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LEAD BASED PAINT SURVEY REPORT

BACHELORS ENLISTED QUARTERS (ID: Building 150)

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 7, 2001
Project Number: E01-448w-L-SU

Prepared By:

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

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DHS# I-2241

Reviewed By:

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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 150, Bachelors 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 166 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/ cm² or 5000 PPM.

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

Exterior: Stair Handrails, Doors, Door Casings, Window Frames, Window Sill, Flashing

Interior: Recreation Room - Window Frames; Kitchen – Window Frames; Storage Room – Common Wall, Drain Pipe; Laundry Room – Wall, Cabinets/Sinks; Hallway Bathroom – Tile Wall; Common Area - Window Frames; Hallway – Window Frames; Stairway – Stair Handrail.

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

Building 150 is a two-story facility with a basement. It is 15,785 square feet in size. Built in 1953, the building construction 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 7, 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 150.

A total of 166 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 Bachelors Enlisted Quarters (ID: Building 150). 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 166 assays were taken. The results indicated that 37 assays contained lead above the EPA and DHS level of 1.0 mg/cm² or greater. The components, which contain lead-based paint, are:

Exterior: Stair Handrails, Doors, Door Casings, Window Frames, Window Sill, Flashing

Interior: Recreation Room - Window Frames; Kitchen - Window Frames; Storage Room - Common Wall, Drain Pipe; Laundry Room - Wall, Cabinets/Sinks; Hallway Bathroom - Tile Wall; Common Area - Window Frames; Hallway - Window Frames; Stairway - Stair Handrail.

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/cm² 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/m³) over an eight-hour time weighted average (TWA) or the Permissible Exposure Limit (PEL) of 50 ug/m³ 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/cm² versus 3.5 mg/cm² 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/m³ to 500 ug/m³
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/m³ to 2,500 ug/m³
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/m³.
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 7 2001

Sample Number	Component	Location	PPM	% By Weight
01-4592-01	Wall #2	Main Entrance Wall	1380	0.138
01-4593-02	Wall #2	Main Entrance Door Frame	3120	0.312
01-4594-03	Wall #3	Main Entrance Common Wall	<40	<0.004
01-4595-04	Wall #1	1 st Floor Laundry Room Sink/Cabinet	10330	1.033
01-4596-05	Wall #2	1 st Floor Head Right of Sink	2160	0.216
01-4597-06	Wall #2	1 st Floor Room 103 Wall	3680	0.368
01-4598-07	Wall #2	2 nd Floor Head Window Sill	12220	1.222
01-4599-08	Wall #2	Exterior Wall	850	0.085

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
150	0002		Negative	23538	Recreation Rm.	1	Fire door	0.299	
150	0002		Negative	23539	Recreation Rm.	1	Door casing	0.31	
150	0002		Negative	23540	Recreation Rm.	1	Wall	-1.518	
150	0002		Negative	23541	Recreation Rm.	1	Wall	0.464	
150	0002		Negative	23542	Recreation Rm.	2	Wainscott	0.303	
150	0002		Negative	23543	Recreation Rm.	4	Wall	0.252	
150	0002		Negative	23544	Recreation Rm.	4	Window Sill	-0.455	
150	0002		XRF Positive	23545	Recreation Rm.	4	Window Frames	2.965	
150	0002		Negative	23546	Recreation Rm.	1	I beam	0.466	
150	0002		Negative	23547	Recreation Rm.	2	Common wall	-0.02	
150	0002		Negative	23548	Main Entrance	1	Ceiling	0.35	
150	0002		Negative	23549	Main Entrance	1	Common wall	0.298	
150	0002		Negative	23550	Main Entrance	1	Door casing	0.013	
150	0002		Negative	23551	Main Entrance	2	Double Exit Door	-0.719	
150	0002		Negative	23552	Main Entrance	2	Double Exit Door	-0.165	
150	0002		Negative	23553	Main Entrance	2	Door casing	-0.621	3120
150	0002		Negative	23554	Main Entrance	3	D/O window	0.02	
150	0002		Negative	23555	Kitchen	2	Wall	0.436	
150	0002		XRF Positive	23556	Kitchen	2	Window Frames	1.6	
150	0002		Negative	23557	Kitchen	2	Window Sill	0.148	
150	0002		Negative	23558	Storage Room	1	Common wall	0.865	
150	0002		Negative	23559	Storage Room	2	Common wall	-0.32	
150	0002		XRF Positive	23560	Storage Room	3	Common wall	2.212	
150	0002		Inconclusive	23561	Storage Room	4	Wall	0.923	
150	0002		Negative	23562	Storage Room	1	Ceiling	0.265	
150	0002		Negative	23563	Storage Room	2	Door	-0.324	
150	0002		Negative	23564	Storage Room	2	Door casing	0.184	
150	0002		Negative	23565	Hallway	4	Wall	0.146	
150	0002		Inconclusive	23566	Laundry Room	2	Common wall	1.126	
150	0002		Inconclusive	23567	Laundry Room	3	Common wall	1.125	
150	0002		XRF Positive	23568	Laundry Room	4	Wall	1.487	10330
150	0002		Negative	23569	Laundry Room	2	Door	-0.597	
150	0002		Negative	23570	Laundry Room	2	Door casing	0.185	
150	0002		Negative	23571	Laundry Room	1	Ceiling	-0.309	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
150	0002		Negative	23572	Laundry Room	4	Window Frames	0.156	
150	0002		Negative	23573	Laundry Room	4	Window Sill	-0.14	
150	0002		Negative	23574	Laundry Room	4	Heater insulator	0.695	
150	0002		XRF Positive	23575	Laundry Room	1	Cabinets/sink	4.21	
150	0002		Negative	23576	Hallway Bathroom	1	Common wall	0.376	
150	0002		XRF Positive	23577	Hallway Bathroom	1	Tile wall	10.949	
150	0002		Inconclusive	23578	Hallway Bathroom	1	Ceiling	1.146	
150	0002		Negative	23579	Hallway Bathroom	1	Ceiling	0.624	
150	0002		Negative	23580	Hallway Bathroom	1	Ceiling Vent	0.362	
150	0002		Negative	23581	Hallway Bathroom	2	Window Frames	0.265	
150	0002		Negative	23582	Hallway Bathroom	2	Window Sill	-0.206	
150	0002		Negative	23583	Hallway Bathroom	3	Wall	0.826	2160
150	0002		Negative	23584	Hallway Bathroom	3	Stall door	0.257	
150	0002		Negative	23585	Hallway Bathroom	4	Door	-0.101	
150	0002		Negative	23586	Hallway	2	Common wall	0.066	
150	0002		Negative	23587	Hallway	2	Wainscott	0.103	
150	0002		Negative	23588	Hallway	2	Door	-0.223	
150	0002		Negative	23589	Hallway	2	Door casing	0.356	
150	0002		Negative	23590	Common Area	1	Common wall	0.335	
150	0002		Inconclusive	23591	Common Area	2	Wall	0.905	3680
150	0002		XRF Positive	23592	Common Area	2	Window Frames	2.668	
150	0002		Negative	23593	Common Area	2	Window Sill	0.384	
150	0002		Negative	23594	Common Area	2	Heater insulator	0.319	
150	0002		Negative	23595	Common Area	4	Wall	0.487	
150	0002		XRF Positive	23596	Common Area	4	Window Frames	2.987	
150	0002		Negative	23597	Hallway	3	Door casing	0.274	
150	0002		XRF Positive	23598	Hallway	2	Window Frames	1.876	
150	0002		Negative	23599	Hallway	2	Window Sill	0.143	
150	0002		Negative	23600	Hallway	3	Fire door	-0.065	
150	0002		Negative	23601	Hallway	3	Door casing	-0.516	
150	0002		Negative	23602	Hallway	4	Wall	0.798	
150	0002		XRF Positive	23604	Exterior	1	Stair Handrail	3.189	
150	0002		Negative	23605	Exterior	1	Stair Tread	0.641	
150	0002		XRF Positive	23606	Exterior	1	Door	1.947	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
150	0002		XRF Positive	23607	Exterior	1	Door casing	2.006	
150	0002		Negative	23608	Exterior	2	Down spout	-0.095	
150	0002		Negative	23609	Exterior	2	Wall	0.393	
150	0002		XRF Positive	23610	Exterior	2	Window Frames	2.131	
150	0002		XRF Positive	23611	Exterior	2	Window Sill	1.486	
150	0002		Negative	23612	Exterior	2	Kick Panel	0.436	
150	0002		Negative	23613	Exterior	2	Double Exit Door	-0.535	
150	0002		XRF Positive	23614	Exterior	2	Door casing	3.145	
150	0002		Negative	23615	Exterior	2	Gutter	0.711	
150	0002		Negative	23616	Exterior	2	Fascias	0.679	
150	0002		XRF Positive	23617	Exterior	2	Window Frames	2.012	
150	0002		Negative	23618	Exterior	2	Door	0.213	
150	0002		XRF Positive	23619	Exterior	2	Door casing	1.697	
150	0002		XRF Positive	23620	Exterior	3	Stair Handrail	2.446	
150	0002		Negative	23621	Exterior	3	Wall	0.602	
150	0002		Negative	23622	Exterior	4	Wall	0.228	
150	0002		Inconclusive	23623	Exterior	4	Window Frames	1.075	
150	0002		Negative	23624	Exterior	4	Window Sill	0.264	
150	0002		Negative	23625	Exterior	4	Ceiling	0.709	
150	0002		Negative	23626	Exterior	4	Door	-0.108	
150	0002		XRF Positive	23627	Exterior	2	2nd Floor Gutter	2.653	
150	0002		XRF Positive	23628	Exterior	2	Window Frames	1.387	
150	0002		Negative	23629	Exterior	2	Window Sill	0.39	
150	0002		Negative	23630	Exterior	2	Flashing	0.334	
150	0002		XRF Positive	23631	Exterior	2	Flashing	1.368	
150	0002		Negative	23632	Exterior	2	Flashing	-0.497	
150	0002		XRF Positive	23633	Exterior	2	Flashing	1.717	
150	0002		Negative	Paint Chip	Main Entrance	3	Common wall	0.004	<40
150	0002		Negative	Paint Chip	Exterior	2	Wall	0.085	850
150	0002		Negative	Paint Chip	Main Entrance	2	Wall	0.138	1380

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
0150	0003		Negative	23636	Hallway	1	Fire door	0.198	
0150	0003		Negative	23637	Hallway	1	Door casing	-0.851	
0150	0003		Negative	23638	Hallway	1	Door casing	-0.812	
0150	0003		Negative	23639	Hallway	1	Wall	0.585	
0150	0003		Negative	23640	Hallway	1	Wainscott	-0.17	
0150	0003		XRF Positive	23641	Hallway	4	Window Frames	2.708	
0150	0003		Negative	23642	Hallway	4	Window Sill	0.377	
0150	0003		Negative	23643	Hallway	2	Door	-0.418	
0150	0003		Negative	23644	Hallway	2	Door casing	0.367	
0150	0003		XRF Positive	23646	Common Area	2	Window Frames	3.373	
0150	0003		Negative	23647	Common Area	2	Window Sill	0.555	
0150	0003		Negative	23648	Common Area	4	Common wall	0.006	
0150	0003		Negative	23650	Hallway	3	Door casing	-0.409	
0150	0003		Negative	23651	Common Area	3	Common wall	-1.82	
0150	0003		Negative	23652	Common Area	3	Common wall	-0.358	
0150	0003		Negative	23653	Common Area	4	Wall	0.409	
0150	0003		XRF Positive	23654	Common Area	4	Window Frames	2.663	
0150	0003		Negative	23655	Common Area	4	Window Sill	-0.028	
0150	0003		Negative	23656	Common Area	4	Heater insulator	0.028	
0150	0003		Negative	23657	Common Area	1	Ceiling	0.288	
0150	0003		Negative	23658	Common Area	2	Chair rail	0.493	
0150	0003		XRF Positive	23659	Storage Room	1	Common wall	1.64	
0150	0003		XRF Positive	23660	Storage Room	2	Common wall	3.208	
0150	0003		XRF Positive	23661	Storage Room	3	Common wall	3.11	
0150	0003		XRF Positive	23662	Storage Room	4	Wall	3.847	
0150	0003		Negative	23663	Storage Room	2	Door	-0.199	
0150	0003		Negative	23664	Storage Room	2	Door casing	0.203	
0150	0003		Negative	23665	Storage Room	1	Ceiling	0.284	
0150	0003		XRF Positive	23666	Storage Room	2	6' drain pipe	2.53	
0150	0003		Negative	23667	Laundry Room	1	Ceiling	-1.124	
0150	0003		Negative	23668	Laundry Room	1	Ceiling	0.385	
0150	0003		Negative	23669	Laundry Room	1	Common wall	0.858	
0150	0003		Negative	23670	Laundry Room	2	Common wall	0.168	
0150	0003		Negative	23671	Laundry Room	3	Common wall	0.591	

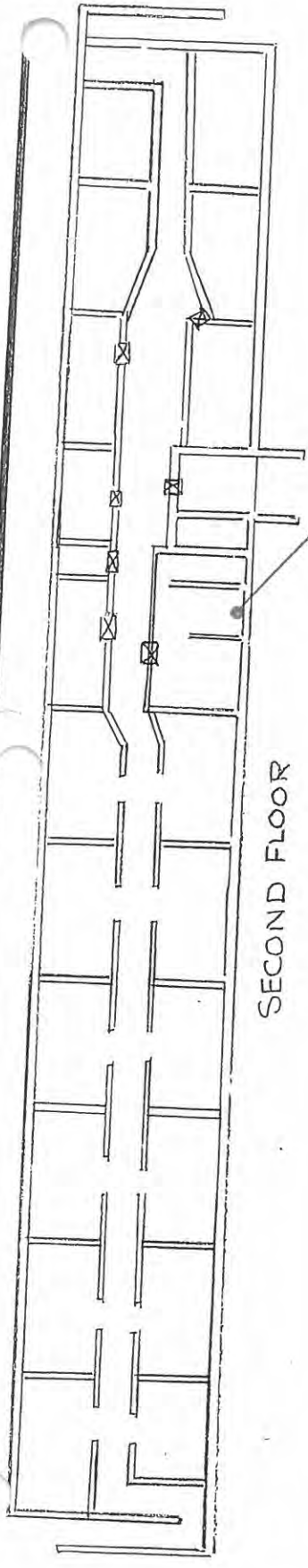
Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
0150	0003		Negative	23672	Laundry Room	4	Window Frames	0.257	
0150	0003		Negative	23673	Laundry Room	4	Window Sill	-0.872	
0150	0003		Negative	23674	Laundry Room	4	Window Sill	0.213	
0150	0003		XRF Positive	23675	Laundry Room	1	Cabinets/sink	1.374	
0150	0003		Negative	23676	Hallway Bathroom	1	Common wall	-0.101	
0150	0003		XRF Positive	23677	Hallway Bathroom	1	Tile wall	11.281	
0150	0003		Negative	23678	Hallway Bathroom	1	Ceiling	0.563	
0150	0003		Inconclusive	23679	Hallway Bathroom	2	Window Frames	1.038	12220
0150	0003		Negative	23680	Hallway Bathroom	2	Window Sill	0.069	
0150	0003		XRF Positive	23681	Hallway Bathroom	2	Wall	2.516	
0150	0003		Negative	23682	Hallway Bathroom	1	Ceiling Vent	0.391	
0150	0003		Negative	23683	Hallway Bathroom	4	Door	0.214	
0150	0003		Negative	23684	Hallway Bathroom	4	Door casing	0.33	
0150	0003		Negative	23685	Hallway	2	Common wall	0.156	
0150	0003		Negative	23686	Hallway	2	Wainscott	-0.008	
0150	0003		Negative	23687	Hallway	2	Door	0.053	
0150	0003		Negative	23688	Hallway	2	Door casing	-0.541	
0150	0003		Negative	23689	Common Area	1	Common wall	-0.231	
0150	0003		Negative	23690	Common Area	2	Wall	0.885	
0150	0003		XRF Positive	23691	Common Area	2	Window Frames	2.956	
0150	0003		Negative	23692	Common Area	2	Window Sill	0.379	
0150	0003		Inconclusive	23693	Common Area	4	Wall	0.989	
0150	0003		XRF Positive	23694	Common Area	4	Window Frames	2.76	
0150	0003		Negative	23695	Common Area	4	Window Sill	0.602	
0150	0003		Negative	23696	Common Area	1	Common wall	0.629	
0150	0003		Negative	23697	Hallway	3	Fire door	0.386	
0150	0003		Negative	23698	Hallway	3	Door casing	0.55	
0150	0003		XRF Positive	23699	Hallway	2	Window Frames	3.237	
0150	0003		Negative	23700	Stairway	1	Common wall	0.747	
0150	0003		Negative	23701	Stairway	1	Concrete wall cap	-0.831	
0150	0003		Negative	23702	Stairway	1	Concrete wall cap	0.257	
0150	0003		Negative	23703	Stairway	4	Double Exit Door	-0.802	
0150	0003		Negative	23704	Stairway	4	Double Exit Door	-0.796	
0150	0003		XRF Positive	23705	Stairway	2	Stair Handrail	1.65	

Bldg.	Floor	Room	Result	Shot Sequence	Location	Wall	Description	XRF Result	AA Analysis in PPM
0150	0003		Negative	23706	Stairway	2	Window Frames	0.13	
0150	0003		Negative	23707	Stairway	2	Window Sill	0.559	

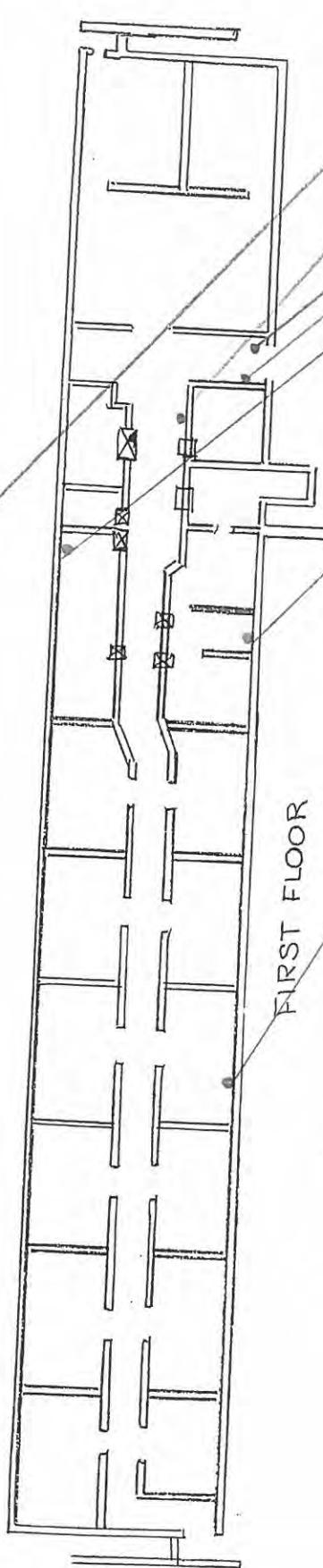
APPENDIX B
CERTIFICATION(S)

APPENDIX C

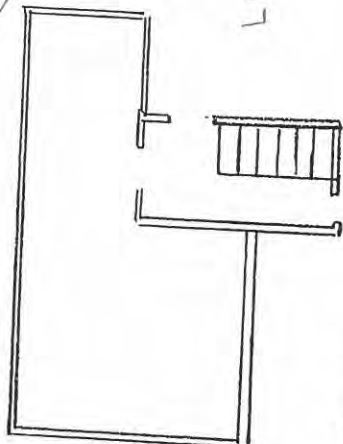
SITE MAP



SECOND FLOOR



FIRST FLOOR



BASEMENT

- 01-4598-150-07
- 01-4594-150-03
- 01-4592-150-01
- 01-4599-150-08
- 01-4593-150-02
- 01-4596-150-05
- 01-4595-150-04

01-4597-150-06

LEAD SAMPLE RESULTS



APPROX. SCALE IN FEET



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:
 BUILDING 150
 NASA-AMES
 PAT CORP.

DRAFT PERSON: WLB
 DATE: 12/10
 DWG. No. 2
 PROJECT No. E01-448-AL-SU

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

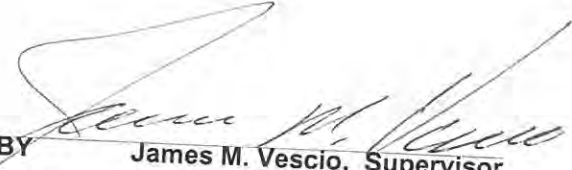
ACCOUNT #: 2541-01-56
 CLIENT: Benchmark
 ADDRESS: 3732 Charter Park Drive
 San Jose, CA 95136
 PO NO.:
 PROJECT NAME: NASA AAMES
 PROJECT NO: E01-448
 JOB LOCATION: Bldg 150 BAQ

DATE COLLECTED: 8/7/2001
 DATE RECEIVED: 8/14/2001
 DATE ANALYZED: 8/14/2001
 DATE REPORTED: 8/14/2001

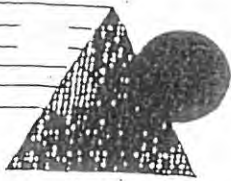
SAMPLE TYPE: PAINT

SLI Sample No.	Client Sample No.	Sample Description	Sample Wt (mg)	Dilution Factor	Total Lead (µg)*	Lead Conc (% by wt)	Lead Conc (PPM)
2016388	01-4592-150-01	Main Ent Wall WI2	486	1	671.1	0.138	1380
2016389	01-4593-150-02	Main Ent Dr Frme WI2	451	2	1,404.9	0.312	3120
2016390	01-4594-150-03	Main Ent ComWall WI3	488	1	< 20.0	< 0.004	< 40
2016391	01-4595-150-04	1stFlrLaunRmCabWI1	494	10	5,102.9	1.033	10330
2016392	01-4596-150-05	Head1stFlrWI2R/Sink	498	2	1,075.5	0.216	2160
2016393	01-4597-150-06	1stFlrRm103WallWI2	492	10	1,808.6	0.368	3680
2016394	01-4598-150-07	Flr2HeadWI2WinSill	472	10	5,769.7	1.222	12220
2016395	01-4599-150-08	Ext Wall WI2	467	1	396.6	0.085	850
	QC - 18999	10.0 ppm Calibration Std					
	QC - 18999	200 µg spike			996.6	99.7%	
	QC - 18999	5.0 ppm Calibration Std			200.5	100.2%	
	QC - 18999	Blank			514.2	102.8%	
	QC - 18999	NIST 2710 Standard			< 20.0		
					565.2	102.2%	

ANALYST: AMY J. COLOSIMO
 Total no. of pages in report = 7

REVIEWED BY  James M. Vescio, Supervisor

Minimum Reporting Limit: 20 µg Total Lead. For work involving HUD, child-occupied building and other residential sites, 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

2541-01-56

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: 8/7/01 Technician: R. MAC FARLAND
Project Location: NASA AMES Bldg # 150 BAQ
Client Name: KRIS Company: PAI

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

Homogenous Material Group	Material / Component	Sample Number	Location Of Samples	Analysis Specification
<u>P/C</u>	<u>All Samples ALE 2" x 2"</u>			<u>PPM</u>
		<u>01-4592 - 150-01</u>	<u>MAIN ENT. WALL - WALL # 2</u>	}
		<u>01-4593 - 150-02</u>	<u>MAIN ENT. DOOR FRAME WALL # 2</u>	
		<u>01-4594 - 150-03</u>	<u>MAIN ENT. Common wall WALL # 3</u>	
		<u>01-4595 - 150-04</u>	<u>1st Floor LAUNDRY Rm SINK cabinet wall 1</u>	
		<u>01-4596 - 150-05</u>	<u>HEAD - 1st floor wall 2 R/ of SINK</u>	
		<u>01-4597 - 150-06</u>	<u>1st floor Rm 103 WALL - WALL # 2</u>	
		<u>01-4598 - 150-07</u>	<u>FLOOR # 2 HEAD wall # 2 - window sill</u>	
		<u>01-4599 - 150-08</u>	<u>EXTERIOR WALL - WALL # 2</u>	
		<u>NOTE: Sensitivity must BE 25 <</u>		
Relinquished By: <u>J. MACTEO</u>		Received By: <u>[Signature] URS 122E2899221013 7564(R)</u>		