124	Negative		Office	2	Window Frame	-0.22	
156	0001	Room 124	Negative		Office	3	Wall	-0.09	
156	0001	Room 124	Negative		Office	3	Baseboard	0.36	
156	0001	Room 124	Negative		Office	4	Wall	-0.62	
156	0001	Room 124	Negative		Office	4	Door	-0.17	
156	0001	Room 124	Negative		Office	4	Door Frame	-0.09	
156	0001	Room 127	Negative		Office	1	Wall	0.52	
156	0001	Room 127	Negative		Office	1	Baseboard	0.27	
156	0001	Room 127	Negative		Office	2	Wall	0.16	



Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0001	Room 127	Negative		Office	2	Door	-0.09	
156	0001	Room 127	Negative		Office	2	Door Frame	0.24	
156	0001	Room 127	Negative		Office	3	Wall	-0.47	
156	0001	Room 127	Negative		Office	4	Wall	0.29	
156	0001	Room 127	Negative		Office	4	Window Frame	-0.23	
156	0001	Room 127	Negative		Office	4	Window Sash	0.38	
156	0001	Room 127	Negative		Entry Way	1	Wall	-0.25	
156	0001	Room 127	Negative		Entry Way	1	Baseboard	-0.1	
156	0001	Room 127	Negative		Entry Way	2	Double Door	0.1	
156	0001	Room 127	Negative		Entry Way	2	Door Frame	-0.06	
156	0001	Room 127	Negative		Entry Way	3	Wall	0.31	
156	0001	Room 127	Negative		Entry Way	4	Wall	0.8	
156	0001	Room 127	Negative		Entry Way	4	Double Door	0.21	
156	0001	Room 127	Inconclusive		Entry Way	4	Door Frame	1.09	
156	0001	Room 103	Negative		Janitor's Closet	1	Wall	0.19	
156	0001	Room 103	Negative		Janitor's Closet	1	Baseboard	-0.49	
156	0001	Room 103	Negative		Janitor's Closet	2	Wall	0.15	
156	0001	Room 103	Negative		Janitor's Closet	2	Door	-0.38	
156	0001	Room 103	Negative		Janitor's Closet	2	Door Frame	0.27	
156	0001	Room 103	Negative		Janitor's Closet	3	Wall	0.19	
156	0001	Room 103	Negative		Janitor's Closet	3	Baseboard	0.12	
156	0001	Room 103	Negative		Janitor's Closet	4	Wall	0.32	
156	0001	Room 103	Negative		Janitor's Closet	4	Floor	0.21	
156	0001	Room 114	Negative		Team Room	1	Wall	0.12	
156	0001	Room 114	Negative		Team Room	1	Baseboard	0.04	
156	0001	Room 114	Negative		Team Room	2	Wall	-0.45	
156	0001	Room 114	Negative		Team Room	2	Window Frame	0.27	
156	0001	Room 114	Negative		Team Room	2	Window Sash	0.12	
156	0001	Room 114	Negative		Team Room	3	Wall	0.09	
156	0001	Room 114	Negative		Team Room	4	Wall	0.38	
156	0001	Room 114	Negative		Team Room	4	Door	-0.2	
156	0001	Room 114	Negative		Team Room	4	Door Frame	0.58	
156	0001	Room 108	Negative		Team Room	1	Wall	0.07	
156	0001	Room 108	Negative		Team Room	1	Baseboard	0.1	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0001	Room 108	Negative		Team Room	2	Wall	0	
156	0001	Room 108	Negative		Team Room	2	Door	-0.01	
156	0001	Room 108	Negative		Team Room	2	Door Frame	0.09	
156	0001	Room 108	Negative		Team Room	3	Wall	-0.35	
156	0001	Room 108	Negative		Team Room	4	Wall	0.24	
156	0001	Room 108	Negative		Team Room	4	Window Frame	0.46	
156	0001	Room 108	Negative		Team Room	4	Window Sash	0.05	
156	0001	Room 108	Negative		Team Room	4	Radiator	0.18	
156	0001	Room 111	Negative		TeamEquipStor	1	Wall	0.25	
156	0001	Room 111	Negative		TeamEquipStor	1	Baseboard	0.37	
156	0001	Room 111	Negative		TeamEquipStor	1	Door	-0.31	
156	0001	Room 111	Negative		TeamEquipStor	2	Wall	0.3	
156	0001	Room 111	Negative		TeamEquipStor	2	FireSprinklerValve	0.91	
156	0001	Room 111	Negative		TeamEquipStor	2	FireSprinklerValve	0.61	
156	0001	Room 111	Negative		TeamEquipStor	3	Wall	-0.09	
156	0001	Room 111	Negative		TeamEquipStor	3	Soffit	-0.33	
156	0001	Room 111	Negative		TeamEquipStor	4	Wall	0.41	
156	0001	Room 111	Negative		TeamEquipStor	1	Door Frame	0.12	
156	0001	Room 111	Negative		TeamEquipStor	2	Radiator	0	
156	0001		Negative		Hallway	4	Double Door	-0.71	
156	0001		Negative		Hallway	4	Door Frame	0.19	
156	0001		Negative		Hallway	2	Wall	0.01	
156	0001		Negative		Hallway	2	Door	-0.16	
156	0001		Negative		Hallway	1	Wall	-0.38	
156	0001		Negative		Hallway	1	Door	-0.18	
156	0001		Negative		Hallway	1	Door Frame	-0.05	
156	0001		Negative		Hallway	1	Wall	0.13	
156	0001		Negative		Hallway	1	Soffit	-0.04	
156	0001		Negative		Hallway	1	Column	-0.14	
156	0001		Negative		Hallway	1	Baseboard	-0.14	
156	0001		Inconclusive		Hallway	1	Soffit	1	
156	0001		XRF Positive		Hallway	1	Door Frame	1.39	
156	0001		Negative		Hallway	1	Wall	0.47	
156	0001		Negative		Hallway	4	Fire Exit	0.29	



Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0001		Negative		Hallway	4	Door Frame	0.38	
156	0001		Negative		Hallway	4	Wall	0.14	
156	0001		Inconclusive		Stairwell	1	Wall	1.02	
156	0001		Negative		Stairwell	1	Ceiling	0.49	
156	0001		Inconclusive		Stairwell	1	Handrail	1.04	
156	0001		Negative		Stairwell	4	Wall	0.03	
156	0001		Negative		Stairwell	4	Double Door	0.11	
156	0001		Inconclusive		Stairwell	4	Door Frame	0.98	
156	0001		XRF Positive		Stairwell	3	Wall	1.1	
156	0001		Negative		Stairwell	3	Radiator	0.24	
156	0001		Negative		Stairwell	2	Wall	0.65	
156	0001		Negative		Stairwell	2	Fire Exit	0.27	
156	0001		XRF Positive		Stairwell	2	Door Frame	1.61	
156	0001		Inconclusive		Stairwell	3	Handrail	0.94	
156	0001	Room 106	Negative		Supply Office	1	Wall	0.09	
156	0001	Room 106	Negative		Supply Office	1	Baseboard	0.29	
156	0001	Room 106	Negative		Supply Office	2	Wall	0.07	
156	0001	Room 106	Negative		Supply Office	2	Door	-0.49	
156	0001	Room 106	Negative		Supply Office	2	Door Frame	-0.16	
156	0001	Room 106	Negative		Supply Office	3	Wall	0.02	
156	0001	Room 106	Negative		Supply Office	4	Wall	0.31	
156	0001	Room 106	Negative		Supply Office	4	Baseboard	0.26	
156	0001	Room 106	Negative		Supply Office	4	Window Frame	0.06	
156	0001	Room 106	Negative		Supply Office	4	Window Sash	0.07	
156	0001	Room 116	Negative		Day Room	2	Wall	0.34	
156	0001	Room 116	Negative		Day Room	2	Window Frame	0.13	
156	0001	Room 116	Negative		Day Room	2	Window Sash	0.3	
156	0001	Room 116	Negative		Day Room	3	Wall	0.21	
156	0001	Room 116	Negative		Day Room	4	Wall	0.13	
156	0001	Room 116	Negative		Day Room	4	Door	0.02	
156	0001	Room 116	Negative		Day Room	4	Door Frame	-0.06	
156	0001	Room 116	Negative		Men's Restroom	1	Wall	0.16	
156	0001	Room 116	Negative		Men's Restroom	1	Ceiling	-0.4	
156	0001	Room 116	Negative		Men's Restroom	1	Alcove	-0.03	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0001	Room 116	Negative		Men's Restroom	1	Tile Wall	0.57	
156	0001	Room 116	Negative		Men's Restroom	2	Tile Wall	-0.01	
156	0001	Room 116	Negative		Men's Restroom	2	Wall	0.42	
156	0001	Room 116	Negative		Men's Restroom	2	Window Frame	0.26	
156	0001	Room 116	Negative		Men's Restroom	2	Window Sash	-0.63	
156	0001	Room 116	Negative		Men's Restroom	2	Floor	0.37	
156	0001	Room 116	Negative		Men's Restroom	3	Stall Door	-0.26	
156	0001	Room 116	Negative		Men's Restroom	3	Tile Wall	0.39	
156	0001	Room 116	Negative		Men's Restroom	3	Wall	0.36	
156	0001	Room 116	Negative		Men's Restroom	4	Wall	0.41	
156	0001	Room 116	Negative		Men's Restroom	4	Door	-0.15	
156	0001	Room 116	Negative		Men's Restroom	4	Door Frame	0.13	
156	0001	Main Hall	Negative		Hallway	2	Double Door	0.19	
156	0001	Main Hall	Negative		Hallway	2	Door Frame	0.14	
156	0001	Main Hall	Negative		Hallway	2	Wall	0.23	
156	0001	Main Hall	Negative		Hallway	3	Wall	0.31	
156	0001	Main Hall	Negative		Hallway	3	Baseboard	-0.18	
156	0001	Main Hall	Negative		Hallway	3	Door	-0.39	
156	0001	Main Hall	Negative		Hallway	3	Door Frame	0.39	
156	0001	Main Hall	Negative		Hallway	4	Wall	0.1	
156	0001	Main Hall	Negative		Hallway	4	Door	-0.31	
156	0001	Main Hall	Negative		Hallway	4	Door Frame	0.23	
156	0001	Main Hall	Negative		Hallway	4	Wall	0.03	
156	0001	Main Hall	Negative		Hallway	4	Door	0.19	
156	0001	Main Hall	Negative		Hallway	4	Door Frame	0.17	
156	0001	Main Hall	Negative		Hallway	2	Wall	0.09	
156	0001	Main Hall	Negative		Hallway	2	Door	0.07	
156	0001	Main Hall	Negative		Hallway	2	Door Frame	0.32	
156	0001	Main Hall	Negative		Hallway	2	Baseboard	-0.23	
156	0001	Main Hall	Negative		Hallway	2	Door	0.11	
156	0001	Main Hall	Negative		Hallway	2	Door Frame	0.34	
156	0001	Main Hall	Negative		Hallway	2	Double Door	-0.17	
156	0001	Main Hall	Negative		Hallway	2	Door Frame	0.58	
156	0002	Room 203	Negative		Classroom	1	Wall	0.13	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0002	Room 203	Negative		Classroom	1	Baseboard	0.24	
156	0002	Room 203	Negative		Classroom	1	Fire Exit	0.24	
156	0002	Room 203	Negative		Classroom	1	Door Frame	0.44	
156	0002	Room 203	Negative		Classroom	1	Column	-0.02	
156	0002	Room 203	Negative		Classroom	2	Wall	0.17	
156	0002	Room 203	Negative		Classroom	2	Window Frame	0.34	
156	0002	Room 203	Negative		Classroom	2	Window Sash	0.5	
156	0002	Room 203	Negative		Classroom	3	Wall	0.18	
156	0002	Room 203	Negative		Classroom	3	Door	-0.48	
156	0002	Room 203	Negative		Classroom	3	Door Frame	0.3	
156	0002	Room 203	Negative		Classroom	3	Baseboard	0.04	
156	0002	Room 203	Negative		Classroom	3	Door	-0.09	
156	0002	Room 203	Negative		Classroom	3	Door Frame	0.2	
156	0002	Room 203	Negative		Classroom	4	Wall	0.31	
156	0002	Room 203	Negative		Classroom	4	Wall	0.15	
156	0002	Room 203	Negative		Classroom	4	Radiator	0.23	
156	0002	Room 203	Negative		Classroom	4	Window Frame	0.08	
156	0002	Room 203	Negative		Classroom	4	Window Sash	-0.34	
156	0002	Room 202	Negative		Storage Room	1	Wall	0.32	
156	0002	Room 202	Negative		Storage Room	1	Door	-0.04	
156	0002	Room 202	Negative		Storage Room	2	Wall	0.13	
156	0002	Room 202	Negative		Storage Room	2	Window Frame	0.11	
156	0002	Room 202	Negative		Storage Room	2	Window Sash	0.02	
156	0002	Room 204	Negative		Office	4	Wall	0.17	
156	0002	Room 204	Negative		Office	4	Radiator	0.16	
156	0002	Room 204	Negative		Office	3	Wall	0.25	
156	0002	Occupied Hall	Negative		Hallway	1	Wall	0.16	
156	0002	Occupied Hall	Negative		Hallway	1	Door	0.08	
156	0002	Occupied Hall	Negative		Hallway	1	Door Frame	0.26	
156	0002	Occupied Hall	Negative		Hallway	2	Wall	0.17	
156	0002	Occupied Hall	Negative		Hallway	2	Baseboard	-0.4	
156	0002	Occupied Hall	Negative		Hallway	2	Door	-0.69	
156	0002	Occupied Hall	Negative		Hallway	2	Door Frame	0.43	
156	0002	Occupied Hall	Negative		Hallway	3	Wall	-0.78	



Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
156	0002	Occupied Hall	Negative		Hallway	3	Double Door	-0.3	
156	0002	Occupied Hall	Negative		Hallway	3	Door Frame	0.5	
156	0002	Occupied Hall	Negative		Hallway	4	Door Frame	-0.37	
156	0002	Occupied Hall	Negative		Hallway	2	Double Door	0.38	
156	0002	Occupied Hall	Inconclusive		Hallway	2	Door Frame	1.03	
156	0002	Occupied Hall	XRF Positive		Hallway	2	Riser	1.54	
156	0002	Occupied Hall	Negative		Laundry Room	1	Wall	0.18	
156	0002	Occupied Hall	Negative		Laundry Room	2	Wall	0.28	
156	0002	Occupied Hall	Negative		Laundry Room	3	Wall	0.44	
156	0002	Occupied Hall	XRF Positive		Men's Restroom	1	Tile Wall	10.86	
156	0002	Occupied Hall	XRF Positive		Men's Restroom	3	Tile Wall	14.37	
156	0002	Occupied Hall	Negative		Men's Restroom	2	Wall	0.59	
156	0002	Occupied Hall	Negative		Men's Restroom	2	Floor	0.01	
156	0002	Occupied Hall	Negative		Hallway	2	Wainscot	0.41	
156	0002	Occupied Hall	Negative		Hallway	2	Wall	0.43	
156	0002	Occupied Hall	Negative		Hallway	2	Door Frame	0.11	
156	0002	Occupied Hall	Negative		Common Area	2	Wall	0.38	
156	0002	Occupied Hall	Negative		Common Area	4	Wall	0.34	
156	0002	Occupied Hall	Negative		Common Area	1	Floor	-0.1	
156	0002	Occupied Hall	Negative		Hallway	2	Door Frame	0.93	
156	0002	Occupied Hall	Negative		Hallway	2	Door	0.07	
156	0002	Occupied Hall	Negative		Hallway	3	Fire Exit	-0.02	
156	0002	Occupied Hall	XRF Positive		Hallway	3	Door Frame	1.57	
156	0002	Occupied Hall	Negative		Hallway	3	Wall	0.55	
156	0002	Room 201	Negative		Training Aids	1	Wall	0.58	
156	0002	Room 201	Negative		Training Aids	1	Floor	-0.54	
156	0002	Room 201	Negative		Training Aids	2	Wall	0.24	
156	0002	Room 201	XRF Positive		Training Aids	2	Tile Wall	11.2	
156	0002	Room 201	XRF Positive		Training Aids	3	Wall	13.52	
156	0002	Room 201	Negative		Training Aids	4	Wall	0.48	
156	0002	Room 201	XRF Positive		Training Aids	4	Tile Wall	12.92	
156	0002	Room 201	Negative		Training Aids	4	Door	0.04	
156	0002	Room 201	Negative		Training Aids	4	Door Frame	0.3	
156	0002	Room 201	Negative		Janitor's Closet	1	Wall	0.22	

<u>Bldg.</u>	<u>Floor</u>	<u>Room</u>	<u>Result</u>	<u>Shot Sequence</u>	<u>Location</u>	<u>Wall</u>	<u>Description</u>	<u>XRF Result</u>	<u>AA Analysis in PPM</u>
156	0002	Room 201	Negative		Janitor's Closet	4	Wall	0.8	
156	0002	Room 201	Negative		Janitor's Closet	3	Wall	0.48	
156	0002	Room 201	Negative		Janitor's Closet	2	Wall	0.51	
156	0002	Room 201	Negative		Janitor's Closet	2	Door	0.17	
156	0002	Room 201	Negative		Janitor's Closet	2	Door Frame	0.32	

**APPENDIX B**  
**CERTIFICATION(S)**

State of California Department of Health Services

Lead-Related	Certificate	Expiration Date
Construction Certificate	Inspector/Assessor	11/03/2002



Richard E. MacFarlane ID # 2241