



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

### BACHELOR'S ENLISTED QUARTERS (ID: Building 512A)

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 17, 2001  
Project Number: E01-448w-L-SU

Prepared By:

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

## Table of Contents

### Section

	Executive Summary
1	Introduction
2	Scope of Services
3	Methodology
4	Findings and Observations

### APPENDICES

A	XRF- Data Results Tables
B	Certification(s)
C	Site Map
D	Laboratory Results

## EXECUTIVE SUMMARY

Benchmark Environmental Engineering was retained by PAI Corporation, to conduct a lead-based paint survey at Building 512A, Bachelor's Enlisted Quarters, located at Moffett Field, California.

In order to determine if lead based paint was present, four (4) 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:** Handrail.

**Interior:** None identified.

## 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

The Bachelor's Enlisted Quarters, Building 512A, was built in 1970. It is a three-story structure with concrete frame over a concrete foundation with a flat composite roof. The gray exterior is concrete block. Building 512 is unoccupied due to earthquake damage.

## 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 17, 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 512A.

A total of 181 XRF assays and four (4) 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 512A). 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

Paint Chip Samples were collected from four (4) 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 four (4) 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 1 assay 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.

**Interior:** None identified.

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 17, 2001

Sample Number	Component	Location	PPM	% By Weight
01-4847-1	Fire Door Wall 1	Interior	8440	0.844
01-4848-2	Door Frame Wall 1	Reception	540	0.054
01-4849-3	Interior Wall Wall 3	Reception	70	0.007
01-4850-4	Wall 1	2 <sup>nd</sup> Floor Exterior Door	9260	0.926

### 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
512A	1		Negative	32241	Exterior	1	Wall	0.165	
512A	1		Negative	32242	Exterior	1	Bldg. Supports	-1.06	
512A	1		Negative	32243	Exterior	1	Bldg. Supports	-1.422	
512A	1		Negative	32244	Exterior	1	Bldg. Supports	-0.193	
512A	1		Negative	32245	Exterior	1	Overhang	0.332	
512A	1		Negative	32246	Exterior	1	Security Rail	0.492	
512A	1		XRF Positive	32247	Exterior	1	Handrail	1.561	
512A	1		Negative	32248	Exterior	1	Stair	-0.477	
512A	1		Negative	32249	Exterior	1	Stair Riser	0.119	
512A	1		Negative	32250	Exterior	1	Window Jamb	0.266	
512A	1		Negative	32251	Exterior	1	Door	0.443	
512A	1		Negative	32252	Exterior	1	Door Frame	0.17	
512A	1		Negative	32253	Exterior	1	Ladder	0.085	
512A	1		Negative	32254	Exterior	1	Ladder	0.429	
512A	1		Negative	32255	Exterior	1	Roof Flashing	0.355	
512A	1		Negative	32256	Exterior	2	Wall	-0.585	
512A	1		Negative	32257	Exterior	2	Roof Flashing	-0.483	
512A	1		Negative	32258	Exterior	3	Wall	0.27	
512A	1		Negative	32259	Exterior	3	Bldg. Supports	0.561	
512A	1		Negative	32260	Exterior	3	Window Sill	-0.366	
512A	1		Negative	32261	Exterior	3	Foundation	0.391	
512A	1		Negative	32262	Exterior	3	Window Jamb	0.543	
512A	1		Negative	32263	Exterior	4	Wall	-1.539	
512A	1		Negative	32264	Exterior	4	Wall	-0.957	
512A	1		Negative	32265	Exterior	4	Foundation	0.071	
512A	2	220	Negative	32081	Reception	1	Fire Door	0.259	8440
512A	2	220	Negative	32082	Reception	1	Door Frame	0.397	
512A	2	220	Negative	32083	Reception	1	Wall	-0.109	
512A	2	220	Negative	32084	Reception	3	Wall	0.021	
512A	2	220	Negative	32085	Reception	3	Door	-0.271	
512A	2	220	Negative	32086	Reception	3	Door Frame	0.3	
512A	2	220	Negative	32087	Reception	3	Door stop	0.315	
512A	2	220	Negative	32088	Reception	3	Door Frame	0.54	
512A	2	220	Negative	32089	Reception	1	Heater Cover	-0.251	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
512A	2	220	Negative	32090	Reception	1	Window Jamb	0.38	
512A	2	220	Negative	32091	Reception	1	Window Sill	-1.047	
512A	2	220	Negative	32092	Reception	1	Window Sill	0.091	
512A	2	220	Negative	32093	Reception	1	Ceiling	0.025	
512A	2	220	Negative	32094	Storage	3	Closet Shelf	-0.212	
512A	2	220	Negative	32095	Storage	3	Closet Supports	0.118	
512A	2	220	Negative	32096	Storage	3	Door Frame	0.165	
512A	2	220	Negative	32097	Storage	4	Wall	-0.415	
512A	2	220	Negative	32098	Hallway 1	4	Cabinets	-0.348	
512A	2	220	Negative	32099	Hallway 1	2	Wall	0.388	
512A	2	220	Negative	32100	Hallway 1	4	Wall	-0.001	
512A	2	220	Negative	32101	Hallway 1	2	Door	0.104	
512A	2	220	Negative	32102	Hallway 1	2	Door Frame	0.496	
512A	2	220	Negative	32103	Hallway 1	1	Ceiling	0.202	
512A	2	220	Negative	32104	Gear Locker	4	Door	0.017	
512A	2	220	Negative	32105	Gear Locker	4	Door Frame	0.287	
512A	2	220	Negative	32106	Gear Locker	4	Tile wall	-0.679	
512A	2	220	Negative	32107	Gear Locker	1	Ceiling	-0.258	
512A	2	220	Negative	32108	Bedroom 1	1	Ceiling	-0.452	
512A	2	220	Negative	32109	Bedroom 1	1	Wall	-0.139	
512A	2	220	Negative	32110	Bedroom 1	1	Heater Cover	-0.129	
512A	2	220	Negative	32111	Bedroom 1	1	Window Jamb	0.011	
512A	2	220	Negative	32112	Bedroom 1	1	Window Sill	0.068	
512A	2	220	Negative	32113	Bedroom 1	3	Wall	0.195	
512A	2	220	Negative	32114	Bedroom 1	4	Door	-0.864	
512A	2	220	Negative	32115	Bedroom 1	4	Door Frame	0.181	
512A	2	220	Negative	32116	Bedroom 1	4	Cabinets	-0.158	
512A	2	220	Negative	32117	Bedroom 2	1	Ceiling	-0.534	
512A	2	220	Negative	32118	Bedroom 2	1	Wall	0.375	
512A	2	220	Negative	32119	Bedroom 2	3	Wall	-0.126	
512A	2	220	Negative	32120	Bedroom 2	3	Window Jamb	0.629	
512A	2	220	Negative	32121	Bedroom 2	3	Window Sill	0.031	
512A	2	220	Negative	32122	Bedroom 2	4	Door	-0.232	
512A	2	220	Negative	32123	Bedroom 2	4	Door Frame	0.572	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
512A	2	220	Negative	32124	Bedroom 3	1	Ceiling	0.116	
512A	2	220	Negative	32125	Bedroom 3	1	Wall	-0.131	
512A	2	220	Negative	32126	Bedroom 3	4	Wall	0.069	
512A	2	220	Negative	32127	Bedroom 3	2	Door	-0.117	
512A	2	220	Negative	32128	Bedroom 3	2	Door Frame	0.333	
512A	2	220	Negative	32129	Bedroom 3	2	Cabinets	0.082	
512A	2	220	Negative	32130	Hallway 2	2	Wall	-0.081	
512A	2	220	Negative	32131	Hallway 2	4	Wall	0.579	
512A	2	220	Negative	32132	Hallway 2	1	Ceiling	-0.792	
512A	2	220	Negative	32133	Hallway 2	2	Door	-0.69	
512A	2	220	Negative	32134	Hallway 2	2	Door Frame	0.431	
512A	2	220	Negative	32135	Bedroom 4	1	Ceiling	0.11	
512A	2	220	Negative	32136	Bedroom 4	1	Wall	0.366	
512A	2	220	Negative	32137	Bedroom 4	3	Wall	0.292	
512A	2	220	Negative	32138	Bedroom 4	1	Door	0.041	
512A	2	220	Negative	32139	Bedroom 4	1	Door Frame	0.253	
512A	2	220	Negative	32140	Bedroom 4	1	BaseBoard	-0.124	
512A	2	220	Negative	32141	Bedroom 5	1	Ceiling	0.142	
512A	2	220	Negative	32142	Bedroom 5	1	Wall	0.588	
512A	2	220	Negative	32143	Bedroom 5	3	Wall	-0.715	
512A	2	220	Negative	32144	Bedroom 5	2	Door	0.067	
512A	2	220	Negative	32145	Bedroom 5	2	Door Frame	0.598	
512A	2	220	Negative	32146	Bedroom 6	1	Ceiling	-0.406	
512A	2	220	Negative	32147	Bedroom 6	3	Wall	-0.059	
512A	2	220	Negative	32148	Bedroom 6	2	Door	-0.171	
512A	2	220	Negative	32149	Bedroom 6	2	Door Frame	0.309	
512A	2	220	Negative	32150	Bedroom 6	1	Wall	-0.111	
512A	2	220	Negative	32151	Bedroom 6	2	Cabinets	-0.366	
512A	2	220	Negative	32152	Shared Bath	1	Tile wall	0.58	
512A	2	220	Negative	32153	Shared Bath	1	Ceiling	-0.551	
512A	2	220	Negative	32154	Shared Bath	2	Door	0.113	
512A	2	220	Negative	32155	Shared Bath	2	Door Frame	-0.051	
512A	2	220	Negative	32156	Shared Bath	3	Stall door	0.121	
512A	2	220	Negative	32157	Shared Bath	1	Tile Floor	-0.755	



Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
512A	2	220	Negative	32158	Shared Bath	1	Tile Floor	0.28	
512A	3	320	Negative	32161	Reception	1	Fire door	-0.272	
512A	3	320	Negative	32162	Reception	1	Door Frame	0.097	
512A	3	320	Negative	32163	Reception	1	Wall	0.078	
512A	3	320	Negative	32164	Reception	3	Wall	-0.169	
512A	3	320	Negative	32165	Reception	3	Door	-0.485	
512A	3	320	Negative	32166	Reception	3	Door Frame	0.399	
512A	3	320	Negative	32167	Reception	3	Door	-0.143	
512A	3	320	Negative	32168	Reception	3	Door Frame	0.399	
512A	3	320	Negative	32169	Reception	1	Heater Cover	0.228	
512A	3	320	Negative	32170	Reception	1	Window Jamb	-0.795	
512A	3	320	Negative	32171	Reception	1	Window Sill	0.053	
512A	3	320	Negative	32172	Reception	1	Ceiling	-0.661	
512A	3	320	Negative	32173	Storage	3	Closet Shelf	-0.615	
512A	3	320	Negative	32174	Storage	3	Closet Supports	-0.122	
512A	3	320	Negative	32175	Storage	3	Door Frame	0.397	
512A	3	320	Negative	32176	Storage	4	Wall	0.053	
512A	3	320	Negative	32177	Hallway 1	4	Cabinets	-0.146	
512A	3	320	Negative	32178	Hallway 1	2	Wall	0.084	
512A	3	320	Negative	32179	Hallway 1	4	Wall	-0.068	
512A	3	320	Negative	32180	Hallway 1	2	Door	-0.461	
512A	3	320	Negative	32181	Hallway 1	2	Door Frame	0.222	
512A	3	320	Negative	32182	Hallway 1	1	Ceiling	-0.521	
512A	3	320	Negative	32183	Gear locker	4	Door	0.206	
512A	3	320	Negative	32184	Hallway 1	4	Door Frame	0.169	
512A	3	320	Negative	32185	Gear locker	4	Tile wall	0.508	
512A	3	320	Negative	32186	Gear locker	1	Ceiling	0.09	
512A	3	320	Negative	32187	Bedroom 1	1	Wall	0.019	
512A	3	320	Negative	32188	Bedroom 1	1	Heater Cover	-0.121	
512A	3	320	Negative	32190	Bedroom 1	1	Window Sill	-0.085	
512A	3	320	Negative	32191	Bedroom 1	1	Ceiling	0.006	
512A	3	320	Negative	32192	Bedroom 1	3	Wall	0.138	
512A	3	320	Negative	32193	Bedroom 1	4	Door	-0.501	
512A	3	320	Negative	32194	Bedroom 1	4	Door Frame	0.146	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
512A	3	320	Negative	32195	Bedroom 1	4	Cabinets	0.237	
512A	3	320	Negative	32196	Bedroom 2	1	Ceiling	0.104	
512A	3	320	Negative	32197	Bedroom 2	1	Wall	0.391	
512A	3	320	Negative	32198	Bedroom 2	2	Wall	-0.004	
512A	3	320	Negative	32199	Bedroom 2	3	Window Jamb	0.019	
512A	3	320	Negative	32200	Bedroom 2	3	Window Sill	-0.648	
512A	3	320	Negative	32201	Bedroom 2	4	Door	-0.005	
512A	3	320	Negative	32202	Bedroom 2	4	Door Frame	0.236	
512A	3	320	Negative	32203	Bedroom 3	1	Wall	-0.273	
512A	3	320	Negative	32204	Bedroom 3	4	Wall	-0.091	
512A	3	320	Negative	32205	Bedroom 3	1	Ceiling	-0.171	
512A	3	320	Negative	32206	Bedroom 3	1	Door	0.347	
512A	3	320	Negative	32207	Bedroom 3	1	Door Frame	-0.036	
512A	3	320	Negative	32208	Bedroom 3	1	Baseboard	0.045	
512A	3	320	Negative	32209	Bedroom 3	2	Cabinets	-0.117	
512A	3	320	Negative	32210	Hallway 2	2	Wall	0.042	
512A	3	320	Negative	32211	Hallway 2	4	Wall	0.05	
512A	3	320	Negative	32212	Hallway 2	1	Ceiling	0.182	
512A	3	320	Negative	32213	Hallway 2	2	Door	-0.056	
512A	3	320	Negative	32214	Hallway 2	2	Door Frame	0.282	
512A	3	320	Negative	32215	Bedroom 4	1	Wall	-0.059	
512A	3	320	Negative	32216	Bedroom 4	3	Wall	0.326	
512A	3	320	Negative	32217	Bedroom 4	1	Ceiling	0.136	
512A	3	320	Negative	32218	Bedroom 4	1	Door	0.05	
512A	3	320	Negative	32219	Bedroom 4	1	Door Frame	0.141	
512A	3	320	Negative	32220	Bedroom 4	1	BaseBoard	0.22	
512A	3	320	Negative	32221	Bedroom 5	1	Wall	0.234	
512A	3	320	Negative	32222	Bedroom 5	3	Wall	-0.708	
512A	3	320	Negative	32223	Bedroom 5	1	Ceiling	0.198	
512A	3	320	Negative	32224	Bedroom 5	2	Door	0.324	
512A	3	320	Negative	32225	Bedroom 5	2	Door Frame	0.341	
512A	3	320	Negative	32226	Bedroom 5	2	Cabinets	-0.191	
512A	3	320	Negative	32227	Bedroom 6	1	Wall	-0.874	
512A	3	320	Negative	32228	Bedroom 6	3	Wall	0.365	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
512A	3	320	Negative	32229	Bedroom 6	2	Door	0.287	
512A	3	320	Negative	32230	Bedroom 6	2	Door Frame	0.16	
512A	3	320	Negative	32231	Bedroom 6	2	Cabinets	-0.638	
512A	3	320	Negative	32232	Bedroom 6	1	Ceiling	0.078	
512A	3	320	Negative	32233	Shared Bath	1	Tile wall	0.063	
512A	3	320	Negative	32234	Shared Bath	1	Ceiling	0.18	
512A	3	320	Negative	32235	Shared Bath	2	Door	0.349	
512A	3	320	Negative	32236	Shared Bath	2	Door Frame	0.354	
512A	3	320	Negative	32237	Shared Bath	3	Stall Door	0.111	
512A	3	320	Negative	32239	Shared Bath	1	Tile Floor	-1.018	
512A	3	320	Negative	32240	Shared Bath	1	Tile Floor	-0.112	

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

Lead-Related Construction  
Interim Certificate

Richard E. MacFarlane

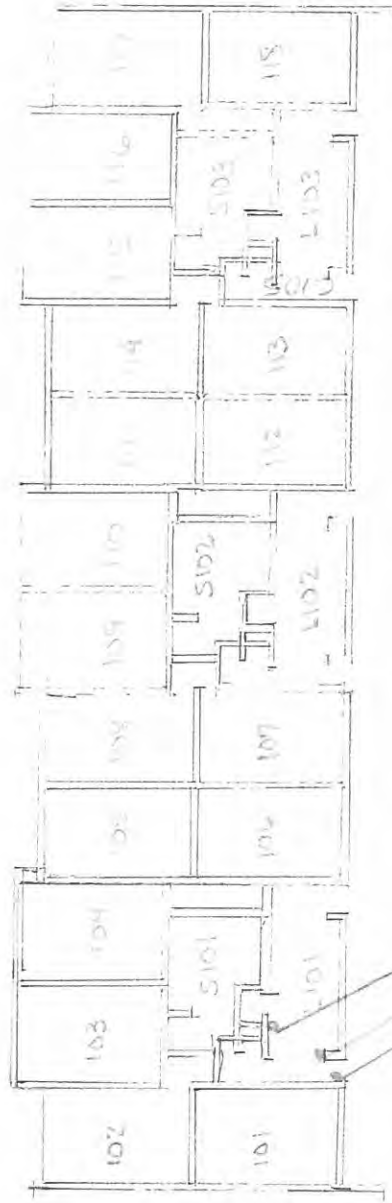
Inspector/Assessor  
I-2241 (Exp. 1/31/01)



**APPENDIX C**

**SITE MAP**

LEAD SAMPLE  
LOCATIONS



1 ST FLOOR

01-4849-S104

01-4848-S105

01-4847-S106



Property Inspections - Environmental Engineering  
 Specialized Training - Contract Management  
 3732 - A Charter Park Drive  
 San Jose, CA 951366  
 Phone: (408) 448-7594 - Fax: (408) 448-3849

PROJECT NAME:  
 NASA-AMES  
 PART 15  
 Bldg 512A

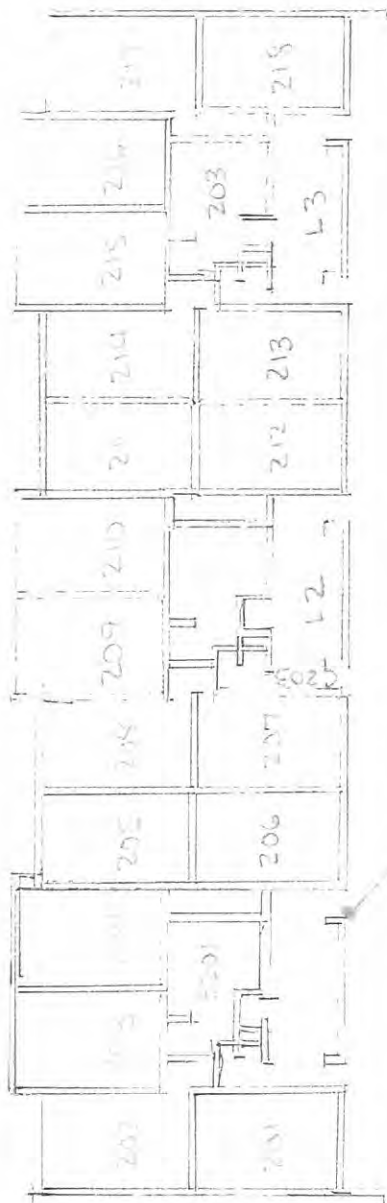
DRAFT PERSON:  
 WLM

DATE:  
 10/15/00

DWG. No.

PROJECT NO.  
 528-2458-A-50

LEAD SAMPLE  
LOCATIONS



2ND FLOOR

21-4850-512A-4

DRAFT PERSON:	DATE:	DWG. No.
WLM	10/20	
PROJECT No.		
		21-4850-AL50

PROJECT NAME:  
NASA-AMES  
PARCELS  
BUD 512A

Property Inspections - Environmental Engineering  
Specialized Training - Contract Management  
3732 - A Charter Park Drive  
San Jose, CA 951366  
Phone: (408) 448-7594 - Fax: (408) 448-3849





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

2200<sup>th</sup> Street, Suite 101  
Interim Co. Inc. 20

Richard L. MacFarlane

Inspector/Assessor  
I-2241 (Exp. 11/93/01)



# 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 #: 2541-01-70  
CLIENT: Benchmark  
ADDRESS: 3732 Charter Park Drive  
San Jose, CA 95136

DATE COLLECTED: 8/17/2001  
DATE RECEIVED: 8/21/2001  
DATE ANALYZED: 8/21/2001  
DATE REPORTED: 8/21/2001

PO NO.:  
PROJECT NAME: PAI  
PROJECT NO: E01 - 448  
JOB LOCATION: NASA Bldg 512-A

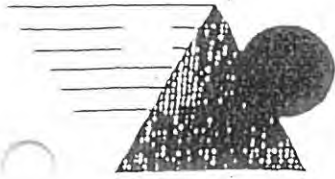
SAMPLE TYPE: PAINT

SLI Sample No.	Client Sample No.	Sample Description	Sample Wt (mg)	Dilution Factor	Total Lead (µg)*	Lead Conc (% by wt)	Lead Conc (PPM)
2022705	01-4847-512A1	Int Fire Dr W/1	494	10	4,169.4	0.844	8440
2022706	01-4848-512A2	Dr Frame Rec. W/1	466	1	252.7	0.054	540
2022707	01-4849-512A3	Int Wall Rec. W/3	472	1	33.7	0.007	70
2022708	01-4850-512A4	Ext Dr W/1 2nd Flr	464	10	4,295.7	0.926	9260
	QC - 19056	10.0 ppm Calibration Std			989.6	99.0%	
	QC - 19056	200 µg spike			210.6	105.3%	
	QC - 19056	5.0 ppm Calibration Std			509.6	101.9%	
	QC - 19056	Blank			< 20.0		
	QC - 19056	NIST 2710 Standard			585.4	105.8%	

ANALYST: MATTHEW ASBURY  
Total no. of pages in report = 1

  
REVIEWED BY Amy J. Colosimo, Analyst

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

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: 8/17/01 Technician: R. MacFarland  
 Project Location: NASA Bldg # 512-A Room-A-220  
 Client Name: KRIS Company: PAI

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

Homogenous Material Group	Material / Component	Sample Number	Location Of Samples	Analysis Specification
<u>P/c</u>	<u>All samples are 3"x2"</u>			<u>PPM</u>
		<u>01-4847 - 512A-1</u>	<u>INTERIOR FIRE DOOR w/1</u>	
		<u>01-4848 - 512A-2</u>	<u>DOOR FRAME Reception w/1</u>	
		<u>01-4849 - 512-A-3</u>	<u>INTERIOR WALL RECP. w/3</u>	
		<u>01-4850 - 512-A-4</u>	<u>EXTERIOR DOOR w/1 2ND FLOOR</u>	
		<u>NOTE:</u>	<u>Sensitivity must be</u>	
		<u>at</u>	<u>25&lt;</u>	

Relinquished By: \_\_\_\_\_ Received By: Fadi Date/Time Received: 8-21-01 930A

UP: 26289922103 285