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ASBESTOS SURVEY REPORT

**Army 87th EOD
(ID: Building156)**

NASA-AMES (PAI CORPORATION)
Moffett Field
Mountain View, CA 94035

BUILDING INSPECTIONS


ENVIRONMENTAL ENGINEERING

SPECIALIZED TRAINING

CONTRACT MANAGEMENT

Prepared for:
NASA - AMES (PAI CORPORATION)
Nasa-ames Research Center
Mt. View, CA 94035-1000

Prepared by:
Benchmark Environmental Engineering
July 19, 2002
Project Number: **E01-612-A-SU**

Prepared By:

Terri MacFarlane
a California Certified Asbestos Consultant
90-2747


Reviewed By:

Terri MacFarlane
a California Certified Asbestos Consultant
90-2747

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Executive Summary

Benchmark Environmental Engineering (Benchmark) was retained by NASA - Ames (PAI Corporation) to perform an Asbestos Hazard Emergency Response Act (AHERA) style asbestos survey of the Army 87th EOD (Building ID: Building156), to determine the locations of accessible and to the extent feasible, inaccessible friable and non-friable asbestos containing building materials (ACBM).

This inspection included interior and exterior areas. Pre-existing survey data was used to help Provide a picture of existing conditions of this building. Benchmark collected additional samples of the construction material to help supplement existing data, to contradict existing data or to provide additional data of materials not previously identified.

Asbestos was detected in the following friable (or jacketed friable) materials:

- Pipe Elbows
- Pipe Insulation

Asbestos was detected in the following non-friable materials:

- Floor Tile
- Mastic

The following materials were assumed to contain asbestos:

- Fire Door

Section 1 Introduction

Benchmark Environmental Engineering (Benchmark) performed an Asbestos Hazard Emergency Response Act (AHERA) style asbestos survey of the Army 87th EOD located at Moffett Field, Mountain View, CA, to identify ACBM. This report identifies the locations and asbestos content of friable and non-friable ACBM, provides assessment of the friable ACBM in relation to the material's hazard potential to building occupants and provides removal cost estimates.

This inspection included interior and exterior areas. Pre-existing survey data was used to help Provide a picture of existing conditions of this building. Benchmark collected additional samples of the construction material to help supplement existing data, to contradict existing data or to provide additional data of materials not previously identified.

All identified suspect asbestos-containing materials are summarized in Section 3. Materials testing positive for asbestos including material assessments, recommended response actions, and quantities are described in Section 4. Removal cost estimates for asbestos-containing materials are included in Section 5.

Removal cost estimates (Section 5) are for budgeting purposes only and should not be used as a quote for removal of the materials. It is not our recommendation to remove these materials unless they are beyond repair, or planned demolition or renovation activities will disturb the materials. Estimates are based on recent pricing we have received from contractors performing similar work and may vary from actual prices obtained due to the actual scope of work, quantity of material removed, control measures specified and contractor work loads.

On Monday, November 5, 2001 Terri MacFarlane (90-2747) , a California Certified Asbestos Consultant and Roy J. Mabus (92-0191) , a California Certified Asbestos Consultant, from Benchmark, performed an asbestos survey of the building(s) in accordance with the Asbestos Hazard and Emergency Response Act of 1987 (AHERA).

DISCLAIMER

This report is prepared for the express use and benefit of NASA - Ames (PAI Corporation), its agents and employees. The information in this report or portions thereof may be required to be included in notifications to employees, contractors or other visitors to the building(s). This report is not intended to be used as a specification or work plan for any of the work suggested or recommended in this report.

This report is based upon conditions observed at the property and information made available to the surveyor. This report does not intend to identify all hazards or unsafe

conditions, nor to indicate that other hazards or unsafe conditions do not exist at the premises.

Section 2 Description of Building Construction and Systems

Number of Floors: 3

Year Built: 1953

Total Square Footage: 9,285

Structural components consist of:

Concrete Foundation

Exterior Wall construction components consist of: Concrete

Interior Wall construction components consist of: Drywall

Interior ceiling components consist of: Ceiling Tile

Building Description/Comments:

This building construction is concrete over a concrete foundation and with a flat composite roof. The concrete exterior is tan. This facility, built in 1953, is a two-story structure with a basement.

Comments:

There was a previous asbestos survey conducted by Tetra Tech, Inc. on January 19, 1993.

Section 3 Summary of Findings for Suspect Materials

The following table is a list of all materials at this building which were tested for the presence of asbestos or were assumed to contain asbestos along with overall sample results. Complete information on asbestos containing materials is included in Section 4 of this report.

Each unique material within the building is assigned a unique HM number by the surveyor at the time the survey is performed.

Section 3 and Section 4 are organized by building, surfacing, thermal systems insulation, flooring, walls, ceilings, roofing and miscellaneous materials.

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)
Moffett Field
Mountain View, CA 94035

Client Information

NASA - Ames (PAI Corporation)
NASA-Ames Research Center
Mt. View, CA 94035-1000

Survey Performed By

Benchmark Environmental Engineering

Inspector

Terri MacFarlane

Inspection Date

Monday, November 5, 2001

Job Number

E01-612-A-SU

<i>Suspect Material</i>	<i>Category</i>	<i>HM Number</i>	<i>Material Location(s)</i>	<i>Asbestos Present?</i>
Roofing Material Core	Roofing	RM-1	EXTERIOR	No
12" Tan Floor Tile	Flooring	FT-2	THROUGHOUT	No
Coving Mastic	Miscellaneous	MASTIC-3	THROUGHOUT	No
2' x 4' Pinhole Ceiling Tile	Ceilings	CT-4	THROUGHOUT	No
Wallboard		WLBD-5	THROUGHOUT	No
Plaster	Surfacing	PL-6	CENTER	No
1" Pipe Insulation TSI	TSI	PI-7	THROUGHOUT AND BASEMENT	Yes
1" Pipe Elbows TSI	TSI	PE-8	THROUGHOUT AND BASEMENT	Yes
2" Pipe Insulation TSI	TSI	PI-9	THROUGHOUT	Yes
2" Pipe Elbows TSI	TSI	PE-10	THROUGHOUT	Yes
9" Brown Floor Tile	Flooring	FT-11	1ST FLOOR CENTER	Yes
Brown Stair Floor Tile	Flooring	FT-12	SOUTH CENTER	0
Fire Door	Miscellaneous	FD-13	CENTER	Yes
Floor Tile Mastic	Miscellaneous	MASTIC-14	THROUGHOUT	Yes
Wall - Mastic	Walls	WLMAS-15		No
Roofing Material Patch	Roofing	RM-16		No

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

Survey Performed By

Benchmark Environmental
Engineering

Inspection Date

Monday, November 5, 2001

<i>Suspect Material</i>	<i>Category</i>	<i>HM Number</i>	<i>Material Location(s)</i>	<i>Asbestos Present?</i>
Roofing Material Penetration Tar	Roofing	RM-17		No

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)
 Moffett Field
 Mountain View, CA 94035

Client Information

NASA - Ames (PAI Corporation)
 NASA-Ames Research Center
 Mt. View, CA 94035-1000

Survey Performed By
 Benchmark Environmental Engineering

Inspector
 Terri MacFarlane

Inspection Date
 Monday, November 5, 2001

Job Number
 E01-612-A-SU

<i>Material Description</i>	<i>Material Number</i>	<i>Asbestos Present?</i>
Roofing Material Core	RM-1	No

<i>Material Category</i>	<i>Friable Classification</i>	<i>EPA Category</i>	<i>Total Quantity</i>	<i>Unit of Measure</i>
Roofing	Non-Friable	Category I	15,785	Square Feet

<i>General Condition</i>	<i>Damage Category</i>	<i>Overall Material Assessment</i>	<i>Recommended Response</i>
		No Assessment, Non-asbestos	

General Material Comments

Material Location(s)
 EXTERIOR

<i>Sample ID(s)</i>	<i>Sample Location(s)</i>	<i>Floor</i>	<i>Analyzed</i>	<i>Overall Result</i>	<i>Layer(s) Reported by Lab</i>	<i>Results by Layer</i>
rm-1-02-7213-156-1	East Roof	roof	Yes	0%	1) Roofing core 2) 3)	Non Detected
rm-1-02-7214-156-2	West Roof	roof	Yes	0%	1) Roofing core 2) 3)	Non Detected

<i>Material Description</i>	<i>Material Number</i>	<i>Asbestos Present?</i>
12" Tan Floor Tile	FT-2	No

<i>Material Category</i>	<i>Friable Classification</i>	<i>EPA Category</i>	<i>Total Quantity</i>	<i>Unit of Measure</i>
Flooring	Non-Friable	Category I	4,250	Square Feet

<i>General Condition</i>	<i>Damage Category</i>	<i>Overall Material Assessment</i>	<i>Recommended Response</i>
		No Assessment, Non-asbestos	

General Material Comments

Material Location(s)
 THROUGHOUT

<i>Sample ID(s)</i>	<i>Sample Location(s)</i>	<i>Floor</i>	<i>Analyzed</i>	<i>Overall Result</i>	<i>Layer(s) Reported by Lab</i>	<i>Results by Layer</i>
ft-2-02-6992-156-1	Room 210		Yes	0	1) Floor Tile 2) 3)	Non Detected
ft-2-02-6993-156-2	C201 at Room 216		Yes	0	1) Floor Tile 2) 3)	Non Detected
ft-2-02-6993-156-3	C201 at Room 220		Yes	0	1) Floor Tile 2) 3)	Non Detected

Section 4 Material Information Tables

Site Information
Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date
Monday, November 5, 2001

Material Description Coving Mastic			Material Number MASTIC-3	Asbestos Present? No
Material Category Miscellaneous	Friable Classification Non-Friable	EPA Category Category II	Total Quantity 680	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment No Assessment, Non-asbestos	Recommended Response	

General Material Comments

Material Location(s)
 THROUGHOUT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
MASTIC-3-02-7000-156-10	C201 at Room 209		Yes	0	1) Base Cove mastic 2) 3)	Non Detected
MASTIC-3-02-7001-156-11	Room 213		Yes	0	1) Base Cove mastic 2) 3)	Non Detected
MASTIC-3-02-7002-156-12	Room 217		Yes	0	1) Mastic 2) 3)	Non Detected

Material Description 2' x 4' Pinhole Ceiling Tile			Material Number CT-4	Asbestos Present? No
Material Category Ceilings	Friable Classification Friable	EPA Category Friable	Total Quantity 3,050	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment No Assessment, Non-asbestos	Recommended Response	

General Material Comments

Material Location(s)
 THROUGHOUT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
ct-4-156-H04-A			Yes	0	1) Ceiling Tile 2) 3)	Non Detected
ct-4-156-H04-B			Yes	0	1) Ceiling Tile 2) 3)	Non Detected
ct-4-156-H04-C			Yes	0	1) Ceiling Tile 2) 3)	Non Detected
ct-4-156-H04-D			Yes	0	1) Ceiling Tile 2) 3)	Non Detected
ct-4-156-H04-E			Yes	0	1) Ceiling Tile 2) 3)	Non Detected

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date

Monday, November 5, 2001

<i>Material Description</i> Wallboard			<i>Material Number</i> WLBD-5	<i>Asbestos Present?</i> No
<i>Material Category</i>	<i>Frable Classification</i> Non-Friable	<i>EPA Category</i> Category II	<i>Total Quantity</i> 15,100	<i>Unit of Measure</i> Square Feet
<i>General Condition</i>	<i>Damage Category</i>	<i>Overall Material Assessment</i> No Assessment, Non-asbestos	<i>Recommended Response</i>	
<i>General Material Comments</i>				

Material Location(s)
THROUGHOUT

<i>Sample ID(s)</i>	<i>Sample Location(s)</i>	<i>Floor</i>	<i>Analyzed</i>	<i>Overall Result</i>	<i>Layer(s) Reported by Lab</i>	<i>Results by Layer</i>
WLBD-5-156-H05-A			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-B			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-C			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-D			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-E			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-F			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-G			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-H			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-I			Yes	0	1) Wallboard 2) 3)	Non Detected
WLBD-5-156-H05-J			Yes	0	1) Wallboard 2) 3)	Non Detected

Section 4 Material Information Tables

Site Information
Army 87th EOD (Site ID: 3-15 Yrs.)

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<i>Material Description</i>			<i>Material Number</i>	<i>Asbestos Present?</i>
Plaster			PL-6	No
<i>Material Category</i>	<i>Friable Classification</i>	<i>EPA Category</i>	<i>Total Quantity</i>	<i>Unit of Measure</i>
Surfacing	Friable	Friable	6,900	Square Feet
<i>General Condition</i>	<i>Damage Category</i>	<i>Overall Material Assessment</i>	<i>Recommended Response</i>	
		No Assessment, Non-asbestos		

General Material Comments

Material Location(s)
CENTER

<i>Sample ID(s)</i>	<i>Sample Location(s)</i>	<i>Floor</i>	<i>Analyzed</i>	<i>Overall Result</i>	<i>Layer(s) Reported by Lab</i>	<i>Results by Layer</i>
pl-6-156-H06-A			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-B			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-C			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-D			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-E			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-F			Yes	0	1) Plaster 2) 3)	Non Detected
pl-6-156-H06-G			Yes	0	1) Plaster 2) 3)	Non Detected

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

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Material Description 1" Pipe Insulation TSI			Material Number PI-7	Asbestos Present? Yes
Material Category TSI	Friable Classification Friable	EPA Category Friable	Total Quantity 1,400	Unit of Measure Linear Feet
General Condition	Damage Category	Overall Material Assessment	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)

THROUGHOUT AND BASEMENT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
pi-7-156-H07-A			Yes	30%	1) Pipe Insulation 2) Pipe Insulation 3)	20-30 % Chrysotile 5-10 % Amosite
pi-7-156-H07-B			No	Not Avail.	1) Pipe Insulation 2) 3)	
pi-7-156-H07-C			No	Not Avail.	1) Pipe Insulation 2) 3)	

Material Description 1" Pipe Elbows TSI			Material Number PE-8	Asbestos Present? Yes
Material Category TSI	Friable Classification Friable	EPA Category Friable	Total Quantity 215	Unit of Measure Linear Feet
General Condition	Damage Category	Overall Material Assessment	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)

THROUGHOUT AND BASEMENT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
pe-8-156-H08-A			Yes	30%	1) TSI Elbow 2) TSI Elbow 3)	20-30 % Chrysotile 5-10 % Amosite
pe-8-156-H08-B			No	Not Avail.	1) TSI Elbow 2) 3)	
pe-8-156-H08-C			No	Not Avail.	1) TSI Elbow 2) 3)	

Section 4 Material Information Tables

Site Information
Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date
Monday, November 5, 2001

Material Description 2" Pipe Insulation TSI			Material Number PI-9	Asbestos Present? Yes
Material Category TSI	Friable Classification Friable	EPA Category Friable	Total Quantity 700	Unit of Measure Linear Feet
General Condition	Damage Category	Overall Material Assessment	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)
 THROUGHOUT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
pi-9-156-H09-A			Yes	30%	1) Pipe Insulation 2) Pipe Insulation 3)	20-30 % Amosite 1-5 % Chrysotile
pi-9-156-H09-B			No	Not Avail.	1) Pipe Insulation 2) 3)	
pi-9-156-H09-C			No	Not Avail.	1) Pipe Insulation 2) 3)	

Material Description 2" Pipe Elbows TSI			Material Number PE-10	Asbestos Present? Yes
Material Category TSI	Friable Classification Friable	EPA Category Friable	Total Quantity 11	Unit of Measure Linear Feet
General Condition	Damage Category	Overall Material Assessment	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)
 THROUGHOUT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
pe-10-156-H10-A			Yes	20%	1) TSI Elbow 2) TSI Elbow 3)	10-20 % Chrysotile 10-20 % Amosite
pe-10-156-H10-B			No	Not Avail.	1) TSI Elbow 2) 3)	
pe-10-156-H10-C			No	Not Avail.	1) TSI Elbow 2) 3)	

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date

Monday, November 5, 2001

Material Description 9" Brown Floor Tile			Material Number FT-11	Asbestos Present? Yes
Material Category Flooring	Friable Classification Non-Friable	EPA Category Category I	Total Quantity 50	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment Not Assessed under AHERA	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)
1ST FLOOR CENTER

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
ft-11-02-6994-156-4	Room 215		Yes	8%	1) Floor Tile 2) 3)	8 % Chrysotile
ft-11-02-6995-156-5	Room 217		Yes	8%	1) Floor Tile 2) 3)	8 % Chrysotile
ft-11-02-6996-156-6	C201 at Room 213		Yes	8%	1) Floor Tile 2) 3)	8 % Chrysotile

Material Description Brown Stair Floor Tile			Material Number FT-12	Asbestos Present? 0
Material Category Flooring	Friable Classification Non-Friable	EPA Category Category I	Total Quantity 400	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment Not Assessed under AHERA	Recommended Response	

General Material Comments
Material has been removed

Material Location(s)
SOUTH CENTER

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
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Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date

Monday, November 5, 2001

Material Description Fire Door			Material Number FD-13	Asbestos Present? Yes (assumed)
Material Category Miscellaneous	Friable Classification Non-Friable	EPA Category Category II	Total Quantity 400	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment Not Assessed under AHERA	Recommended Response Abate Prior to Demolition	

General Material Comments

Material Location(s)

CENTER

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
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Material Description Floor Tile Mastic			Material Number MASTIC-14	Asbestos Present? Yes
Material Category Miscellaneous	Friable Classification Non-Friable	EPA Category Category II	Total Quantity 4,700	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment Not Assessed under AHERA	Recommended Response	

General Material Comments

Material Location(s)

THROUGHOUT

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
MASTIC-14-02-6997-156-7	Room 210		Yes	0	1) Mastic 2) 3)	Non Detected
MASTIC-14-02-6998-156-8	Room 215		Yes	0	1) Mastic 2) 3)	Non Detected
MASTIC-14-02-6999-156-9	Room 215		Yes	Trace	1) Mastic 2) 3)	<1 % Chrysotile

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

Inspection Date

Monday, November 5, 2001

Material Description Wall - Mastic			Material Number WLMAS-15	Asbestos Present? No
Material Category Walls	Friable Classification Non-Friable	EPA Category Category II	Total Quantity	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment No Assessment, Non-asbestos	Recommended Response Manage in Place	

General Material Comments

Material Location(s)

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
WLMAS-15-02-7003-156-13	C201 at Rooms 211 and 213		Yes	0	1) Mastic 2) 3)	Non Detected
WLMAS-15-02-7004-156-14	C201 at Rooms 211 and 213		Yes	0	1) Mastic 2) 3)	Non Detected
WLMAS-15-02-7005-156-15	C201 at Rooms 211 and 213		Yes	0	1) Mastic 2) 3)	Non Detected

Material Description Roofing Material Patch			Material Number RM-16	Asbestos Present? No
Material Category Roofing	Friable Classification Non-Friable	EPA Category Category I	Total Quantity	Unit of Measure Square Feet
General Condition	Damage Category	Overall Material Assessment No Assessment, Non-asbestos	Recommended Response Manage in Place	

General Material Comments

Material Location(s)

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
RM-16-02-7215-156-3	Middle	roof	Yes	0%	1) Roofing material 2) 3)	Non Detected

Section 4 Material Information Tables

Site Information

Army 87th EOD (Site ID: 3-15 Yrs.)

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<i>Material Description</i>			<i>Material Number</i>	<i>Asbestos Present?</i>
Roofing Material Penetration Tar			RM-17	No
<i>Material Category</i>	<i>Friable Classification</i>	<i>EPA Category</i>	<i>Total Quantity</i>	<i>Unit of Measure</i>
Roofing	Non-Friable	Category I		Square Feet
<i>General Condition</i>	<i>Damage Category</i>	<i>Overall Material Assessment</i>	<i>Recommended Response</i>	
		No Assessment, Non-asbestos	Manage in Place	

General Material Comments

Material Location(s)

Sample ID(s)	Sample Location(s)	Floor	Analyzed	Overall Result	Layer(s) Reported by Lab	Results by Layer
RM-17-02-7216-156-4	N/E roof	roof	Yes	0%	1) Roof penetration 2) 3)	Non Detected
RM-17-02-7217-156-5	S/W roof	roof	Yes	0%	1) Roof penetration 2) 3)	Non Detected

Building	Floor	Sample #	Sample Location	Room	Material Samples	%/Type
156	Roof	02-7213-156-1	East Roof	Roof	Roofing Material Core	Non Detected
156	2	02-6992-156-1	Room 210	210	12" Tan Floor Tile	Non Detected
156	2	02-6993-156-2	C201 at Room 216	216	12" Tan Floor Tile	Non Detected
156	2	02-6993-156-3	C201 at Room 220	220	12" Tan Floor Tile	Non Detected
156	2	02-6994-156-4	Room 215	215	9" Brown Floor Tile	8% Chrysotile
156	2	02-6995-156-5	Room 217	217	9" Brown Floor Tile	8% Chrysotile
156	2	02-6996-156-6	C201 at Room 213	213	9" Brown Floor Tile	8% Chrysotile
156	2	02-6997-156-7	Room 210	210	Floor Tile Mastic	Non Detected
156	2	02-6998-156-8	Room 215	215	Floor Tile Mastic	Non Detected
156	2	02-6999-156-9	Room 215	215	Floor Tile Mastic	<1% Chrysotile
156	2	02-7000-156-10	C201 at Room 209	209	Coving Mastic	Non Detected
156	2	02-7001-156-11	Room 213	213	Coving Mastic	Non Detected
156	2	02-7002-156-12	Room 217	217	Coving Mastic	Non Detected
156	2	02-7003-156-13	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	2	02-7004-156-14	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	2	02-7005-156-15	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	roof	02-7214-156-2	West Roof	Roof	Roofing Material Core	Non Detected
156	roof	02-7215-156-3	Middle	Roof	Roofing Material Patch	Non Detected
156	roof	02-7216-156-4	N/E roof	Roof	Roofing Material Penetration Tar	Non Detected
156	roof	02-7217-156-5	S/W roof	Roof	Roofing Material Penetration Tar	Non Detected
Pre-Existing Survey						
156		156-H04-A			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-B			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-C			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-D			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-E			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H05-A			Wallboard	Non Detected
156		156-H05-B			Wallboard	Non Detected
156		156-H05-C			Wallboard	Non Detected
156		156-H05-D			Wallboard	Non Detected
156		156-H05-E			Wallboard	Non Detected
156		156-H05-F			Wallboard	Non Detected
156		156-H05-G			Wallboard	Non Detected
156		156-H05-H			Wallboard	Non Detected
156		156-H05-I			Wallboard	Non Detected
156		156-H05-J			Wallboard	Non Detected

Building	Floor	Sample #	Sample Location	Room	Material Samples	%/Type
156		156-H06-A			Plaster	Non Detected
156		156-H06-B			Plaster	Non Detected
156		156-H06-C			Plaster	Non Detected
156		156-H06-D			Plaster	Non Detected
156		156-H06-E			Plaster	Non Detected
156		156-H06-F			Plaster	Non Detected
156		156-H06-G			Plaster	Non Detected
156		156-H07-A			1" Pipe Insulation TSI	20-30% Chrysotile
156		156-H07-B			1" Pipe Insulation TSI	
156		156-H07-C			1" Pipe Insulation TSI	
156		156-H08-A			1" Pipe Elbows TSI	20-30% Chrysotile
156		156-H08-B			1" Pipe Elbows TSI	
156		156-H08-C			1" Pipe Elbows TSI	
156		156-H09-A			2" Pipe Insulation TSI	20-30% Amosite
156		156-H09-B			2" Pipe Insulation TSI	
156		156-H09-C			2" Pipe Insulation TSI	
156		156-H10-A			2" Pipe Elbows TSI	10-20% Chrysotile
156		156-H10-B			2" Pipe Elbows TSI	
156		156-H10-C			2" Pipe Elbows TSI	

Building	Floor	Sample #	Sample Location	Room	Material Samples	%/Type
156	Roof	02-7213-156-1	East Roof	Roof	Roofing Material Core	Non Detected
156	2	02-6992-156-1	Room 210	210	12" Tan Floor Tile	Non Detected
156	2	02-6993-156-2	C201 at Room 216	216	12" Tan Floor Tile	Non Detected
156	2	02-6993-156-3	C201 at Room 220	220	12" Tan Floor Tile	Non Detected
156	2	02-6994-156-4	Room 215	215	9" Brown Floor Tile	8% Chrysotile
156	2	02-6995-156-5	Room 217	217	9" Brown Floor Tile	8% Chrysotile
156	2	02-6996-156-6	C201 at Room 213	213	9" Brown Floor Tile	8% Chrysotile
156	2	02-6997-156-7	Room 210	210	Floor Tile Mastic	Non Detected
156	2	02-6998-156-8	Room 215	215	Floor Tile Mastic	Non Detected
156	2	02-6999-156-9	Room 215	215	Floor Tile Mastic	<1% Chrysotile
156	2	02-7000-156-10	C201 at Room 209	209	Coving Mastic	Non Detected
156	2	02-7001-156-11	Room 213	213	Coving Mastic	Non Detected
156	2	02-7002-156-12	Room 217	217	Coving Mastic	Non Detected
156	2	02-7003-156-13	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	2	02-7004-156-14	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	2	02-7005-156-15	C201 at Rooms 211 and 213	201	Wall - Mastic	Non Detected
156	roof	02-7214-156-2	West Roof	Roof	Roofing Material Core	Non Detected
156	roof	02-7215-156-3	Middle	Roof	Roofing Material Patch	Non Detected
156	roof	02-7216-156-4	N/E roof	Roof	Roofing Material Penetration Tar	Non Detected
156	roof	02-7217-156-5	SW roof	Roof	Roofing Material Penetration Tar	Non Detected
Pre-Existing Survey						
156		156-H04-A			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-B			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-C			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-D			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H04-E			2' x 4' Pinhole Ceiling Tile	Non Detected
156		156-H05-A			Wallboard	Non Detected
156		156-H05-B			Wallboard	Non Detected
156		156-H05-C			Wallboard	Non Detected
156		156-H05-D			Wallboard	Non Detected
156		156-H05-E			Wallboard	Non Detected
156		156-H05-F			Wallboard	Non Detected
156		156-H05-G			Wallboard	Non Detected
156		156-H05-H			Wallboard	Non Detected
156		156-H05-I			Wallboard	Non Detected
156		156-H05-J			Wallboard	Non Detected

Building	Floor	Sample #	Sample Location	Room	Material Samples	%/Type
156		156-H06-A			Plaster	Non Detected
156		156-H06-B			Plaster	Non Detected
156		156-H06-C			Plaster	Non Detected
156		156-H06-D			Plaster	Non Detected
156		156-H06-E			Plaster	Non Detected
156		156-H06-F			Plaster	Non Detected
156		156-H06-G			Plaster	Non Detected
156		156-H07-A			1" Pipe Insulation TSI	20-30% Chrysotile
156		156-H07-B			1" Pipe Insulation TSI	
156		156-H07-C			1" Pipe Insulation TSI	
156		156-H08-A			1" Pipe Elbows TSI	20-30% Chrysotile
156		156-H08-B			1" Pipe Elbows TSI	
156		156-H08-C			1" Pipe Elbows TSI	
156		156-H09-A			2" Pipe Insulation TSI	20-30% Amosite
156		156-H09-B			2" Pipe Insulation TSI	
156		156-H09-C			2" Pipe Insulation TSI	
156		156-H10-A			2" Pipe Elbows TSI	10-20% Chrysotile
156		156-H10-B			2" Pipe Elbows TSI	
156		156-H10-C			2" Pipe Elbows TSI	

Section 5 Removal Cost Estimate Summary

These estimates are for budgeting purposes only and should not be used as a quote for removal of the materials. It is not our recommendation to remove these materials unless they are beyond repair, or planned demolition or renovation activities will disturb the materials. Estimates are based on recent pricing we have received from contractors performing similar work and may vary from actual prices obtained due to the actual scope of work, quantity of material removed, control measures specified and contractor work loads, etc.

Building Army 87th EOD				QTY. Units Removal Costs (low to high)
HM	EPA Category	Suspect Material	Material Location	
7	Friable	1" Pipe Insulation TSI	THROUGHOUT AND BASEMENT	1,400 Linear Feet \$21000 to \$28000
8	Friable	1" Pipe Elbows TSI	THROUGHOUT AND BASEMENT	215 Linear Feet \$4300
9	Friable	2" Pipe Insulation TSI	THROUGHOUT	700 Linear Feet \$10500 to \$14000
10	Friable	2" Pipe Elbows TSI	THROUGHOUT	11 Linear Feet \$500
11	Category I	9" Brown Floor Tile	1ST FLOOR CENTER	50 Square Feet \$500
13	Category II	Fire Door	CENTER	400 Square Feet \$60000

HM	Building EPA Category	Suspect Material	Material Location	QTY. Units Removal Costs (low to high)
14	Category II	Floor Tile Mastic	THROUGHOUT	4,700 Square Feet \$4700 to \$9400
Total Removal Costs:			\$101,500	to \$116,700

Appendix A
Definitions of Terms and Assessment Criteria

Definitions of Terms and Assessment Criteria

This survey report organizes information on each suspect ACBM identified in tables located in Section 4. This section describes how to interpret the data found on materials listed in Section 4.

Material description contains the description of the suspect homogeneous asbestos containing building material.

Material Serial Number is used to reference the material for reinspections, etc..

Asbestos type and content describes the type of asbestos and its percentage in the material.

Asbestos Results for positive materials are shown as a percentage. Samples having less than 1% asbestos are reported as containing "Trace" amounts of asbestos and samples with no detected asbestos are reported as "BLD" or below limit of detection.

Sample number(s) identifies a particular material sample obtained from a specific sample location. Sample numbers are used primarily for laboratory identification.

Sample Location identifies where the samples of this material were obtained.

Material Category categorizes each material as surfacing, TSI or miscellaneous.

Surfacing Materials - Asbestos containing materials that are sprayed-on, trowled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

Thermal Systems Insulation (TSI) - Asbestos containing materials applied to pipes, fittings, boilers, breaching, tanks, ducts or other interior structural components to prevent heat loss or gain or water condensation.

Miscellaneous Materials - Asbestos containing materials applied to or a part of building components that are not classified as surfacing materials or thermal systems insulation.

Quantity & Units reports approximate total quantity per unit of measure for each material.

Building(s) & Floor(s) specifies where a material is located.

Material Location describes where the material is found throughout the building.

Material Condition identifies the material as Friable, Non-friable or Jacketed (for thermal systems insulation only) if asbestos is present.

Friable - An asbestos containing material that can be crumbled, pulverized or reduced to powder, when dry, by hand pressure, such as spray applied fireproofing on structural steel members, spray applied acoustical ceiling materials or damaged thermal systems insulation. Friable materials are of greatest concern due to their potential fiber release.

Non-Friable - An asbestos containing material where the asbestos is bound tightly in a matrix or sealed by a protective layer. Non-friable materials can become friable by being rendered to a crumbled, pulverized or powdered state, when dry, by crushing, sanding, sawing, shot-blasting, severe weathering or by other mechanically induced means. Common examples of non-friable materials are adhesives, floor tiles, transite and roofing materials.

Jacketed - An asbestos containing material applied to thermal systems insulation and "jacketed" with a protective outer layer such as canvas or metal to keep the material in good condition. Undamaged jacketed ACBM is considered non-friable. If the jacketing is damaged, the material is considered friable.

Damage Category describes the type of damage, if any, to the material. The following damage categories are used: None, Physical, Air, and Water.

Material Assessment identifies the condition of the material in relation to physical and water damage, delamination of the material from its substrate, the extent of the damage and the potential for damage from building conditions, such as, accessibility by building occupants, influence of vibration, etc. The six standard assessment categories ranked by hazard potential, with the first being the lowest hazard are as follows: 1) Potential for Damage, 2) Potential for Significant Damage, 3) Damaged, 4) Damaged with Potential for Damage, 5) Damaged with Potential for Significant Damage, and 6) Significantly Damaged. Only friable materials are assessed under AHERA regulations. Non-friable materials, unless damaged, are not assessed and can be assumed to be in good condition.

Damaged - The damage or deterioration of the material results in inadequate cohesion or adhesion with crumbling, blistering, water stains, marring or otherwise abraded over less than one-tenth (1/10) of the surface if the damage is evenly distributed or one-fourth (1/4) if the damage is localized.

Significant Damage - The damage or deterioration of the material results in inadequate adhesion or cohesion and the damage is extensive and severe with one or more of the following characteristics: 1) Crumbling or blistering over at least one-tenth (1/10) of the surface if evenly distributed, one-fourth (1/4) if the damage is localized; 2) Areas of the material hanging from the surface, delaminated, or showing adhesive failure; 3) Water stains, gouges or marred.

Recommended Response suggests the appropriate options for controlling or maintaining ACBM in a safe manner. There are four options used:

Operations & Maintenance (O&M) - A program designed to "manage" asbestos in-place. As long as asbestos containing materials remain in a building, an O&M program should be instituted to alert maintenance personnel, custodial workers and outside vendors of the existence and location of these materials and to set a policy for the maintenance of these materials. The material is usually only required to be removed if it is significantly damaged, prior to demolition of the building or if it will be disturbed by renovation activities.

Repair - The restoration of damaged or deteriorated asbestos containing building materials to an intact condition. Once the intact condition is established, the material should be included in an O&M program. The material is usually only required to be removed if it is significantly damaged, prior to demolition of the building or if it will be disturbed by renovation activities.

Abate Due to Condition - This material is significantly damaged and is unsafe in its current condition. The access to the area should be restricted to personnel equipped with appropriate personal protection. This material should be properly removed by a licensed contractor using workers trained in the safe removal of asbestos.

Abate Prior to Renovation - This material should be properly removed prior to planned renovation activities by a licensed contractor using workers trained in the safe removal of asbestos. This recommendation is usually made only on survey reports prepared prior to planned renovation activities.

Comments & Damage Description contains any additional information and or specific details of material damage are noted here.

EPA Category provides the appropriate material category as outlined in the NESHAPS regulation. The four options are friable, Category 1, Category 2, and needs determination.

Friable - Materials containing greater than 1% asbestos are always considered Regulated Asbestos Containing Materials (RACM) that require removal prior to building renovation or demolition activities that impact the material.

Category 1 - Materials that are bituminous non-friable and contain more than 1% asbestos that become RACM and require removal only when will be subject to grinding, cutting, sanding or abrading.

Appendix B
Bulk Sampling Protocol and Analytical Methods

Bulk Sampling Protocol and Analytical Methods

Bulk samples of suspect asbestos containing building materials were obtained using standard industrial hygiene techniques including wetting the material to minimize fiber release. Our personnel wore half-face air purifying respirators equipped with high efficiency particulate (HEPA) filters while obtaining samples

Our sampling strategy for suspect friable surfacing materials was based on the guidelines outlined in the EPA publication *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*, and the procedures outlined in 40 CFR 763, Subpart E (AHERA). For non-friable suspect materials, AHERA requires the building inspector to determine the appropriate number of samples to obtain and analyze. Usually one to three samples of non-friable materials are collected.

For each homogeneous material identified by visual inspection as suspect material, random samples are obtained. A single bulk sample is randomly selected from each homogeneous material for first-round testing. If the sample is positive, the remaining samples are not analyzed; if the sample is negative, the other samples are submitted for study. Every sample must be reported negative if the material is to be considered non-asbestos containing.

The bulk samples were delivered to an independent laboratory that participates in the bulk sample proficiency analysis program conducted by the United States Environmental Protection Agency and is accredited by the National Voluntary Laboratory Program (NVLAP). The samples were analyzed using Polarized Light Microscopy (PLM) with dispersion staining to estimate the percent of asbestos composition by volume. Samples with no observable asbestiform minerals are designated as None-Detected. Samples in which asbestiform minerals are observed, but exist in concentrations of less than one percent (<1%), are designated as present in Trace amounts; all other samples are designated as asbestos containing with the appropriate percent of asbestos noted.

Appendix C
Laboratory Bulk Sampling Reports

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

Asbestos Identification by EPA Method 600/R-93/116

ACCOUNT: 2541-02-411
CLIENT: Benchmark
ADDRESS: 3732 Charter Park Drive Suite A
San Jose, CA 95136

DATE COLLECTED:
DATE RECEIVED: 1/31/2002
DATE ANALYZED: 1/31/2002
DATE REPORTED: 1/31/2002

PO NO.:
PROJECT NAME:
PROJECT NO.: E01-612
JOB LOCATION: NASA Bldg. 156

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
02-6992-156-1 ✓ 02	2157631 Layer 1: 100% Non-Asbestos	Rm 210 Floor Tile	No	Beige, Organically Bound CELLULOSE FIBER < 1%, NON FIBROUS MATERIAL 100%
02-6993-156-2 ✓ 02	2157632 Layer 1: 100% Non-Asbestos	C201 @rm 216 Floor Tile	No	Beige, Organically Bound NON FIBROUS MATERIAL 100%
02-6993-156-3 ✓ 02	2157633 Layer 1: 100% Non-Asbestos	C201 @rm 220 Floor Tile	No	Beige, Organically Bound NON FIBROUS MATERIAL 100%
02-6994-156-4 ✓ 11	2157634 Layer 1: 8% Asbestos 92% Non-Asbestos	Rm 215 Floor Tile	Yes	Brown, Organically Bound CHRYSOTILE 8% NON FIBROUS MATERIAL 92%
02-6995-156-5 ✓ 11	2157635 Layer 1: 8% Asbestos 92% Non-Asbestos	Rm 217 Floor Tile	Yes	Brown, Organically Bound CHRYSOTILE 8% NON FIBROUS MATERIAL 92%

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

ACCOUNT - WORKORDER: 2541-02-411

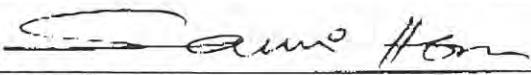
Page 2 (Continued)

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
02-6996-156-6 ✓ 11	2157636 Layer 1:	C201 @rm 213 Floor Tile	Yes	Brown, Organically Bound CHRYSTOLE 8% NON FIBROUS MATERIAL 92%
02-6997-156-7 ✓ 14	2157637 Layer 1:	W/sample 1 Mastic 210	No	Tan, Brittle NON FIBROUS MATERIAL 100%
02-6998-156-8 ✓ 14	2157638 Layer 1:	W/sample 4 Mastic 215	No	Black, Soft NON FIBROUS MATERIAL 100%
02-6999-156-9 ✓ 14	2157639 Layer 1:	W/sample 5 Mastic 215	Yes	Black, Soft CHRYSTOLE < 1% NON FIBROUS MATERIAL 100% <i>Sample possibly contaminated from associated materials.</i>
02-7000-156-10 ✓ 03	2157640 Layer 1:	C201 @rm 209 Mastic	No	Tan, Brittle NON FIBROUS MATERIAL 96%, WOLLASTONITE 4%
02-7001-156-11 ✓ 03	2157641 Layer 1:	Rm 213 Mastic	No	Tan, Brittle NON FIBROUS MATERIAL 96%, WOLLASTONITE 4%
02-7002-156-12 ✓ 03	2157642 Layer 1:	Rm 217 Mastic	No	Brown, Brittle NON FIBROUS MATERIAL 96%, WOLLASTONITE 4%
02-7003-156-13 ✓ 15	2157643 Layer 1:	C201 @rm 211/213 Mastic	No	Brown, Brittle, Soft NON FIBROUS MATERIAL 100%
02-7004-156-14 ✓ 15	2157644 Layer 1:	C201 @rm 211/213 Mastic	No	Brown, Brittle, Soft NON FIBROUS MATERIAL 100%
02-7005-156-15 ✓ 15	2157645 Layer 1:	C201 @rm 211/213 Mastic	No	Brown, Brittle NON FIBROUS MATERIAL 100%

ANALYST: LORI A. PEREZ

Total no. of pages in report = 2

REVIEWED BY


 Sami A. Hosn, Analyst

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

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Excellence in Service and Technology

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

LABORATORY ANALYSIS REPORT

Asbestos Identification by EPA Method 600/R-93/116

ACCOUNT: 2541-02-556
CLIENT: Benchmark
ADDRESS: 3732 Charter Park Drive Suite A
San Jose, CA 95136

DATE COLLECTED: 4/30/2002
DATE RECEIVED: 5/1/2002
DATE ANALYZED: 5/8/2002
DATE REPORTED: 5/8/2002

PO NO.:
PROJECT NAME:
PROJECT NO.: E01-612
JOB LOCATION: Bldg 156

Client Sample No.	SLI Sample/ Layer ID	Sample Identification/ Layer Name	Asbestos Detected (Yes/No)	Sample Description
02-7213-156-1	2264002 Layer 1: 100% Non-Asbestos	E Roof Roof	No	Black, Bituminous CELLULOSE FIBER 10%, NON FIBROUS MATERIAL 90%
02-7214-156-2	2264003 Layer 1: 100% Non-Asbestos	W Roof Roof	No	Black, Bituminous CELLULOSE FIBER 12%, NON FIBROUS MATERIAL 88%
02-7215-156-3	2264004 Layer 1: 100% Non-Asbestos	Middle Patch	No	Black, Bituminous NON FIBROUS MATERIAL 100%
02-7216-156-4	2264005 Layer 1: 100% Non-Asbestos	N/E Roof Penetration Tar	No	Black, Bituminous NON FIBROUS MATERIAL 100%
02-7216-156-5	2264006 Layer 1: 100% Non-Asbestos	S/W Roof Penetration Tar	No	Black, Bituminous NON FIBROUS MATERIAL 100%

ANALYST: BEVERLY A. SCHRAGE

Total no. of pages in report = 7

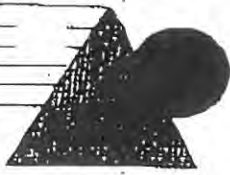


REVIEWED BY

Sami A. Hosn, Analyst

Samples analyzed by the EPA Test Method are subject to the inherent limitations of light microscopy including interference by matrix components. Gravimetric reduction and correlative analyses are recommended for all non-friable, organically bound materials. For calibrated visual estimate, 1% is the concentration at which there is a quantitative uncertainty. This report relates only to the items tested, must not be reproduced except in full with the approval of the lab, and must not be used to claim NVLAP or other government agency endorsement.

2541-02-411



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: ED1-612

Date: 1/29/02

Technician: J. McFarlane

Project Location: NASA BLDG. 156

Client Name: K. McCLOTHLIN

Company: PAI

Project Type	Type Of Analysis	Turnaround Time
<u>Asbestos</u>	<u>PLM/Bulk (EPA 600)</u>	Same Day 3 Hr 6 Hr
Lead-based Paint	EPA SW846-7420, FLAA	<u>24 Hour</u>
Lead Risk Assessment	Dus Wipes, Paint Chips	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: _____	TTP = Test Till Positive

Homogenous Material Group	Material / Component	Sample Number	Location Of Samples	Analysis Specification
2	12x12 TAN FT	02-6992-156-1	ROOM 210	
		02-6993-156-2	C201 AT ROOM 216 (TLB ONLY)	
		02-6993-156-3	C201 AT ROOM 220 (TLB ONLY)	
11	9x9 BROWN FT	02-6994-156-4	ROOM 215	
		02-6995-156-5	ROOM 217	
		02-6996-156-6	C201 AT ROOM 213 (TLB ONLY)	
14	FLOR MASTIC	02-6997-156-7	w/ sample 1	
		02-6998-156-8	w/ sample 4	
		02-6999-156-9	w/ sample 5	
03	Base coating MASTIC	7000 02-6999-156-10	C 201 AT ROOM 209	
		7001 02-7000-156-11	ROOM 213	
		7002 02-7001-156-12	ROOM 217	
15	wall board MASTIC	7003 02-7002-156-13	C201 AT ROOM 211/213	
		7004 02-7003-156-14		
		7005 02-7004-156-15		

Relinquished By: J. McFarlane Received By: Dennis Simmons Date/Time Received: 1-31-02 4:30

UPS 1225289122 (0143182)

Appendix D
Summary of Regulatory Requirements

Appendix D Summary of Regulatory Requirements

This appendix provides a summary of building owner and manager requirements under various asbestos regulations promulgated by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) to protect building occupants and employees from exposure to asbestos.

Survey Requirements

Prior to any renovation activity, OSHA and EPA regulations require that a complete asbestos survey be performed to determine if asbestos is present in any suspect asbestos containing material that will be present in the construction or work area. This survey report addresses accessible materials. It is recommended that prior to renovation activities, inaccessible areas that could contain asbestos materials be inspected.

Notification and Posting Requirements

Regulatory agencies feel that the building owner or manager should be responsible for knowing and communicating the locations of asbestos in their buildings to building employees, outside contractors and tenants to prevent exposure to asbestos.

Under the California Health and Safety Code, building owners and managers are required to provide annual notifications regarding known asbestos containing materials in their buildings to building employees, tenants, vendors and outside contractors. Therefore, specific information contained in this survey report is required to be included in the notification.

OSHA requires building employees, outside contractors, vendors and construction contractors bidding on or performing work in buildings be provided with notification regarding asbestos containing materials in their work areas. OSHA also requires that asbestos warning signs be posted in mechanical rooms.

Removal Requirements

Under EPA regulations, asbestos containing materials must be properly removed by licensed asbestos abatement contractors prior to renovation or demolition activities that would disturb friable materials or cause non-friable materials to become friable and a regulated material.

Repair of Damaged Materials and Cleanup of Debris

OSHA requires that asbestos containing debris be immediately cleaned up. It is recommended that damaged materials that may release fibers be repaired as soon as possible to prevent fiber release and potential exposures.

Training Requirements

OSHA requires employers whose employees are likely to or required to disturb asbestos to receive an asbestos training course. Refresher training is required to be provided annually.

Appendix E
AHERA Building Inspector Certifications

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

Terri A. MacFarlane



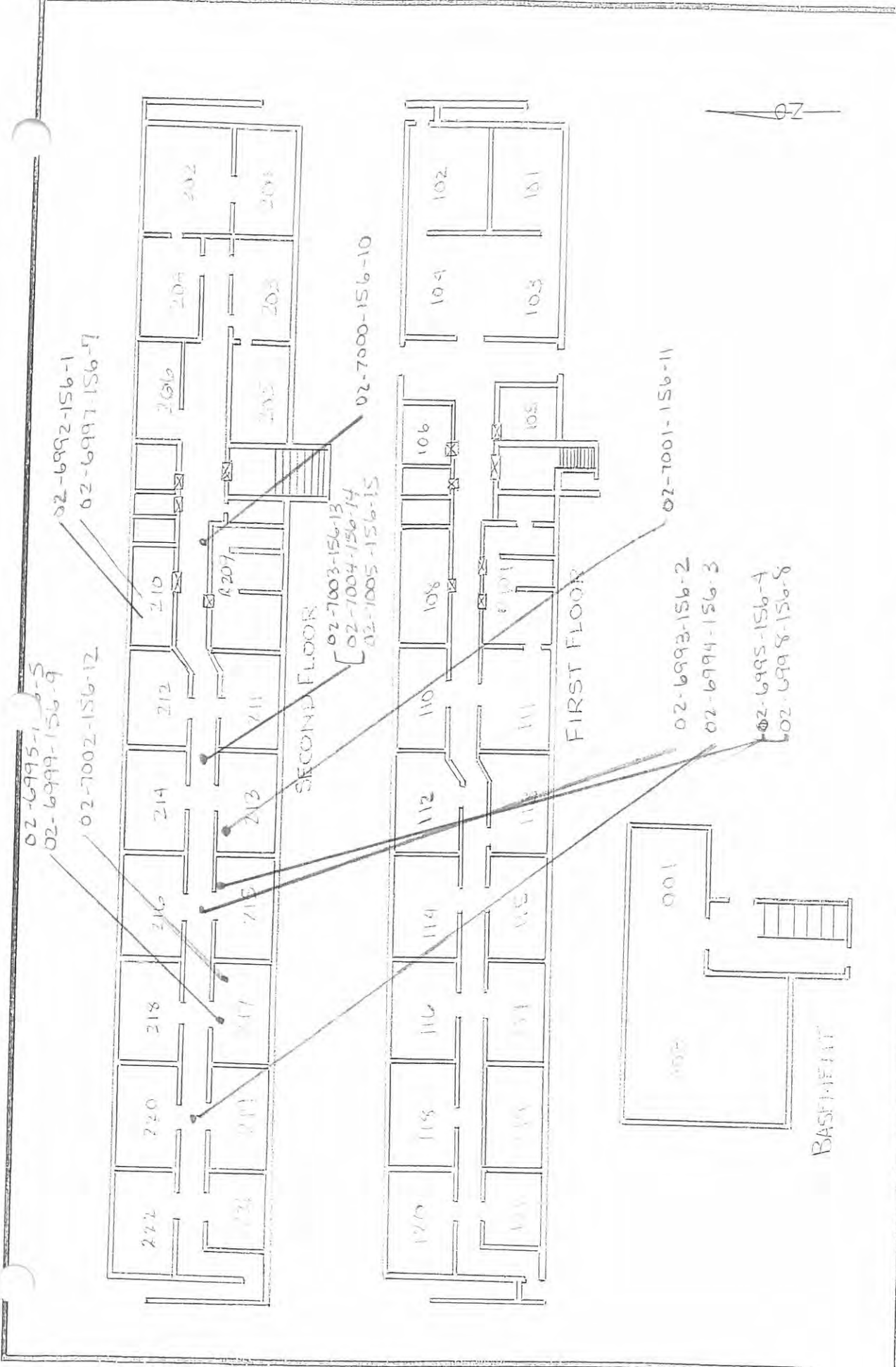
Name

Certification No. 90-2747

Expires on 5/3/2002

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Appendix F
Drawings Indicating Sampling Locations



	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 156 NASA-AMES 3-15 Years Out	DRAFT PERSON: WLB	DATE: 6/1	DWG. No. 1
	PROJECT No. E01-612-AL-SU					