



MOLD, BACTERIA AND BIRD FECES STUDY

**US Army Corps of Engineers
South Pacific Division Laboratory
25 Liberty Ship Way
Sausalito, California 94965**

December 1, 2004

Project No.: U04-2732



ADVANCED SOLUTIONS GROUP, LLC

MOLD, BACTERIA AND BIRD FECES INVESTIGATION REPORT

**US ARMY CORPS OF ENGINEERS
SOUTH PACIFIC DIVISION LABORATORY
25 LIBERTY SHIP WAY
SAUSALITO, CALIFORNIA 94965**

PROJECT NO.: U04-2732

DECEMBER 1, 2004

Prepared for:

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ADVANCED SOLUTIONS GROUP, LLC

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1.0 EXECUTIVE SUMMARY

On October 26, 2004, an indoor air quality (IAQ) investigation was conducted by Advanced Solutions Group (ASG) at the United States Army Corps of Engineers (USACOE) South Pacific Division Laboratory located at 25 Liberty Ship Way in Sausalito, Marin County, California. The purpose of the investigation was to evaluate mold, bacteria, and bird feces, which have previously been visually identified within the building.

The subject building is a two-story unoccupied building, which was constructed in the late-1940s. The building has been vacant since 1997 and contains a total of approximately 37,800 square feet. Previous episodes of water intrusion were observed in various locations inside the building. In addition, numerous pigeons and other fowl, have been occupying the building.

Our visual and laboratory findings found the following:

- Mold/Fungi – *Stachybotrys* was found on the interior air samples where the visible black growth was observed to be most concentrated and visual evidence of significant water damage was apparent. This species, as well as *Aspergillus/Penicillium* and *Fusarium*, which were also found, has been known to produce mycotoxins. Also, relatively high concentrations *Yeast* were found on the water damaged ceiling tiles and wood floors. In addition, *Stachybotrys* and *Aspergillus*, which may also produce mycotoxins, were found on the surfaces in the southwest areas on levels 1 and 2, where the heaviest visual growth was observed.
- Bacteria - Various bacteria species were identified from sampling of the bird droppings and these species are believed to be opportunistic pathogens, which may cause illnesses. In addition, *Brevibacterium* was found on the concrete floor below the bird droppings. This species is believed to be an opportunistic pathogen, which may also cause illnesses.
- Bird Feces - Excessive bird droppings were observed on the concrete floor, namely on level 1 north side and central area. Also, dead birds were seen in these areas.

Based upon these findings, we recommend the following:

- Repair the roof and possible plumbing leaks, including broken windows, namely at the southwestern side of the building.
- Replace the building's HVAC system and disinfect the duct work and grills/vents.
- Remove all carpeting and disinfect the flooring below if concrete.

- Remove all porous surfaces including water damaged wooden floors, sheet rock walls and ceiling, and ceiling tiles.
- Remove all bird droppings and dead bird from the building. Disinfect the concrete surfaces where bird droppings were located. Seal the building as to not allow further intrusion of fowl.
- Disinfect all surfaces and building products remaining in the building.
- Retest the air and building surfaces, once these items have been conducted.

Opinions of Cost

Based upon the mold, fungi, bacteria, and bird droppings identified at the site, we are providing these opinions of cost:

▪ Removal and disinfection	\$ 90,000
▪ Industrial hygiene monitoring	\$ 18,875
▪ Total Estimate	\$108,875

2.0 INTRODUCTION

On October 26, 2004, Mr. Terry Bleckner, Certified Industrial Hygienist (CIH), conducted an indoor air quality (IAQ) investigation at the USACOE South Pacific Division Laboratory located at 25 Liberty Ship Way in Sausalito, Marin County, California. The purpose of the investigation was to evaluate water damaged building materials, observe general conditions as they relate to fungal growth, identify possible bacteria, and determine the extent and health risks associated with the bird feces located in the building.

The subject building is a two-story unoccupied building, which was constructed in the late-1940s. The building was originally occupied by the US Army Corps of Engineers South Pacific Division Laboratory. The building has been vacant since 1997 and contains a total of approximately 37,800 square feet. Visual evidence of water damage was observed in the following locations:

- Level 1 – drafting west wall and the engineers office at the southwest corner
- Level 2 –south hallway by men’s restroom, south office area (room 220), west offices by special studies, the central area by chemical analysis room (Room 205), and the general area of the southwest corner offices

In addition, the majority of the north side, level 1 concrete floor, is covered with bird feces and bird carcasses.

The roof contains numerous package units, which heat and cool the building; however, during our investigation, the HVAC system was inoperable.

3.0 MOLD INVESTIGATION

There are currently no established regulatory guidelines for concentrations of fungi. Guidelines for determining qualitative growth of various fungi have been provided for use as part of this report. The guidelines used do not represent threshold values having medical or health significance with respect to exposure, nor are they necessarily representative of an unacceptable indoor environment. Rather, the guidelines are intended as a reactionary threshold to prompt further investigation as to the cause of what is considered to be an above average concentration for indoor fungi. Occupational laboratories generally use qualitative guidelines when evaluating wipe, bulk and vacuum samples for fungi concentrations. The following guidelines have been used for determining qualitative growth of various fungi in wipe, bulk and vacuum samples.

<1000 CFU	Light Growth
1,000 – 10,000 CFU	Moderate Growth
>10,000 CFU	Heavy Growth

Research by independent laboratories has suggested that typical levels for indoor fungal prompt in air samples should be below a total of 300 CFU/ m³. With the exception of *Cladosporium*, no individual type of fungi should contribute more than 50 CFU/ m³ to the total. In general, indoor populations should be consistent with outdoor populations. The following text and tables outline the results of our bioaerosol testing.

The following fungal samples were collected during this investigation:

- Air samples via spore trap (6 samples plus 1 blank)
- Bulk samples (3 samples)
- Tape-lift samples (2 samples plus 1 blank)

On October 26, 2004, ASG conducted sampling for fungi at the USACOE South Pacific Division Laboratory. During this sampling, we collected samples inside and outside of the building. The exterior samples are used as control samples. Interior samples should show the same type and similar concentrations to exterior samples. Interior samples showing higher concentrations compared to outside samples, different genera make up as compared to exterior samples, or differing order of domination may indicate an interior environmental condition favorable to microorganism growth. The samples were analyzed by NCG Laboratories in Muncie, Indiana.

The following tables outline the fungal results obtained:

3.1 Air Samples (filter method) for Fungi

Stachybotrys was found on the interior samples (Samples VA-AC-05 and VA-AC-06) where the visible black growth was observed to be most concentrated. Also, visual evidence of significant water damage was noted in these areas. This species, as well as *Aspergillus/Penicillium* and *Fusarium* has been known to produce mycotoxins. Note that although *Aspergillus/Penicillium* was found on the interior, they were also found on the exterior samples

Table 1			
Air Samples (spore trap method) for Fungi			
Sample Number	Location	CFU/M³	Analyte
VA-AC-01	Exterior – east side	157 10,365 628 11,151	Ascospore Aspergillus/Penicillium Cladosporium TOTAL
VA-AC-02	Level 1 – east side	314 6,753 1,099 157 8,324	Ascospore Aspergillus/Penicillium Cladosporium Zygomycetes TOTAL
VA-AC-03	Level 1 – north side	1,728 6,596 2,356 10,689	Ascospore Aspergillus/Penicillium Cladosporium TOTAL
VA-AC-04	Level 2 – west side – hallway by men’s room	157 6,282 785 7,224	Ascospore Aspergillus/Penicillium Cladosporium TOTAL
VA-AC-05	Level 1 – engineer’s office at southwest corner	3,769 1,256 942 157 3,141 9,266	Aspergillus/Penicillium Chaetomium Cladosporium Fusarium Stachybotrys TOTAL
VA-AC-06	Level 2 – southwest corner	3,612 628 785 157 5,183	Aspergillus/Penicillium Chaetomium Cladosporium Stachybotrys TOTAL
VA-AC-07	Blank	N/A	No spores seen

CFU/M³ = colony forming units per cubic meter

3.2 Bulk Samples for Fungi

Relatively high concentrations of *Yeast* were found on the water damaged ceiling tiles and wood floors. In addition, *Penicillium* was found in relatively high concentrations on the water damaged ceiling tiles. These species have been known to produce mycotoxins.

Table 2			
Bulk Samples for Fungi			
Sample Number	Location / Material	CFU/gram	Analyte
VA-B-01	Level 1 – west side Ceiling tile	25,000	Penicillium
		15,000	Yeast
		27,000	Unidentified Mildew
		67,000	TOTAL
VA-B-02	Level 2 – southwest Ceiling tile	10,000	Yeast
		164,000	Unidentified Conidia
		174,000	TOTAL
VA-B-03	Level 2 – Room 203 – hall Wood floor	428,571	Yeast
		428,571	TOTAL

CFU/gram = colony forming units per gram

3.3 Tape Lift Samples for Fungi

Stachybotrys and *Aspergillus* have been known to produce mycotoxins and were found in the southwest areas on levels 1 and 2 where the heaviest visual growth was observed.

Table 3		
Tape Lift Samples for Fungi		
Sample Number	Location (surface)	Analyte (loading)
VA-T-01	Level 1 – southwest corner – engineer’s office (ceiling tile)	Aspergillus/Penicillium Chaetomium Cladosporium Stachybotrys (light)
VA-T-02	Level 2 – southwest corner office (office 203) (sheet rock wall)	Stachybotrys (very heavy)
VA-T-03	Blank	None seen

4.0 BACTERIA & BIRD FECES INVESTIGATION

There are currently no identified acceptable levels for indoor bacterial bioaerosols. Independent laboratory research suggests that *Bacillus*, *Staphylococcus*, *Micrococcus*, *Corynebacterium* and other gram positive bacteria typically dominate indoor environments. *Bacillus* species are widely distributed in nature, particularly in soil, dust, water, and on materials of plant or animal origin. The majorities of *Bacillus* species apparently have little pathogenic potential and are rarely associated with disease in humans. Most *Staphylococcal* species are common inhabitants of the human skin and mucous membranes. *Micrococcus* are common on skin, in soil, dust, water, and elsewhere and are not considered pathogenic to humans, plants, or animals. *Corynebacterium* species is a non sporulating bacilli which are found in diverse habitats ranging from soil to skin and mucous membranes of mammals. Gram negative bacilli include such organisms as *Escherichia coli*, *Salmonella*, *Shingella*, *Pseudomonas*, *Klebsiella*, *Proteus*, *Enterobacter*, *Legionella* and a number of genera too numerous to discuss. Most of these bacteria are associated with moisture sources and tend to be subject to desiccation more than other bacteria. Their natural habitats range from the intestinal tract of mammals to stagnant fresh water and seawater. An important aspect of these bacteria is their ability to produce endotoxin, a component of the cell structure. Endotoxins are the lipopolysaccharide complexes of the cell wall which are released into the environment when the cell breaks up. These endotoxins can be relatively toxic to mammals. Exposure can result in fever, malaise, respiratory distress, headaches, alterations of white blood cell counts, and death. When air samples are collected with an Andersen air sampler, total indoor concentrations are typically in the range of 250 colony forming units per cubic meter (CFU/m³) in air, however, greater concentrations can occur relative to activity level.

The following bacteria samples were collected during this investigation:

- Bulk samples (1 sample)
- Wipe samples (1 sample plus 1 blank)

On October 26, 2004, ASG conducted sampling for bacteria at the USACOE South Pacific Division Laboratory. During this sampling, we collected samples of various surfaces within the building, namely where visible bird feces was observed. The samples were analyzed by NCG Laboratories in Muncie, Indiana.

The following tables outline the bacterial results obtained:

4.1 Bulk Samples for Bacteria

Various bacteria species were from sampling the bird droppings and these species are believed to be opportunistic pathogens which may cause illnesses.

Table 4			
Bulk Samples for Bacteria			
Sample Number	Location / Material	CFU/gram	Analyte
VA-BA-01	Level 1 – north side	3,300	Curtobacterium
	Bird droppings	100	Rhodococcus
		3,400	TOTAL

CFU/gram = colony forming units per gram

4.2 Wipe Samples for Bacteria

A bacterium species, *Brevibacterium*, was found on the concrete floor below the bird droppings. This species is believed to be an opportunistic pathogen, which may cause illnesses.

Table 5			
Wipe Samples for Bacteria			
Sample Number	Location (Surface)	CFU/ft ²	Analyte
VA-W-01	Level 1 – north side (concrete floor)	900	Brevibacterium
VA-w-02	Blank	N/A	No Growth

CFU/ft² = colony forming units per square foot

4.3 Bird Feces

Some health risks associated with birds and feces in buildings include Urban pest birds promote the transmission of several hundred types of disease infections and illnesses. Buildings infested with pest birds place at risk the building occupants, customers and maintenance workers. These nuisance birds: pigeons, starlings, crows, house sparrows and nuisance gulls, to mention only a few, transmit disease in four ways: food and water contaminated with feces; inhalation of contaminated dust; transference by parasites associated with nuisance birds, i.e., fleas, ticks, mites and other ectoparasites; and direct contact with feces.

The following visual observations were made on October 26, 2004:

- Excessive bird droppings were observed on the concrete floor, namely on level 1 north side and central area
- Dead birds were also seen in these areas.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Through laboratory analysis and visual inspection, we recommend the following activities take place to alleviate potential indoor air quality problems.

- **Mold/Fungi** – *Stachybotrys* was found on the interior air samples where visible black growth was observed to be most concentrated. In addition, visual evidence of significant water damage was located in these areas. This species, as well as *Aspergillus/Penicillium* and *Fusarium*, which were also found, has been known to produce mycotoxins. Also, relatively high concentrations *Yeast* were found on the water damaged ceiling tiles and wood floors. In addition, *Stachybotrys* and *Aspergillus*, which may produce mycotoxins, were found on the surfaces in the southwest areas on levels 1 and 2, where the heaviest visual growth was observed.
- **Bacteria** - Various bacteria species were identified from sampling the bird droppings, and these species are believed to be opportunistic pathogens which may cause illnesses. In addition, *Brevibacterium*, was found on the concrete floor below the bird droppings. This species is believed to be an opportunistic pathogen, which may also cause illnesses.
- **Bird Feces** - Excessive bird droppings were observed on the concrete floor, namely on level 1 north side and central area. Also, dead birds were also seen in these areas.

Recommendations

- Repair the roof and possible plumbing leaks, including broken windows, namely at the southwestern side of the building.
- Replace the building's HVAC system and disinfect the duct work and grills/vents.
- Remove all carpeting and disinfect the flooring below if concrete.
- Remove all porous surfaces including water damaged wooden floors, sheet rock walls and ceiling, and ceiling tiles.
- Remove all bird droppings and dead bird from the building. Disinfect the concrete surfaces where bird droppings were located. Seal the building as to not allow further intrusion of fowl.
- Disinfect all surfaces and building products remaining in the building.
- Retest the air and building surfaces, once these items have been conducted.
- The HVAC system throughout the facility, including the duct system, if it remains, should be disinfected and cleaned using HEPA vacuuming protocols.

6.0 OPINIONS OF COST

Based upon the various mold, fungi, bacteria and bird droppings identified at the site, we are providing these opinions of cost:

Table 6			
Removal / Cleaning – Opinions of Cost			
Task	Comments	Cost for Removal	
Mold and fungal removal	Removal of ceiling tile, sheet rock, wood floors	\$50,000	
Disinfecting	Floors, duct work, wooden structures	\$20,000	
Bird dropping removal	Removal of visible material	\$10,000	
Carpet removal	Removal and disposal of carpet	\$10,000	
SUBTOTAL (removal /disinfecting)			\$90,000
INDUSTRIAL HYGIENE CONSULTING			
On-Site Management and samples	30 Days – 75 samples	\$ 500 per day + \$40/sample	\$16,375
Abatement Specifications and Bidding Documents	LS	\$ 2,500.00	\$ 2,500
SUB-TOTAL (monitoring)			\$ 18,875
GRAND TOTAL (Est.)			\$108,875

These opinions of costs are estimates only, based upon our experience of having contractors perform similar projects in scope and size. They do not, however, include the fees for contractors bonding or insurance or replacement costs, such as re-flooring or HVAC replacement or roof inspection and repair. The most accurate way to determine an estimated cost of removal and disinfecting is to have several qualified contractors provide actual bids to perform the work.

7.0 LIMITATIONS

Information contained herein was obtained by means of on-site observations and analytical data. Conclusions of this survey are based on reasonably accessible information pertaining specifically to this survey. However, this is not to suggest that the information obtained is a complete compilation of all existing information, which may be pertinent to this site. The intent of this survey is to sample the indoor atmospheric conditions as they relate to the intent of the building's structure and content to ensure that conditions remain parallel to comfort levels established by regulatory agencies which govern indoor atmospheric conditions. This survey is not intended to represent an exhaustive research of all-potential hazards or conditions, which may exist.

This report does not purport to represent future indoor conditions or events. Situations or activities, which transpire subsequent to this report, which result in adverse environmental, construction and/or engineering impacts, are not to be construed as relevant to this study.

This report is intended for the sole use of ASG's client. This report may not be used or relied upon by any other party without the written consent of ASG. The scope of services performed in execution of the evaluation may not be appropriate to satisfy the needs of other users, and the use or re-use of this document or the finding, conclusions, or recommendations is at the risk of said user.

We appreciate the opportunity to be of service to you on this project. If you have any questions or comments, please contact us at (801) 261-4616.

Prepared By:

Terry Bleckner, CIH
Industrial Hygienist/Utah Branch Manager

Paul E. Johnson
Indoor Air Quality Manager

APPENDIX A
SAMPLING METHODS

AIR SAMPLING FOR MOLDS AND FUNGI

Air Sampling: Agar Impaction Method

The single stage multi-hole impactors were used for sampling for molds and spores.

Sampling procedures:

Air flow: 28.3 l/m

Calibrated with a primary standard

Sampling time: Sampling time of 2-5 minutes

Media: Malt extract agar

Filter cassettes were shipped to the laboratory by overnight courier for morning delivery. It was necessary that the samples arrive at the laboratory and be incubated at appropriate temperatures before visible growth develops. One blank media dish was submitted with each set of samples.

SURFACE DUST SAMPLING FOR MOLDS AND FUNGI

Surface samples are collected by removing material with a suction device or by washing a prescribed area with a wetted swab, cheesecloth, gauze, or filter.

Suction Device Method

Cassette: 37 mm, MCE filter, 0.8 mm pore size

Equipment: High volume personal sampling pump

Calibration: 20-40 liters per minute (L/m) calibrated with a primary standard

Sample area: 1 meter x 1 meter

Sample volume: Carpet was vacuumed for a minimum of 5 minutes.

Method: Open face cassette

Wipe Sample Method

A sterile gauze pad was used to wipe a 10 cm x 10 cm area.

Aseptic techniques were used to avoid contamination.

Samples were shipped to the laboratory within 24 hours.

AIR SAMPLING FOR BACTERIA

Air Sampling: Agar Impaction Method

The single stage multi-hole impactors were used for sampling for bacteria.

Sampling procedures:

Air flow: 28.3 l/m

Calibrated with a primary standard

Sampling time: Sampling time of 2-5 minutes

Media: Tryptic soy agar

Filter cassettes were shipped to the laboratory by overnight courier for morning delivery. It was necessary that the samples arrive at the laboratory and be incubated at appropriate temperatures before visible growth develops. One blank media dish was submitted with each set of samples.

SURFACE SAMPLING FOR BACTERIA

Surface samples are collected by washing a prescribed area with a sterile swab, cheesecloth, gauze, or filter.

Wipe Sample Method

A sterile gauze pad was used to wipe a 10 cm x 10 cm area.

Aseptic techniques were used to avoid contamination.

Samples were shipped to the laboratory within 24 hours.

APPENDIX B

**LABORATORY RESULTS AND
CHAIN OF CUSTODY FORMS**



NCG Laboratories

NCG Laboratories
 5826 West Kilgore
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Tape Report

Client:	ARG	
Company:		
Address:		
Phone Number:		
Fax Number:		
E-Mail Address:		
Client Number:	ARG001	
Project Number:	U04-2732	
Project Name:	Sausilito	
Lab ID Number:	355	
Analyst:	AJK	
Date:	10/28/2004	

Tape Definitions:

Concentrations of greater than 100% are due to overlap of spores, pollen, hyphae, debris, etc.
 Concentrations of less than 100% are due to clean sections on the sample where nothing is present.
Spores identified in bold may produce fungi that are known mycotoxin producing organisms.
 ** Pathogenic versus non-pathogenic fungi cannot be differentiated using this method. Viable versus non-viable fungi cannot be differentiated using this method. Samples cannot be identified beyond the genera level. Some fungi must be grouped together due to their similar spore structure. If these fungi can be identified separately they will be. This is dependent on observing hyphae along with the spores.

Background and Overall Particle Densities:
Light - Descriptor for very little observed on analysis of entire sample.
Moderate - Descriptor for a medium amount of coverage observed on analysis of entire sample.
Heavy - Descriptor for a high amount of coverage observed on analysis of entire sample.
Very Heavy - Descriptor for a very high amount of coverage or almost complete coverage observed on analysis of entire sample.

***Background Densities of heavy or very heavy may occlude some spores, pollen, and insect fragments causing concentrations to be lower than what they actually are.
 ***Occasionally surface layers or borders are only able to be analyzed due to high background densities. This will be noted in the Comment Section as it occurs.

Specific Genera Densities: 1=<10%, 2=10% to 25%, 3=25% to 50%, 4=50 to 75%, 5=75 to 90%, 6=>90%
 Specific Genera Densities are based on overall particle densities.
 Overloaded means there was too much background debris &/or spores present to be able to accurately see individual particles. See the Comment Section for whether it is due to background debris or spores.
 Individual concentration amounts may differ from the total concentration amount due to the rounding of significant figures.

We analyze a minimum of 4 traverses completely across the sample. Each traverse is done in a random place on the sample. Percents of identified spores only include the concentration of spores observed. Hyphae is not included in this percent concentration, but is noted if it is seen!



NCG Laboratories

NCG Laboratories
 5826 West Kilgore Avenue
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Tape Report

Sample Number:	VA-T-1
Sample Description:	L1 - SWC - Eng. Office - DCT

Sample Number:	VA-T-2
Sample Description:	L2 - SWC office - SR wall

Background Density:	Light
Overall Particle Density:	Light

Background Density:	Very Heavy
Overall Particle Density:	Very Heavy


Comments:	
Hyphae Observed:	No
Hyphal Fragments Observed:	No

Comments:	
Hyphae Observed:	Yes
Hyphal Fragments Observed:	Yes

Particle Identification	Concentration	Comments
Acremonium	ND	
Alternaria	ND	
Ascospore	ND	
Aspergillus	ND	
Aspergillus/Penicillium	1	
Bipolaris	ND	
Chaetomium	3	
Cladosporium	1	
Curvularia	ND	
Epicoccum	ND	
Fusarium	ND	
Myxomycetes	ND	
Penicillium	ND	
Peronospora	ND	
Stachybotrys	3	
Ulocladium	ND	
Zygomycetes	ND	
Unidentified Mildew	ND	
Unidentified Conidia	ND	
Pollen	ND	
Insect Fragments	ND	

Particle Identification	Concentration	Comments
Acremonium	ND	
Alternaria	ND	
Ascospore	ND	
Aspergillus	ND	
Aspergillus/Penicillium	ND	
Bipolaris	ND	
Chaetomium	ND	
Cladosporium	ND	
Curvularia	ND	
Epicoccum	ND	
Fusarium	ND	
Myxomycetes	ND	
Penicillium	ND	
Peronospora	ND	
Stachybotrys	6	spores & hyphae obs.
Ulocladium	ND	
Zygomycetes	ND	
Unidentified Mildew	ND	
Unidentified Conidia	ND	
Pollen	ND	
Insect Fragments	ND	

Lab Coordinator Signature: _____





NCG Laboratories

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 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Tape Report

Sample Number:	VA-T-3
Sample Description:	Blank

Sample Number:	
Sample Description:	

Background Density:	Light
Overall Particle Density:	ND

Background Density:	
Overall Particle Density:	


Comments:	
Hyphae Observed:	No
Hyphal Fragments Observed:	No

Comments:	
Hyphae Observed:	
Hyphal Fragments Observed:	

Particle Identification	Concentration	Comments
Acremonium	ND	
Alternaria	ND	
Ascospore	ND	
Aspergillus	ND	
Aspergillus/Penicillium	ND	
Bipolaris	ND	
Chaetomium	ND	
Cladosporium	ND	
Curvularia	ND	
Epicoccum	ND	
Fusarium	ND	
Myxomycetes	ND	
Penicillium	ND	
Peronospora	ND	
Stachybotrys	ND	
Ulocladium	ND	
Zygomycetes	ND	
Unidentified Mildew	ND	
Unidentified Conidia	ND	
Pollen	ND	
Insect Fragments	ND	

Particle Identification	Concentration	Comments
Acremonium		
Alternaria		
Ascospore		
Aspergillus		
Aspergillus/Penicillium		
Bipolaris		
Chaetomium		
Cladosporium		
Curvularia		
Epicoccum		
Fusarium		
Myxomycetes		
Penicillium		
Peronospora		
Stachybotrys		
Ulocladium		
Zygomycetes		
Unidentified Mildew		
Unidentified Conidia		
Pollen		
Insect Fragments		

Lab Coordinator Signature: _____





NCG Laboratories

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 5826 West Kilgore
 Muncie, IN 47304
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Micro5 Report

Client:	ARG	
Company:		
Address:		
Phone Number:		
Fax Number:		
E-Mail Address:		
Client Number:	ARG 001	
Project Number:	U04-2732	
Project Name:	Sausolito	
Lab ID Number:	355	
Analyst:	AJK	
Date:	10/28/2004	

Micro5 Definitions:

ND=None Detected.

TNTQ=Too Numerous To Quantify.

Spores identified in bold may produce fungi that are known mycotoxin producing organisms.

** Pathogenic versus non-pathogenic fungi cannot be differentiated using this method. Viable versus non-viable fungi cannot be differentiated using this method. Samples cannot be identified beyond the genera level. Some fungi must be grouped together due to their similar spore structure.

Debris & Skin Densities: 0=0%, 1=0-25%, 2=25% to 50%, 3=50% to 75%, 4=>75%

Densities of 3 or 4 may occlude some spores, pollen, and insect fragments causing counts to be lower than what they actually are.

Overloaded means that there was too much non-fungal debris/skin present to be able to accurately count particles.

Individual concentration amounts may differ from the total concentration amount due to the rounding of significant figures.

We analyze a minimum of 25% or 300 spores of one genera.

Micro5 Equations for Analysis, From Environmental Monitoring Systems Users Manual

Equation 1: Air Volume Calculation

Air volume (m³)=(Sampling rate [liters per minute]/1000)XNo. of minutes

Equation 2: Raw Count Multiplier Calculation

Raw Count Multiplier=(Total Impact Area [4.154]**)/(# Fields AnalyzedXMicroscope field of view surface area [.0962]*)

Equation 3: Count per meter³ Calculation

Cts/m³=No. Particles CountedXRaw Count MultiplierX(1/Volume [m³])

Equation 4: % of Trace Analyzed Calculation

% Analyzed=(No. Fields Analyzed)/(Total No. Fields [43]***)X100%

*Microscope field of view surface area was measured using a slide graticule, calculated, and found to be 0.0962mm³.

**Total Impact Area of 4.154mm³ is provided in the Micro5 Users Manual.

***Total No. Fields of 43 is provided in the Micro5 Users Manual.



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 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Micro5 Report

Sample Number:	VA-AC-1
Sample Description:	Exterior - East

Sample Number:	VA-AC-2
Sample Description:	L1 - East Side

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26

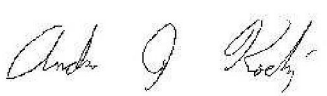
Skin Fragment Density:	0
Debris Density:	1

Skin Fragment Density:	1
Debris Density:	2

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	1	157	1
Aspergillus/Penicillium	66	10365	93
Bipolaris	ND	ND	ND
Chaetomium	ND	ND	ND
Cladosporium	4	628	6
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	ND	ND	ND
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	71	11151	100

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	2	314	4
Aspergillus/Penicillium	43	6753	81
Bipolaris	ND	ND	ND
Chaetomium	ND	ND	ND
Cladosporium	7	1099	13
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	ND	ND	ND
Ulocladium	ND	ND	ND
Zygomycetes	1	157	2
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	53	8324	100

Lab Coordinator Signature: _____





NCG Laboratories
 5826 West Kilgore Avenue
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Micro5 Report

Sample Number:	VA-AC-3
Sample Description:	L1 - North Side

Sample Number:	VA-AC-4
Sample Description:	L2 - West Side - Hall

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26

Skin Fragment Density:	1
Debris Density:	3

Skin Fragment Density:	1
Debris Density:	1

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	11	1728	16
Aspergillus/Penicillium	42	6596	62
Bipolaris	ND	ND	ND
Chaetomium	ND	ND	ND
Cladosporium	15	2356	22
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	ND	ND	ND
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	68	10679	100

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	1	157	2
Aspergillus/Penicillium	40	6282	87
Bipolaris	ND	ND	ND
Chaetomium	ND	ND	ND
Cladosporium	5	785	11
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	ND	ND	ND
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	46	7224	100

Lab Coordinator Signature: _____





NCG Laboratories
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 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Micro5 Report

Sample Number:	VA-AC-5
Sample Description:	L1 - SWC Eng. office

Sample Number:	VA-AC-6
Sample Description:	L2 - SWC office

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26

Sample Volume (m ³):	0.0250
Number of Traverses:	11
Trace Length Counted (mm):	3.85
% of Trace Analyzed:	26


Skin Fragment Density:	1
Debris Density:	1

Skin Fragment Density:	1
Debris Density:	1

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	ND	ND	ND
Aspergillus/Penicillium	24	3769	41
Bipolaris	ND	ND	ND
Chaetomium	8	1256	14
Cladosporium	6	942	10
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	1	157	2
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	20	3141	34
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	59	9266	100

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	ND	ND	ND
Aspergillus/Penicillium	23	3612	70
Bipolaris	ND	ND	ND
Chaetomium	4	628	12
Cladosporium	5	785	15
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	1	157	3
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	33	5183	100

Lab Coordinator Signature: _____





NCG Laboratories
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 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	355

Micro5 Report

Sample Number:	VA-AC-7
Sample Description:	Blank

Sample Number:	
Sample Description:	

Sample Volume (m ³):	NA
Number of Traverses:	NA
Trace Length Counted (mm):	NA
% of Trace Analyzed:	100

Sample Volume (m ³):	
Number of Traverses:	
Trace Length Counted (mm):	
% of Trace Analyzed:	


Skin Fragment Density:	0
Debris Density:	1

Skin Fragment Density:	
Debris Density:	

Particle Identification	Raw	Concentration per m ³	%
Acremonium	ND	ND	ND
Alternaria	ND	ND	ND
Ascospore	ND	ND	ND
Aspergillus/Penicillium	ND	ND	ND
Bipolaris	ND	ND	ND
Chaetomium	ND	ND	ND
Cladosporium	ND	ND	ND
Curvularia	ND	ND	ND
Epicoccum	ND	ND	ND
Fusarium	ND	ND	ND
Myxomycetes	ND	ND	ND
Peronospora	ND	ND	ND
Stachybotrys	ND	ND	ND
Ulocladium	ND	ND	ND
Zygomycetes	ND	ND	ND
Unidentified Mildew	ND	ND	ND
Unidentified Conidia	ND	ND	ND
Hyphae	ND	ND	ND
Pollen	ND	ND	ND
Insect Fragments	ND	ND	ND
TOTAL	0	0	0

Particle Identification	Raw	Concentration per m ³	%
Acremonium			
Alternaria			
Ascospore			
Aspergillus/Penicillium			
Bipolaris			
Chaetomium			
Cladosporium			
Curvularia			
Epicoccum			
Fusarium			
Myxomycetes			
Peronospora			
Stachybotrys			
Ulocladium			
Zygomycetes			
Unidentified Mildew			
Unidentified Conidia			
Hyphae			
Pollen			
Insect Fragments			
TOTAL			

Lab Coordinator Signature: _____





NCG Laboratories

NCG Laboratories
 5826 West Kilgore
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Viable Fungi Report

Client:	ARG	
Company:	ARG	
Address:		
Phone Number:		
Fax Number:		
E-Mail Address:		
Client Number:	ARG001	
Project Number:	U04-2732	
Project Name:	V A Sausalite	
Lab ID Number:	356	
Analyst:	AJK	
Date:	11/11/2004	

Viable Fungi Definitions:

ND=None Detected. TNTQ=Too Numerous To Quantify
Spores identified in bold may produce fungi that are known mycotoxin producing organisms.
 **Holding times for samples are between 24-48 hours from collection to analysis.
 Samples that have been identified to the species level are listed under the Comments heading.
 Individual concentration amounts may differ from the total concentration amount due to the rounding of significant figures.
Detection Levels are:
 Andersen Airs = 7/m³
 Bulks = 100/gram, if 1gram of sample is submitted
 Wipes/Swabs = 100/wipe or swab
 Vacuum Samples = 25/foot²
 Water = 100/mL

Viable Equations for Analysis, Taken from Standard Methods 20th Edition

Equation 1: Dilution Factor Calculation

Dilution Factor= $\frac{\text{Sample Amount}}{\text{Amount of Sterile Buffer [99mL]} + \text{Amount of Sample}}$ X Amount Plated[mL]

Equation 2: Concentration Calculation

Concentration=No. Colonies Counted X (1/Dilution Factor)

*Sterile Buffer is purchased in pre-aliquotted amounts of 99mL per bottle.



NCG Laboratories

NCG Laboratories
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 Phone: (765) 286-5142
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Project Number:	U04-2732
Lab ID Number:	356

Viable Fungi Report

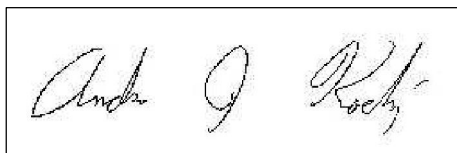
Sample Number:	VA-B-1
Sample Description:	L1 - W. side - DCT

Sample Amount:	1 gram
Amount Plated:	0.1 mL
Dilution Factor:	0.001

***NOTE: Concentration= per gram

Identification	Raw	Concentration	Comments
Acremonium species	ND	ND	
Alternaria species	ND	ND	
Aspergillus species	ND	ND	
Bipolaris species	ND	ND	
Chaetomium species	ND	ND	
Cladosporium species	ND	ND	
Curvularia species	ND	ND	
Epicoccum species	ND	ND	
Fusarium species	ND	ND	
Myxomycetes	ND	ND	
Penicillium species	25	25000	
Peronospora species	ND	ND	
Stachybotrys species	ND	ND	
Zygomycetes	ND	ND	
Yeast	15	15000	
Unidentified Mildew	27	27000	
Unidentified Conidia	ND	ND	
TOTAL	67	67000	

Laboratory Coordinator Signature:





NCG Laboratories

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 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	356

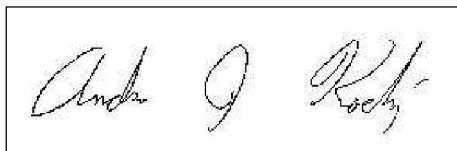
Viable Fungi Report

Sample Number:	VA-B-2
Sample Description:	L2 - SW - DCT

Sample Amount:	1 gram
Amount Plated:	0.1 mL
Dilution Factor:	0.001

***NOTE: Concentration= per gram

Identification	Raw	Concentration	Comments
Acremonium species	ND	ND	
Alternaria species	ND	ND	
Aspergillus species	ND	ND	
Bipolaris species	ND	ND	
Chaetomium species	ND	ND	
Cladosporium species	ND	ND	
Curvularia species	ND	ND	
Epicoccum species	ND	ND	
Fusarium species	ND	ND	
Myxomycetes	ND	ND	
Penicillium species	ND	ND	
Peronospora species	ND	ND	
Stachybotrys species	ND	ND	
Zygomycetes	ND	ND	
Yeast	10	10000	
Unidentified Mildew	ND	ND	
Unidentified Conidia	164	164000	No Spores Detected
TOTAL	174	174000	



Laboratory Coordinator Signature:



NCG Laboratories

NCG Laboratories
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 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	356


Viable Fungi Report

Sample Number:	VA-B-3
Sample Description:	L2 - Rm 203 - Wood Floor

Sample Amount:	0.7 grams
Amount Plated:	0.1 mL
Dilution Factor:	0.001

***NOTE: Concentration= per gram

Identification	Raw	Concentration	Comments
Acremonium species	ND	ND	
Alternaria species	ND	ND	
Aspergillus species	ND	ND	
Bipolaris species	ND	ND	
Chaetomium species	ND	ND	
Cladosporium species	ND	ND	
Curvularia species	ND	ND	
Epicoccum species	ND	ND	
Fusarium species	ND	ND	
Myxomycetes	ND	ND	
Penicillium species	ND	ND	
Peronospora species	ND	ND	
Stachybotrys species	ND	ND	
Zygomycetes	ND	ND	
Yeast	>300	>428571	
Unidentified Mildew	ND	ND	
Unidentified Conidia	ND	ND	
TOTAL	>300	>428571	



Laboratory Coordinator Signature: _____



NCG Laboratories

NCG Laboratories
 5826 West Kilgore
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Viable Bacteria Report

Client:	ARG	
Company:	ARG	
Address:		
Phone Number:		
Fax Number:		
E-Mail Address:		
Client Number:	ARG001	
Project Number:	U04-2732	
Project Name:	VA Sausalite	
Lab ID Number:	356	
Analyst:	AJK	
Date:	11/11/2004	

Viable Bacteria Definitions:

ND=None Detected. TNTQ=Too Numerous To Quantify
 **Holding times for samples are between 24-48 hours from collection to analysis.
 Samples that have been identified to the species level are listed under the Comments heading.
 Individual concentration amounts may differ from the total concentration amount due to the rounding of significant figures.

Detection Levels are:

- Andersen Airs = 7/m³
- Bulks = 100/gram, if 1gram of sample is submitted
- Wipes/Swabbs = 100/wipe or swab
- Vacuum Samples = 25/foot²
- Water = 100/mL

Viable Equations for Analysis, Taken from Standard Methods 20th Edition

Equation 1: Dilution Factor Calculation

$$\text{Dilution Factor} = \frac{\text{Sample Amount}}{(\text{Amount of Sterile Buffer [99mL]} + \text{Amount of Sample})} \times \text{Amount Plated [mL]}$$

Equation 2: Concentration Calculation

$$\text{Concentration} = \text{No. Colonies Counted} \times (1/\text{Dilution Factor})$$

*Sterile Buffer is purchased in pre-aliquotted amounts of 99mL per bottle.



NCG Laboratories

NCG Laboratories
 5826 West Kilgore Avenue
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	356

Viable Bacteria Report

Sample Number:	VA-W-1
Sample Description:	L1 - N side - conc. Floor

Sample Amount:	1 wipe
Amount Plated:	1 mL
Dilution Factor:	0.01

***NOTE: Concentration= per wipe

Identification	Raw	Concentration	Comments
Actinomycetes	ND	ND	
Brevibacterium	9	900	
Citrobacter species	ND	ND	
Corynebacterium sp	ND	ND	
Escherichia species	ND	ND	
Klebsiella species	ND	ND	
Lactococcus species	ND	ND	
Leclercia species	ND	ND	
Micrococcus species	ND	ND	
Oerskovia species	ND	ND	
Proteus species	ND	ND	
Pseudomonas species	ND	ND	
Serratia species	ND	ND	
Staphylococcus species	ND	ND	
Streptococcus species	ND	ND	
Gram Negatives	ND	ND	
Gram Positives	ND	ND	
TOTAL	9	900	

Laboratory Coordinator Signature:





NCG Laboratories

NCG Laboratories
 5826 West Kilgore Avenue
 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	356


Viable Bacteria Report

Sample Number:	VA-W-2
Sample Description:	Blank

Sample Amount:	1 wipe
Amount Plated:	1 mL
Dilution Factor:	0.01

***NOTE: Concentration= per wipe

Identification	Raw	Concentration	Comments
Actinomycetes	ND	ND	
Bacillus species	ND	ND	
Citrobacter species	ND	ND	
Corynebacterium sp	ND	ND	
Escherichia species	ND	ND	
Klebsiella species	ND	ND	
Lactococcus species	ND	ND	
Leclercia species	ND	ND	
Micrococcus species	ND	ND	
Oerskovia species	ND	ND	
Proteus species	ND	ND	
Pseudomonas species	ND	ND	
Serratia species	ND	ND	
Staphylococcus species	ND	ND	
Streptococcus species	ND	ND	
Gram Negatives	ND	ND	
Gram Positives	ND	ND	
TOTAL	0	0	



Laboratory Coordinator Signature:



NCG Laboratories

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 Muncie, IN 47304
 Phone: (765) 286-5142
 Fax: (765) 286-5152

Project Number:	U04-2732
Lab ID Number:	356

Viable Bacteria Report

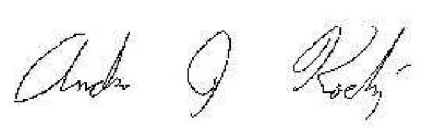
Sample Number:	VA-BA-1
Sample Description:	L1 - N side - Bird Droppings

Sample Amount:	1.0 grams
Amount Plated:	1 mL
Dilution Factor:	0.01

***NOTE: Concentration= per gram

Identification	Raw	Concentration	Comments
Actinomycetes	ND	ND	
Bacillus species	ND	ND	
Citrobacter species	ND	ND	
Curtobacterium	33	3300	
Escherichia species	ND	ND	
Klebsiella species	ND	ND	
Lactococcus species	ND	ND	
Leclercia species	ND	ND	
Micrococcus species	ND	ND	
Oerskovia species	ND	ND	
Proteus species	ND	ND	
Rhodococcus species	1	100	
Serratia species	ND	ND	
Staphylococcus species	ND	ND	
Streptococcus species	ND	ND	
Gram Negatives	ND	ND	
Gram Positives	ND	ND	
TOTAL	34	3400	

Laboratory Coordinator Signature:





1107 Hazeltine Blvd., Suite 400
 Chaska, MN 55318
 Phone: 952-448-9393
 Fax: 952-448-1658

SAMPLE CHAIN OF CUSTODY

5826 West Kilgore
 Muncie, IN 47304
 Phone: 765-286-5142
 Fax: 765-286-5152

Page 1 of 2

Building Information		Client Information	
Building Number:	NA	Client:	ARG.
Building Name:	VA - SANSOLITO	Company:	
Building Address:	3 LIBERTYSHIP SANSOLITO, CA.	Address:	
Log-In No.:	356	Phone Number:	
Date:	10/27/04	Fax Number:	
		E-mail Address:	

Sample Number	Sample Description	Matrix*	Analyses Requested**	Area/Volume	Time of Collection
VA-AC-1	Exterior - EAST	ST	118.	25 L. to	3pm
VA-AC-2	L1 - EAST SIDE	}	}	}	}
VA-AC-3	L1 - NORTH SIDE				
VA-AC-4	L2 - W SIDE - HALL	}	}	}	}
VA-AC-5	L1 - SWC - Engr. office				
VA-AC-6	L2 - SWC OFFICE	}	}	}	}
VA-AC-7	BLANK.				
VA-T-1	L1 - SWC - Eng. office - DET	T	117	Tape	3pm
VA-T-2	L2 - SWC office - SIR wall	T	117	}	}
VA-T-3	BLANK	T	117		

*Sample Matrix: B=Bulk W=Wipe T=Tape Lift W=Water ST=Spore Trap AA=Anderson Air FA=Filter Air
 **Samples missing Analyses Requested information will not be accepted.

Type of Analysis:		Total # of Samples:	16
Sampled By:	T. Blod	Turnaround Time***	
Analyzed By:		Received By:	GWJ
Special Instructions:		Relinquished By:	
		Due:	
		Date:	
		Date:	

***Turnaround times found on rate sheet.



1107 Hazeltine Blvd., Suite 400
 Chaska, MN 55318
 Phone: 952-448-9393
 Fax: 952-448-1658

SAMPLE CHAIN OF CUSTODY

5826 West Kilgore
 Muncie, IN 47304
 Phone: 765-286-5142
 Fax: 765-286-5152

Page 2 of 2

Building Information		NCG Information		Client Information	
Building Number:		Client No.:		Client:	
Building Name:	VA SADDLE	Project No.:	1004-2732	Company:	
Building Address:		Log-In No.:		Address:	
		Date:			

Sample Number	Sample Description	Matrix*	Analyses Requested**	Area/Volume	Time of Collection
VA-W-1	L1-N side - conc. Floor	W	209	A = 1 ft ²	3 pm
VA-W-2	Blank	W	209	N/A	
VA-B-1	L1-W side - DCT	B	108		
VA-B-2	L2-SW - DCT	B	108	1.0g	
VA-B-3	L2-Rm 203 - wood Floor	B	108	1.0g	
VA-BA-1	L1-N side - Bird Droppings	B	206	1.0g	

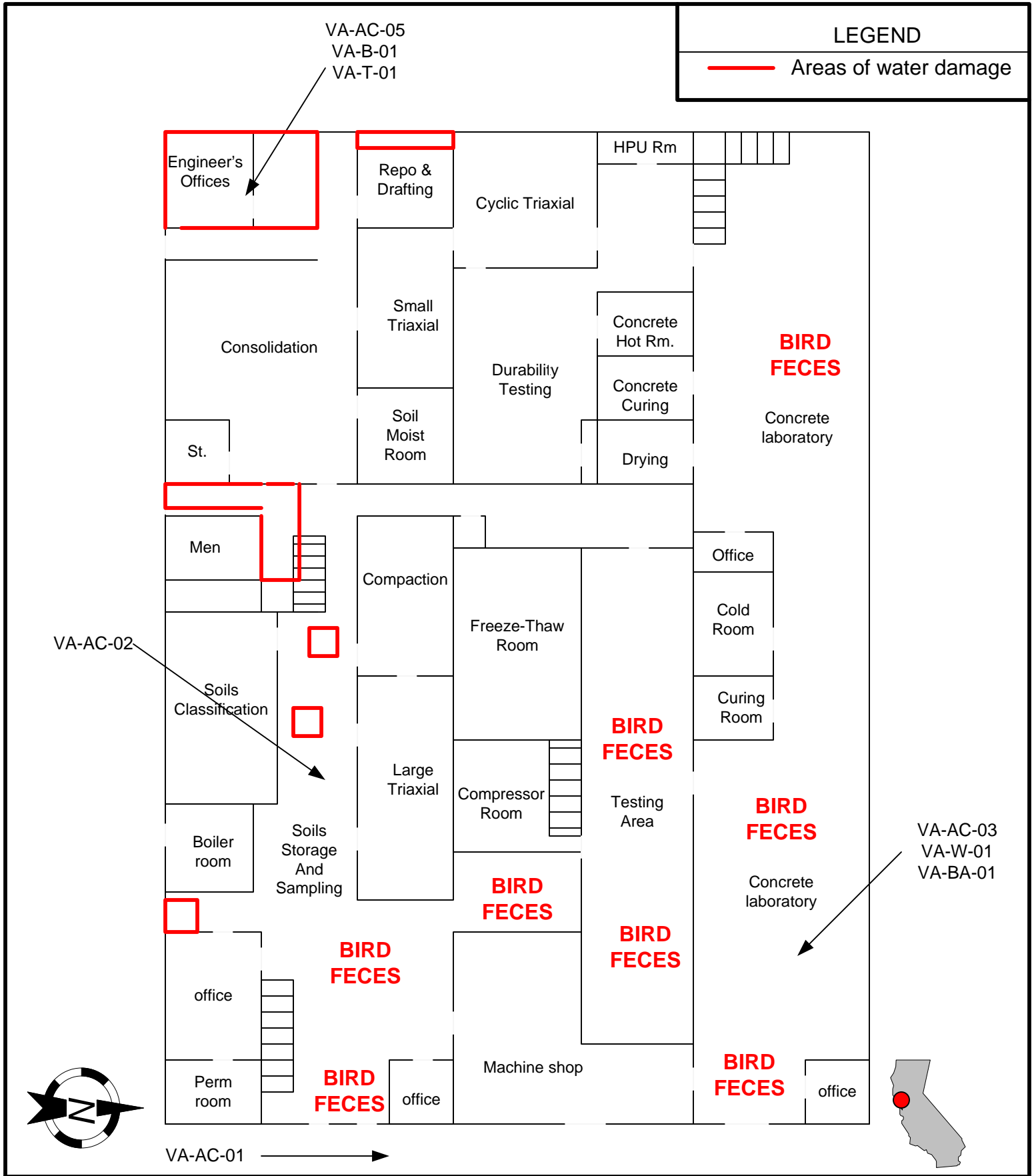
*Sample Matrix: B=Bulk W=Wipe T=Tape Lift W=Water
 **Samples missing Analyses Requested information will not be accepted. ST=Spore Trap AA=Anderson Air FA=Filter Air

Type of Analysis:		Total # of Samples:	16
Sampled By:	T. Bl...	Turnaround Time***	
Analyzed By:		Received By:	
Special Instructions:		Relinquished By:	
		Due:	
		Date:	
		Date:	

***Turnaround times found on rate sheet.

APPENDIX C

SAMPLE LOCATION DRAWINGS



MOLD, BACTERIA, BIRD DROPPINGS SURVEY – LEVEL 1
 USACOE – SOUTH PACIFIC DIVISION LABORATORY
 25 LIBERTY SHIP WAY
 SAUSALITO, CA 94965 PROJECT NO. U04-2732

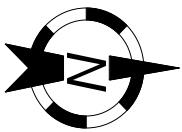
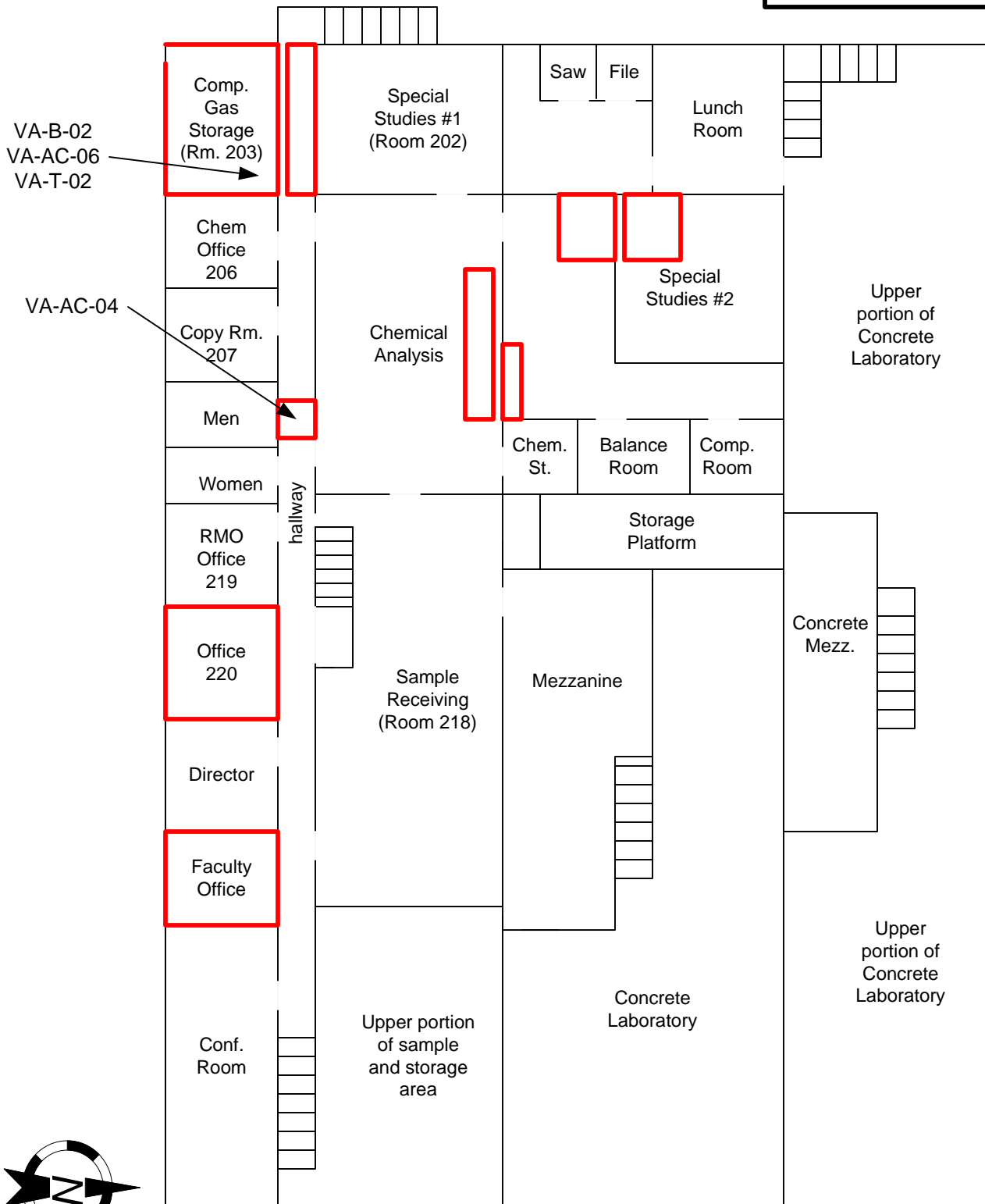


NOVEMBER
 2004

FIGURE 1

LEGEND

— Areas of water damage



MOLD, BACTERIA & BIRD DROPPINGS SURVEY – LEVEL 2
USACOE – SOUTH PACIFIC DIVISION LABORATORY
25 LIBERTY SHIP WAY
SAUSALITO, CA 94965 PROJECT NO. U04-2732



NOVEMBER
2004

FIGURE 2

APPENDIX D

PHOTOGRAPHIC DOCUMENTATION



Photo 1 – Subject Site



Photo 2 – bird droppings – level 1 – north side



Photo 3 – dead bird – level 1 – north side



Photo 4 – water damage – level 1 – wood doorway



Photo 5 – water damage – level 1 – SE sheet rock ceiling



Photo 6 – water damage – level 1 – south sheet rock ceiling



Photo 7 – water damage & significant growth – level 1 – engineer’s office



Photo 8 – level 1 – broken windows – water intrusion



Photo 9 – water damage – level 2 – west ceiling tile



Photo 10 – water damage – level 2 – carpet – south side



Photo 11 – water damage – L2 – Chemical Analysis Rm.



Photo 12 – water damage – level 2 – s. hallway



Photo 13 – water damage & significant growth – level 2
– southwest offices and hallway



Photo 14 – water damage – level 2 – copy room



Photo 15 – water damage – level 2 – room 220



Photo 16 – water damage – level 2 – SEC room

APPENDIX E

CREDENTIALS

The
American Board of Industrial Hygiene®
ABIH®



organized to improve the practice of Industrial Hygiene
proclaims that

Terence I. Bleckner

having met all requirements through
education, experience, and examination,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH



June 29, 2000
date

David S. Agopian
Chairman ABIH

7973 CP
certificate
number

Edward T. Burtal Jr.
Secretary ABIH

APPENDIX F

MICROBIOLOGICAL SPECIES INFORMATION