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## LEAD BASED PAINT SURVEY REPORT

### BACHELOR'S ENLISTED QUARTERS (ID: Building 151)

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  
August 8, 2001  
Project Number: E01-448w-L-SU

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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 151, Bachelor's Enlisted Quarters located at Moffett Field, California.

In order to determine if lead based paint was present, eight (8) paint chip samples were collected and 181 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:** Windows, Window Sills, Doors, Door Casings, Hand Rails, Electrical Boxes, 6" Drain.

**Interior:** T. V. Room: Windows, Baseboard, Porch Ceiling, Closet Supports. Recreation Room: Window. Storeroom: Closet Supports. Hallway Bathroom: Tile Wall. Hallway: Window. Room 201: Window Frame. Laundry Room: 6: Drain, Cabinet Sink. Hallway Bathroom: Tile Wall, Overhang.

## **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 May 1, 2001, as referenced by BENCHMARK'S proposal E01-448.

### **BACKGROUND**

This is a two-story structure with basement approximately 15,785 square feet in size. Built in 1953, it is concrete over a concrete foundation and with a flat composite roof. The concrete exterior is tan.

### **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 May 1, 2001, as referenced by Benchmark's Proposal E01-488.

The survey was conducted on August 8, 2001. 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 151.

A total of 181 XRF assays and eight (8) paint chip samples 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 Bachelor's Enlisted Quarters (ID: Building 151). 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.

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

Paint chip samples were collected from eight (8) building components to provide conclusions that would be in compliance with DOSH 8 CCR 1532.1.

# 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.

## **PAINT CHIP SAMPLE COLLECTION**

A total of eight (8) paint chip samples were collected in accordance with the HUD Evaluation and Control of Lead-Based Paint Hazards in Housing, Paint Chip Sampling. A two-inch by two-inch area was measured and delineated. The paint chip sample was collected with the use of a sharp stainless steel paint scraper. Paint was scraped directly off the substrate. The goal is remove all layers of paint equally, but none of the substrate. Paint chip samples collected in this fashion are reported in PPM or % by weight .

## **LEAD**

Laboratory analysis was performed by Schneider Laboratories, Inc. Their AIHA Accredited Laboratory Identification Number is AIHA/ELLAP #100527, and CA ELAP #2078. Samples are analyzed by Flame Atomic Absorption in accordance with EPA's "Standard Operating Procedures for Lead in Paint by Hotplate or Microwave based Acid digestions and Atomic Absorption or Inductively Coupled Plasma Emission Spectrometry" (1991), EPA/600/8-91/213, NTIS Document No. PB92-114172. Samples are prepared by hotplate digestion with nitric acid and hydrogen peroxide, and analyzed by Flame AA.

## **LABORATORY QUALITY CONTROL PROGRAM**

Schneider Laboratories, Inc. maintains an in-house quality control program. This program involves blind reanalysis of ten percent of all samples, precision and accuracy controls, and use of standard bulk reference materials.



## FINDINGS AND OBSERVATIONS

### LEAD

A total of 181 assays were taken. The results indicated that 34 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:** Windows, Window Sills, Doors, Door Casings, Hand Rails, Electrical Boxes, 6" Drain.

**Interior:** T. V. Room: Windows, Baseboard, Porch Ceiling, Closet Supports. Recreation Room: Window. Storeroom: Closet Supports. Hallway Bathroom: Tile Wall. Hallway: Window. Room 201: Window Frame. Laundry Room: 6: Drain, Cabinet Sink. Hallway Bathroom: Tile Wall, Overhang.

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 II 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.

## RESULTS OF THE PAINT CHIP SAMPLES COLLECTED

### Paint Chip Samples NASA Ames-PAI Corporation August 8, 2001

Sample Number	Component	Location	PPM	% By Weight
01-4600-1	Wall #4	Main Entrance Wall By Double Doors	330	0.033
01-4601-2	Wall #2	1 <sup>st</sup> Floor Laundry Common Wall	5350	0.535
01-4602-3	Wall #3	Duty Officers Office Chair Rail	<30	<0.003
01-4603-4	Door	1 <sup>st</sup> Floor Head, Hall Side	100	0.010
01-4604-5	Wash Basin	1 <sup>st</sup> Floor Laundry Room Floor	46980	4.698
01-4605-6	Wall #4	Exterior Wall by Double Doors	60	0.006
01-4606-7	Wall #4	Exterior Door Frame, Double Doors	18070	1.807
01-4607-8	Wall #4	Exterior Door, Double Doors	50	0.005

## **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
151	Base		Negative	23928	Bag Storage Rm	2	Door	0.223	
151	Base		Negative	23929	Bag Storage Rm	2	Door Casing	0.49	
151	Base		Negative	23930	Bag Storage Rm	4	Wall	0.366	
151	Base		Negative	23932	Stairway	1	Wall	0.624	
151	Base		Negative	23933	Stairway	1	Hallway	0.346	
151	Base		XRF Positive	23934	Stairway	3	Hand Rail	3.653	
151	Base		Negative	23935	Stairway	1	Gutters	-1.039	
151	Base		Negative	23936	Stairway	1	Gutters	0.244	
151	Base		Negative	23937	Stairway	2	Wall	0.286	
151	Base		Negative	23938	Stairway	3	Wall	0.225	
151	Base		Negative	23939	Stairway	3	Door	0.168	
151	Base		Negative	23940	Stairway	1	Gutters	0.419	
151	Base		Negative	23941	Stairway	1	Door	0.559	
151	Base		Negative	23942	Stairway	1	Door Casing	0.483	
151	1		Negative	23945	Recreation Room	1	Electrical Box	-0.388	
151	1		Negative	23946	Recreation Room	1	Door casing	0.319	
151	1		Negative	23947	Recreation Room	1	Wall	-0.025	
151	1		Negative	23948	Recreation Room	2	Closet support	-0.737	
151	1		Negative	23949	Recreation Room	2	Closet support	-0.152	
151	1		Negative	23952	Recreation Room	4	Wall	-0.474	
151	1		XRF Positive	23953	Recreation Room	4	Window	1.771	
151	1		Negative	23954	Recreation Room	4	Window Sill	0.571	
151	1		Negative	23955	Recreation Room	1	Open I beam	0.319	
151	1		Negative	23956	T.V. Room	1	Door casing	-0.944	
151	1		Negative	23957	T.V. Room	1	Door casing	-0.276	
151	1		Negative	23958	T.V. Room	1	Wall	0.659	
151	1		Negative	23959	T.V. Room	1	Fence	0.452	
151	1		XRF Positive	23960	T.V. Room	2	Window	1.81	
151	1		XRF Positive	23961	T.V. Room	2	Baseboard	3.554	
151	1		XRF Positive	23962	T.V. Room	2	Porch ceiling	3.641	
151	1		XRF Positive	23963	T.V. Room	3	Closet support	4.786	
151	1		Negative	23964	Main Entry	1	Closet support	0.494	
151	1		Negative	23965	Main Entry	1	Door Casing	-0.751	
151	1		Negative	23966	Main Entry	1	Hallway	-0.62	

Bldg	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
151	1		Negative	23967	Main Entry	2	Double Exit Door	0.195	
151	1		Negative	23968	Main Entry	2	Door Casing	0.18	
151	1		Negative	23969	Main Entry	2	Overhang	-0.471	
151	1		Negative	23970	Main Entry	2	Wall	0.307	330
151	1		Negative	23971	Duty Office Area	2	Wall	-0.602	<30
151	1		Negative	23972	Duty Office Area	2	Window	0.393	
151	1		Negative	23973	Duty Office Area	2	Window Sill	-1.176	
151	1		Negative	23974	Duty Office Area	2	Window Sill	0.621	
151	1		Negative	23975	Duty Office Area	1	Fence	0.06	
151	1		XRF Positive	23976	Storeroom	1	Closet Support	1.587	
151	1		Negative	23977	Storeroom	2	Closet Support	-0.882	
151	1		Negative	23978	Storeroom	3	Closet Support	0.145	
151	1		Negative	23979	Storeroom	2	Door	-0.314	
151	1		Negative	23981	Store room	2	Door Casing	0.195	
151	1		Negative	23982	Gear Locker	1	Closet Support	0.044	
151	1		Negative	23983	Gear Locker	1	Closet Support	0.085	
151	1		Negative	23984	Gear Locker	1	Closet Support	0.422	
151	1		Negative	23985	Gear Locker	1	Closet Support	-0.172	
151	1		Negative	23986	Gear Locker	1	Shelf	-0.014	
151	1		Negative	23987	Main Entry	3	Double Exit Door	0.08	
151	1		Negative	23988	Laundry Room	2	Closet Support	0.515	
151	1		Negative	23989	Stairway	1	Wall	0.821	
151	1		Negative	23990	Laundry Room	4	Window	0.097	
151	1		Negative	23991	Laundry Room	4	Window Sill	0.018	
151	1		Negative	23992	Laundry Room	1	Hallway	0.472	
151	1		Negative	23993	Laundry Room	2	Door	0.108	
151	1		Negative	23994	Laundry Room	2	Door Casing	0.263	
151	1		Inconclusive	23995	Laundry Room	1	Cabinet Sink	1.072	5350
151	1		Inconclusive	23996	Laundry Room	1	Cabinet Sink	1.102	
151	1		Negative	23997	Hallway Bathroom	1	Closet Support	0.202	
151	1		XRF Positive	23998	Hallway Bathroom	1	Tile Wall Wash Basin	14.514	46980
151	1		Negative	23999	Hallway Bathroom	2	Wall	-0.143	
151	1		Negative	24000	Hallway Bathroom	2	Window	0.423	
151	1		Negative	24001	Hallway Bathroom	2	Window Sill	-0.231	

Bldg	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
151	1		Negative	24002	Hallway Bathroom	1	Hallway	-0.087	
151	1		Negative	24003	Hallway Bathroom	4	Door	0.358	100
151	1		Negative	24004	Hallway Bathroom	4	Door Casing	0.247	
151	1		Negative	24005	Hallway	2	Closet Support	-0.19	
151	1		Negative	24006	Hallway	2	Door	-0.029	
151	1		Negative	24007	Hallway	2	Door Casing	-0.028	
151	1		Negative	24010	Room 108	2	Wall	0.888	
151	1		XRF Positive	24012	Room 108	2	Window Frame	3.005	
151	1		Negative	24013	Room 108	2	Window Sill	-0.183	
151	1		Negative	24014	Room 108	4	Closet Support	0.689	
151	1		Negative	24015	Room 108	4	Wall	0.725	
151	1		Negative	24016	Hallway	2	Window	0.615	
151	1		Negative	24017	Hallway	2	Window Sill	0.533	
151	1		Negative	24018	Hallway	3	Electrical Box	-0.723	
151	1		Negative	24019	Hallway	3	Door casing	0.745	
151	1		Negative	24030	Stairway	1	Hand Rail	-0.007	
151	1		Negative	24031	Stairway	2	Gutters	-0.039	
151	1		Negative	24032	Stairway	2	Window	0.605	
151	1		Negative	24033	Stairway	2	Window Sill	0.107	
151	1		Negative	24034	Stairway	3	Wall	-2.44	
151	1		Negative	24035	Stairway	3	Wall	0.688	
151	1		Negative	24037	Exterior	4	Double Exit Door	0.077	
151	1		XRF Positive	24038	Exterior	4	Door Casing	1.838	
151	1		Negative	24039	Exterior	4	Window Sill	0.179	
151	1		XRF Positive	24040	Exterior	4	Window	2.4	
151	1		Negative	24041	Exterior	4	Wall	0.243	60
151	1		Negative	24042	Exterior	4	Overhang	-0.003	
151	1		Negative	24043	Exterior	4	Floor	0.091	
151	1		Negative	24044	Exterior	4	Down Spout	-0.045	
151	1		XRF Positive	24045	Exterior	4	6" drain	3.085	
151	1		XRF Positive	24046	Exterior	1	Electrical Box	2.166	
151	1		XRF Positive	24047	Exterior	1	Door Casing	4.334	
151	1		Negative	24048	Exterior	1	Wall	0.547	
151	1		XRF Positive	24049	Exterior	1	Hand Rail	3.39	



Bldg	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
151	1		Negative	24050	Exterior	1	Gutters	0.282	
151	1		Negative	24051	Exterior	2	Wall	0.148	
151	1		XRF Positive	24052	Exterior	2	Window	1.66	
151	1		XRF Positive	24053	Exterior	2	Window Sill	1.44	
151	1		Negative	24054	Exterior	2	Porch Ceiling	-0.107	
151	1		Negative	24055	Exterior	2	Double Exit Door	-0.098	50
151	1		XRF Positive	24056	Exterior	2	Door Casing	1.927	
151	1		Negative	24057	Exterior	2	Overhang	0.162	
151	1		Negative	24058	Exterior	2	Floor	0.134	
151	1		XRF Positive	24059	Exterior	2	Large Window	1.936	
151	1		XRF Positive	24060	Exterior	2	Door	4.341	
151	1		XRF Positive	24061	Exterior	2	Door Casing	4.663	
151	1		Negative	24062	Exterior	2	Window Sill	0.308	
151	1		XRF Positive	24063	Exterior	2	Window	1.664	
151	1		Negative	24064	Exterior	2	Down Spout	0.28	
151	1		XRF Positive	24065	Exterior	2	6" Drain	1.496	
151	1		Negative	24066	Exterior	3	Electrical Box	-0.437	
151	1		XRF Positive	24067	Exterior	3	Door Casing	3.918	18070
151	1		Negative	24068	Exterior	3	Wall	0.49	
151	1		Negative	24069	Exterior	3	Overhang	0.508	
151	1		XRF Positive	24070	Exterior	3	Hand Rail	2.826	
151	1		Negative	24071	Exterior	3	Gutters	0.179	
151	1		Negative	24072	Exterior	3	Electrical Box	-0.139	
151	1		XRF Positive	24073	Exterior	3	Door Casing	2.174	
151	1		Negative	24074	Exterior	4	Basement Vent	0.459	
151	2		Negative	24086	Hallway	1	Electrical Box	0.073	
151	2		Negative	24087	Hallway	1	Door Casing	0.437	
151	2		Negative	24088	Hallway	1	Wall	0.52	
151	2		XRF Positive	24090	Hallway	4	Window	2.116	
151	2		Negative	24091	Hallway	4	Window Sill	0.363	
151	2		Negative	24092	Hallway	2	Door	-0.489	
151	2		Negative	24093	Hallway	2	Door Casing	0.046	
151	2		Negative	24094	Room 201	1	Wall	0.595	
151	2		XRF Positive	24095	Room 201	2	Window Frame	2.627	

Bldg	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
151	2		Negative	24096	Room 201	2	Window Sill	0.353	
151	2		Negative	24097	Room 201	4	Closet Support	0.01	
151	2		Negative	24099	Hallway	3	Door Casing	0.065	
151	2		Negative	24100	Hallway	4	Door	0.27	
151	2		Negative	24101	Hallway	4	Closet Support	0.287	
151	2		Negative	24103	Storeroom	1	Closet Support	0.463	
151	2		Negative	24104	Storeroom	3	Closet Support	-0.146	
151	2		Negative	24105	Storeroom	4	Wall	0.486	
151	2		Negative	24106	Storeroom	2	Door	-0.372	
151	2		Negative	24107	Storeroom	2	Door Casing	0.393	
151	2		Negative	24108	Storeroom	3	6" Drain	0.414	
151	2		Negative	24109	Hallway	2	6" Drain	0.83	
151	2		Negative	24110	Laundry Room	1	Closet Support	-0.374	
151	2		Inconclusive	24111	Laundry Room	3	Closet Support	0.906	
151	2		XRF Positive	24113	Laundry Room	2	6" Drain	1.263	
151	2		Negative	24114	Laundry Room	1	Open I Beam	-0.137	
151	2		Negative	24115	Laundry Room	4	Wall	0.23	
151	2		Negative	24116	Laundry Room	4	Window	0.086	
151	2		Negative	24117	Laundry Room	4	Window	0.331	
151	2		Negative	24118	Laundry Room	4	Window Sill	-0.96	
151	2		Negative	24119	Laundry Room	4	Window Sill	0.546	
151	2		Negative	24120	Laundry Room	2	Door	-0.103	
151	2		Negative	24121	Laundry Room	2	Door Casing	-0.177	
151	2		Negative	24122	Laundry Room	1	Cabinet Sink	0.048	
151	2		XRF Positive	24123	Laundry Room	1	Cabinet Sink	3.813	
151	2		Negative	24124	Hallway Bathroom	1	Closet Support	-0.257	
151	2		XRF Positive	24125	Hallway Bathroom	1	Tile wall	13.637	
151	2		Negative	24126	Hallway Bathroom	2	Window	0.615	
151	2		Negative	24127	Hallway Bathroom	2	Window Sill	0.403	
151	2		Negative	24128	Hallway Bathroom	3	Closet Support	-0.044	
151	2		Negative	24129	Hallway Bathroom	4	Door	0.017	
151	2		Negative	24130	Hallway Bathroom	4	Door Casing	-0.03	
151	2		Negative	24131	Hallway Bathroom	1	Downspout	0.107	
151	2		Negative	24132	Hallway Bathroom	3	Stall door	-0.25	

Bldg	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
151	2		Negative	24133	Hallway Bathroom	1	Hallway	-0.027	
151	2		XRF Positive	24134	Hallway Bathroom	3	Overhang	1.282	
151	2		Negative	24135	Hallway	2	Closet Support	0.006	
151	2		Negative	24136	Hallway	4	Door	-0.142	
151	2		Negative	24137	Hallway	4	Door Casing	0.09	
151	2		Negative	24138	Room 201	1	Open I Beam	0.311	
151	2		Negative	24140	Hallway	4	Door Casing	-0.809	
151	2		XRF Positive	24141	Hallway	2	Window	1.359	
151	2		Negative	24142	Hallway	2	Window Sill	0.309	
151	2		Negative	24143	Hallway	3	Electrical Box	-0.233	
151	2		Negative	24144	Stairway	1	Wall	0.896	

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

Lead-Related Construction  
Interim Certificate

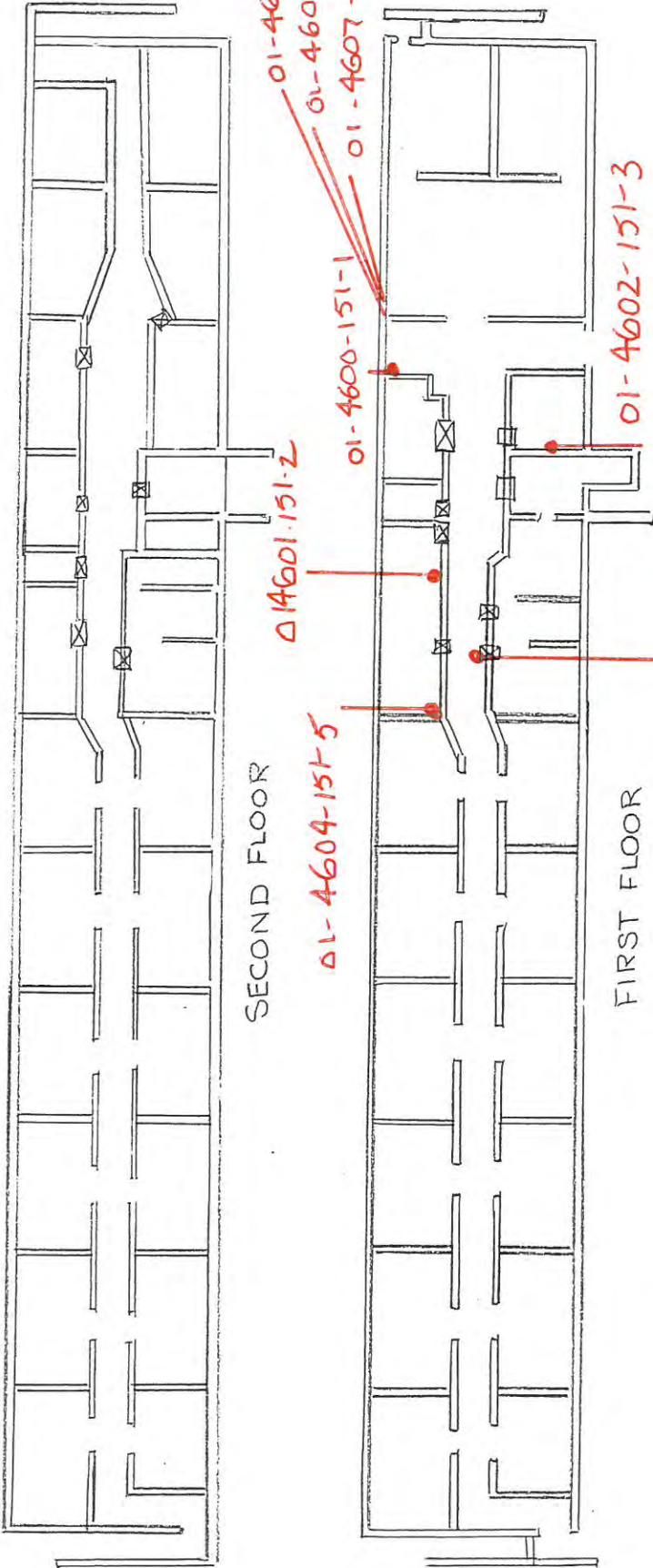
Richard E. MacFarlane

Inspector/Assessor  
I-2241 (Exp. 12/31/01)

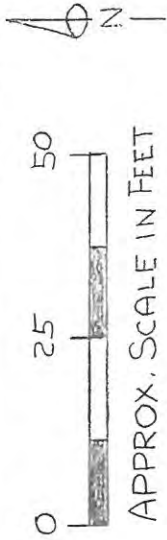


**APPENDIX C**

**SITE MAP**



FIELD LOCATION DRAWING  
LEAD SAMPLE LOCATIONS



	Property Inspections - Environmental Engineering Specialized Training - Contract Management 3732 - A Charter Park Drive San Jose, CA 95136 Phone: (408) 448-7594 - Fax: (408) 448-3849		PROJECT NAME: <b>BUILDING 151</b> <b>NASA- AMES</b> <b>PARCEL 5</b>	DRAFT PERSON: <b>RJM</b>	DATE: <b>12/17</b>	DWG. No. <b>01</b>
				PROJECT No. <b>EOI-448</b>		

**APPENDIX D**  
**LABORATORY RESULTS**



# SCHNEIDER LABORATORIES INCORPORATED

2512 W. Cary Street • Richmond, Virginia • 23220-5117  
804-353-6778 • 800-785-LABS (5227) • (FAX) 804-353-6928

*Excellence in Service and Technology*

AIHA/ELLAP 100527, NVLAP 1150, NYELAP 11413, CAELAP 2078, NC 593, SC 93003

## LABORATORY ANALYSIS REPORT

Lead Analysis by EPA 3050B/7420 Method

**ACCOUNT #:** 2541-01-57  
**CLIENT:** Benchmark  
**ADDRESS:** 3732 Charter Park Drive  
San Jose, CA 95136

**DATE COLLECTED:** 8/ 8/2001  
**DATE RECEIVED:** 8/14/2001  
**DATE ANALYZED:** 8/14/2001  
**DATE REPORTED:** 8/14/2001

**PO NO.:**

**PROJECT NAME:**

**PROJECT NO:** E01-448

**JOB LOCATION:** NASA Aames-Bldg 151

**SAMPLE TYPE:** PAINT

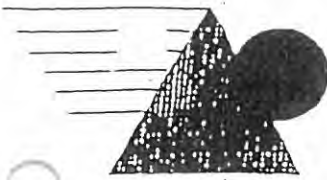
SLI Sample No.	Client Sample No.	Sample Description	Sample Wt (mg)	Dilution Factor	Total Lead (µg)*	Lead Conc (% by wt)	Lead Conc (PPM)
2016407	01-4600-151-01	Main Ent Wall	555	1	180.9	0.033	330
2016408	01-4601-151-02	1st Fl Laundry	661	10	3,534.2	0.535	5350
2016409	01-4602-151-03	Office Chair Rail DO	664	1	< 20.0	< 0.003	< 30
2016410	01-4603-151-04	1st Fl Head Dr	456	1	47.5	0.010	100
2016411	01-4604-151-05	1st Fl Wash Basin	410	100	19,262.9	4.698	46980
2016412	01-4605-151-06	Ext Wall	483	1	27.9	0.006	60
2016413	01-4606-151-07	Ext Dr Frame	617	20	11,147.1	1.807	18070
2016414	01-4607-151-08	Ext Dr Double Drs	453	1	24.0	0.005	50
	QC - 18999	10.0 ppm Calibration Std			996.6	99.7%	
	QC - 18999	200 µg spike			200.5	100.2%	
	QC - 18999	5.0 ppm Calibration Std			514.2	102.8%	
	QC - 18999	Blank			< 20.0		
	QC - 18999	NIST 2710 Standard			565.2	102.2%	

**ANALYST:** AMY J. COLOSIMO

Total no. of pages in report = /

  
**REVIEWED BY** Matthew D. Asbury, Dept. Head

*Minimum Reporting Limit: 20 µg Total Lead. For work involving HUD, child-occupied building and other residential units, the Federal Lead Standard is 0.5% lead by weight [5000 ppm]. The requirements of the OSHA Lead in Construction Standard, 29 CFR 1926.62, are invoked if any lead is present in the sample; there is no minimum concentration. \*For true values, assume two (2) significant figures. All testing is performed in strict accordance with Schneider Laboratories, Inc. protocol.*



# BENCHMARK

2541-01-57  
Sample Location Worksheet  
Chain Of Custody

3680 Charter Park Dr Suite E San Jose, CA 95136  
(408) 448-7594 (408) 448-3849 (fax)

Project Number: EOI-448 Date: 8/8/01 Technician: R. MacFarland

Project Location: NASA AAMES Bldg # 151 BAQ

Client Name: \_\_\_\_\_ Company: \_\_\_\_\_

<b>Project Type</b>	<b>Type Of Analysis</b>	<b>Turnaround Time</b>
Asbestos	PLM/Bulk (EPA 600)	Same Day 3 Hr 6 Hr
<input checked="" type="checkbox"/> Lead-based Paint	<input checked="" type="checkbox"/> EPA SW846-7420, FLAA	24 Hour
Lead Risk Assessment	Dust Wipes <input checked="" type="checkbox"/> Paint Chips	<input checked="" type="checkbox"/> 48 Hour
Lead (water)	Air, Soil	72 Hour
Mold/Fungus/Bacteria	SM313B, GFAA, Water	5 Day
Indoor Air Quality	TEM/Bulk (Chatfield)	Other: _____
Other: _____	Other: <u>P/C</u>	TTP = Test Till Positive

Homogenous Material Group	Material / Component	Sample Number	Location Of Samples	Analysis Specification
<u>P/C</u>	<u>All Samples ACE 2"X2"</u>			<u>PPM</u>
		<u>01-4600 - 151-01</u>	<u>MAIN ENTRANCE WALL WALL #4 by D/doors</u>	
		<u>01-4601 - 151-02</u>	<u>1st floor LAUNDRY w/2 common wall</u>	
		<u>01-4602 - 151-03</u>	<u>D/O - OFFICE CHAIRS WALL #3</u>	
		<u>01-4603 - 151-04</u>	<u>1st floor HEAD - DOOR HALL SIDE</u>	
		<u>01-4604 - 151-05</u>	<u>1st. FLOOR WASH BASIN LAUNDRY RM FLOOR</u>	
		<u>01-4605 - 151-06</u>	<u>EXT. WALL - WALL #4 BY DOUBLE DOORS</u>	
		<u>01-4606 - 151-07</u>	<u>EXT. DOOR FRAME WALL #4 - DOUBLE DOORS</u>	
		<u>01-4607 - 151-08</u>	<u>EXT. DOOR WALL #4 DOUBLE DOORS</u>	
		<u>Note:</u>	<u>Sensitivity must be at 25&lt;</u>	

Relinquished By: <u>P.P. Marteo</u>	Received By: <u>[Signature] UPS 1226289922 1613 7564</u>	Date/Time Received: <u>8/14/01 940</u>
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