

**AN INDOOR AIR QUALITY REPORT
FOR
CITY OF LITTLE ROCK-PUBLIC WORKS**

PROJECT:
CITY OF LITTLE ROCK POLICE STATION
700 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201

REPORT DATE:
AUGUST 31, 2010
DATE OF SAMPLING:
AUGUST 19, 2010

**PREPARED AT THE REQUEST OF
AND FOR USE BY:**

MR. JESSIE TRIGLETH
BUILDING SERVICES MANAGER
LITTLE ROCK BUILDING SERVICES
CITY OF LITTLE ROCK
3312 J.E. DAVIS DRIVE
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PERFORMED BY:

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**AN INDOOR AIR QUALITY REPORT
FOR
CITY OF LITTLE ROCK-PUBLIC WORKS**

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1.0 INTRODUCTION AND AUTHORITY

As authorized by Mr. Jessie Trigleth, Building Services Manager for the City of Little Rock-Public Works Department, the EMTEC team of Mr. John Hatchett, CIEC, and Mr. Steven Smith, E.I. & Environmental Technician, performed indoor air quality sampling specifically addressing mold, carbon dioxide and relative humidity/temperature from within the City of Little Rock Police Station located at 700 West Markham Street in Little Rock, Arkansas. This indoor air quality evaluation was performed on August 19, 2010. This evaluation was requested due to concerns expressed by the occupants of the facility.

2.0 GENERAL DESCRIPTION

The subject building is the Little Rock Police Station, which is a two story building containing several offices, a central records room, kitchen, work out room with men's & women's locker rooms, a break room and a few mechanical rooms. The subject structure is constructed of concrete block and steel framing on a concrete slab. The subject building contains a flat roof system and is equipped with several HV/AC systems to service the building. Only three-fourths of the basement is finished, while the remainder of the basement consists of an unfinished crawlspace containing an Air Handling Unit with a fresh "make-up" air duct that services a portion of the basement.

The subject building has been renovated and re-configured over the years. The interior walls of the building consist of a combination of sheetrock, plaster and concrete block. The original ceilings are constructed of plaster, which are located above the existing suspended ceiling system.

3.0 VISUAL INSPECTION & OBSERVATIONS

As noted above, EMTEC performed a visual inspection of the subject facility on August 19, 2010. At the time of the inspection, the EMTEC team was accompanied by the building engineer, whom showed EMTEC all of the areas of concern within the building.

EMTEC began the visual inspection on the first floor of the building. The first floor contains several areas of water damage and/or fungal growth on the ceiling tiles and ceiling plaster. These areas were located in the following areas: 1) Front Corridor Near front Entrance; 2) Front Corridor in Front of Software Engineer's Office; 3) Entrance to Men's Restroom; 4) Chief of Police's Administrative/Secretary's Office; 5) Assistant Chief of Police's Office; 6) Electrical Room and 7) Back Corridor. EMTEC inspected

the tiles and most of the tiles were wet and fungal growth was present. EMTEC also collected moisture content readings on the sheetrock wall in the Assistant Chief of Police's office where a water leak had occurred. All readings were within the acceptable limits. Please note that not all offices and/or rooms were inspected due to limited access, or they were identified by the Building Engineer as a "non-concern".

EMTEC proceeded with the inspection to the basement level. The basement also contained several areas of water damage and/or fungal growth on the ceiling tiles. These areas were located in the following areas: 1) Main Corridor; 2) CSSU Offices; 3) CSSU Break Room and 4) AFIS Office. EMTEC inspected the tiles; most of the tiles were wet, with fungal growth being present. Please note not all offices and/or rooms were inspected due to limited access, or they were identified by the Building Engineer as a "non-concern".

4.0 SAMPLING PROCEDURE

EMTEC's approach to evaluating the situation consisted of conducting a visual inspection of the subject facility. Then, based on the information received and observed during the inspection, a sampling procedure was designed. Interior air samples were collected for comparison with outside air conditions, along with collecting carbon dioxide readings and temperature/relative humidity readings. Determining the concentration of the airborne mold spores is very important in developing the risk assessment and recommendations to eliminate any potential health risks. The following sample procedures were utilized:

- (1) A total of Nine (Eight Inside and One Outside-Baseline Sample) Total Bioaerosol Particulate samples were collected using the Air-O-Cell cassettes attached to connected plastic tubing and powered by high volume Gast pumps. These samples were collected at the recommended 15-Lpm (Liters Per Minute) flow for a time period of 5 minutes for an inside sample and 5 minutes for the outside sample.
- (2) Several humidity/temperature readings were taken in areas throughout the structure utilizing an EXTECH Humidity/Temperature Pen.
- (3) Several Carbon Dioxide Reading were taken in areas throughout the structure utilizing a Testo 535 Carbon Dioxide Reader.

5.0 SAMPLE RESULTS

Fungal Samples

Sample Number	Type of Sample	Location of Sample	Result
PS-01	Air-O-Cell	Outside	12,300 Counts/Cubic Meter
PS-02	Air-O-Cell	1 st Floor-Front Corridor-Near Front Entrance	95 Counts/Cubic Meter
PS-03	Air-O-Cell	1 st Floor-Chief of Police Secretary's Office	321 Counts/Cubic Meter
PS-04	Air-O-Cell	1 st Floor-Assistant Chief of Police's Office	124 Counts/Cubic Meter
PS-05	Air-O-Cell	1 st Floor-Back Corridor	3,250 Counts/Cubic Meter
PS-06	Air-O-Cell	1 st Floor-Crime Stoppers Office	602 Counts/Cubic Meter
PS-07	Air-O-Cell	Basement-Main Corridor	110 Counts/Cubic Meter
PS-08	Air-O-Cell	Basement-Weight Room	69 Counts/Cubic Meter
PS-09	Air-O-Cell	Basement-CSSU Break Room	211 Counts/Cubic Meter

5.1 AIR-O-CELL SAMPLE RESULTS

Sample PS-01 (Outside) – 12,300 Counts/cubic meter (Total)

Basidiospores was the main mold spore contributor at (4,090 counts/cubic meter) with Alternaria, Ascospores, Aspergillus/Penicillium, Bipolaris, Cladosporium, Curvularia, Epicoccum, Fusarium, Ganoderma, Myxomycetes, Pithomyces, Torula, Cercospora and Nigrospora making up the rest. This sample is considered to be normal for an outside sample during this time of year and climate conditions at time of sampling.

Sample PS-02 (1st Fl.-Front Corridor) – 95 Counts/cubic meter (Total)

Curvularia, Myxomycetes and Pithomyces were the mold genres making up this sample. This sample is considered to be good for an indoor environment.

Sample PS-03 (1st Fl.-Police Chief Secretary's Office) – 321 Counts/cubic meter (Total)

Ascospores, Cladosporium, Curvularia, Epicoccum, Pithomyces and Nigrospora were the mold genres making up this sample. This sample is considered to be good for an indoor environment.

Sample PS-04 (1st Fl.-Assist. Chief of Police's Office) – 150 Counts/cubic meter (Total)

Alternaria, Bipolaris, Curvularia and Pithomyces were the mold genres making up this sample. This sample is considered to be good for an indoor environment.

Sample PS-05 (1st Fl.-Back Corridor) – 3,250 Counts/cubic meter (Total)
 Aspergillus/Penicillium was the main mold spore contributor at (1,980 counts/cubic meter) with Alternaria, Basidiospores, Cladosporium, Curvularia, Stachybotrys and Nigrospora making up the rest. This sample is considered to be abnormal for an inside sample due to the elevated detection of the Aspergillus/Penicillium mold genus and the detection of the Stachybotrys mold genus in comparison to the outdoor sample.

Sample PS-06 (1st Fl.-Crime Stoppers Office) – 602 Counts/cubic meter (Total)
 Alternaria, Ascospores, Aspergillus/Penicillium, Cladosporium, Curvularia and Stachybotrys were the mold genera making up this sample. This sample is considered to be abnormal for an inside sample due to the detection of the Stachybotrys mold genus in comparison to the outdoor sample.

Sample PS-07 (Basement-Corridor) – 110 Counts/cubic meter (Total)
 Cladosporium, Curvularia, Nigrospora and Tetraploa were the mold genera making up this sample. This sample is considered to be good for an indoor environment.

Sample PS-08 (Basement-Weight Room) – 69 Counts/cubic meter (Total)
 Cladosporium and Pithomyces were the mold genera making up this sample. This sample is considered to be good for an indoor environment.

Sample PS-09 (Basement-CSSU Break Room) – 69 Counts/cubic meter (Total)
 Aspergillus/Penicillium was the only the mold genera making up this sample. This sample is considered to be good for an indoor environment.

EMTEC recommends that precautionary measures be taken if any of the following conditions occur: (1) The indoor sample is much higher than the outside/baseline sample or (2) if the indoor sample detects a different mold species than the outside sample at an elevated level or (3) if Stachybotrys is detected at an elevated level.

5.2 TEMPERATURE/HUMIDITY READINGS

Sample Number	Type of Sample	Location of Sample	Result
01	Temperature/Relative Humidity Reading	Outside	55% Relative Humidity 96° Fahrenheit
02	Temperature/Relative Humidity Reading	1st Floor-Front Corridor-Near Front Entrance	45% Relative Humidity 76° Fahrenheit
03	Temperature/Relative Humidity Reading	1st Floor-Chief of Police Secretary's Office	48% Relative Humidity 71° Fahrenheit
04	Temperature/Relative Humidity Reading	1st Floor-Assistant Chief of Police's Office	48% Relative Humidity 70° Fahrenheit
05	Temperature/Relative Humidity Reading	1st Floor-Back Corridor	49% Relative Humidity 72° Fahrenheit

5.2 TEMPERATURE/HUMIDITY READINGS-CONT.

Sample Number	Type of Sample	Location of Sample	Result
06	Temperature/Relative Humidity Reading	1 st Floor-Crime Stoppers Office	46% Relative Humidity 73° Fahrenheit
07	Temperature/Relative Humidity Reading	Basement-Main Corridor	65% Relative Humidity 76° Fahrenheit
08	Temperature/Relative Humidity Reading	Basement-Weight Room	75% Relative Humidity 78° Fahrenheit
09	Temperature/Relative Humidity Reading	Basement-CSSU Break Room	57% Relative Humidity 67° Fahrenheit

ASHRAE standards recommends that the relative humidity within a working environment range from 30%-60%. The desirable temperature for an office is in the low 70 degree Fahrenheit range. For comparative analysis, at the time of the inspection the outside temperature was 96 degrees Fahrenheit and the humidity 55 percent. The temperatures and relative humidity levels within the first floor of the building are considered to be desirable; however the relative humidity levels in the basement were all above or at the higher limits of the recommended levels.

5.3 CARBON DIOXIDE READINGS

Carbon Dioxide levels increase with the occupancy and the lack of “make up” air from outside. ASHRAE standard 62.1 recommends that the indoor measurements should be less than 700 ppm above the outside measurements. For reference purposes, the outside measurements the day of sampling was 500 to 510 ppm; therefore inside measurements should not exceed 1,100 ppm.

Sample Number	Location	Reading (Part/Million)
01	Outside	450 to 460 ppm
02	1st Floor-Chief of Police Secretary's Office	750 to 760 ppm
03	1st Floor-Assistant Chief of Police's Office	780 to 790 ppm
04	1st Floor-Back Corridor	800 to 810 ppm
05	1 st Floor-Crime Stoppers Office	900 to 915 ppm

5.3 CARBON DIOXIDE READINGS-CONT.

Sample Number	Location	Reading (Part/Million)
06	Basement-Main Corridor	500 to 510 ppm
07	Basement-Weight Room	460 to 470 ppm
08	Basement-CSSU Break Room	590 to 600 ppm

All of the readings collected within the building were within the recommended levels.

6.0 CONCLUSION & RECOMMENDATIONS

First, it should be explained that mold is always present and occurs naturally in the environment. Second, mold (generally speaking) does not become active or toxic unless the following conditions exist: (1) A source of water or moisture, (2) No direct sun or artificial light, (3) Lack of proper ventilation and (4) An adequate food source. These are the major criteria's necessary for the mold to grow and become toxic.

Immunological reactions include asthma, HP (Hypersensitivity Pneumonitis), and allergic rhinitis. Contact with fungi (Mold) may also lead to dermatitis. It is thought that these conditions are caused by an immune response to fungal agents. The most common symptoms associated with allergic reactions are runny nose, eye irritation, cough, congestion, and aggravation of asthma. HP may occur after repeated exposures to an allergen and can result in permanent lung damage. HP has typically been associated with repeated heavy exposures in agricultural settings but has also been reported in office settings. Exposure to fungi through renovation work may also lead to initiation or exacerbation of allergic or respiratory symptoms ODS (Organic Dust Toxic Syndrome) describes the abrupt onset of fever, flu like symptoms, and respiratory symptoms in hours following a *single, heavy* exposure to dust containing organic material including fungi. It differs from HP in that it is not an immune-mediated disease and does not require repeated exposures to the same causative agents including common species of fungi (e.g., species of *Aspergillus* and *Penicillium*). ODS has been documented in farm workers handling contaminated material but is also of concern to workers performing renovation work on buildings materials contaminated materials contaminated with fungi. Just some of the health problems with mold have been mentioned, however susceptibility varies with the genetic predisposition (e.g. allergic reactions do not always occur in all individuals), age, state of health, and concurrent exposures (e.g., New York City Department of Health – Environmental & Occupational Disease Epidemiology).

Based on the visual inspection, there have been some issues with roof leaks; the insulation on the chill water lines became compromised resulting in condensation, especially on cold metal surfaces such as duct work. These issues have been occurring over the past few years. This is evident by the water/fungal stained ceiling tiles within the building. However, all air samples collected did not indicate a fungal contamination issue with the exception of air samples PS-05 and PS-06. These two samples detected an elevated amount of the Stachybotrys mold in comparison to the outside sample.

All of the carbon dioxide readings collected at the time of the inspection were well within the recommended levels. All of the relative humidity readings collected on the first floor was within the recommended ranges. However, two of the readings collected in the basement were well above the ASHRAE ranges of 30%-60%. These readings were collected in the exercise room (75%) and the basement corridor (65%). Elevated humidity readings within a building can result in metal surfaces condensating along with providing enough moisture in the air for fungal growth to occur.

EMTEC recommends the following:

- All ceiling tiles indicating any kind of water staining or fungal growth be removed and disposed of as soon as possible. This should be completed even prior to the roof replacement. Therefore this may also be required after roof replacement.
- All pipe insulation that is compromised should be replaced with new.
- The make-up (fresh air) intake for the basement should be modified so it can be varied; it currently takes in 100% fresh air.
- The fresh air intake should be re-located.
- All individual fan coil units should be adequately cleaned; all interior coils and grills should be treated and cleaned.
- All supply vents indicating signs of fungal growth should be cleaned and/or replaced with new.

7.0 DISCLAIMER

The client is reminded that concentrations and characteristics of mold spores in the air vary significantly based on availability of free moisture, organic matter, temperature, and airflow. The readings identified on the date of the survey represent those conditions that are present at that particular time. Elimination of concentrated mold spores in the air will require addressing of the mold source. Aggressive mold can only be stopped when environmental conditions are improved by the elimination of moisture and organic matter plus increasing exposure to sun light and improving air flow circulation.

Aggressive mold growth can return if healthy environmental conditions are not maintained. Treatment of areas suspected of having mold growth with an antimicrobial cleaner is recommended.

Should any occupant in the residence have a depressed immune system, severe respiratory problems, be in a weakened condition, recovering from major surgery, or a young infant with health problems, they should not reside in any areas identified as having abnormal mold concentration for an extended period of time.

Further, it is recommended that the occupant obtain periodic mold testing after the recommendations contained in this report are implemented and until such timed conditions stabilize.

Respectfully Submitted,



John Hatchett, CIEC

Steven Smith, EI & Environmental Technician

APPENDIX

LABORATORY RESULTS

Microbiology Chain of Custody

EMSL Order Number (Lab Use Only):

371009509

EMSL
1000
1500
1000
1000
1000
1000



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS DIVISION

Company: **EMTEC**

Street: **P.O. Box 3703** State/Province: **AR** Zip/Postal Code: **72203** Country: **USA**

City: **Little Rock** Fax #: **501-374-7494**

Report To (Name): _____ E-mail Address: **emtec@aristotle.net**

Telephone #: **501-374-7492**

EMSL-Bill to: Same Different
If Bill to is Different please note in Comments**

Third Party Billing requires written authorization from third party

Project Name/ Number: **Police Department 1** PO# _____ State Samples Taken: **9**

Please Provide Results: Fax E-mail

Turnaround Time (TAT) Options* - Please Check

3 Hour 6 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps)

- M001 Air-O-Cell
- M049 BioSIS
- M030 Micro 5
- M173 Allegro M2
- M003 Burkard
- M174 MoldSnap
- M004 Allergenco
- M043 Cyclex
- M176 Relle Smart
- M032 Allergenco-D
- M002 Cyclex-d
- M130 Via-Cell
- M172 Versa Trap

Other Microbiology Test Codes

- M041 Fungal Direct Examination
- M005 Viable Fungi ID and Count
- M006 Viable Fungi ID and Count (Speciation)
- M007 Culturable Fungi
- M008 Culturable Fungi (Speciation)
- M009 Gram Stain Culturable Bacteria
- M010 Bacterial Count and ID - 3 Most Prominent
- M011 Bacterial Count and ID - 5 Most Prominent
- M013 Sewage Contamination in Buildings
- M014 Endotoxin Analysis
- M015 Heterotrophic Plate Count
- M180 Real Time Q-PCR-ERMI 36 Panel
- M018 Total Coliform (Membrane Filtration)
- M020 Fecal Streptococcus (Membrane Filtration)
- M210-215 Legionella Detection
- M026 Recreational Water Screen
- M027 Mycotoxin Analysis
- M029 Enterococci
- M019 Fecal Coliform
- M133 MRSA Analysis
- M028 Cryptococcus neoformans Detection
- M120 Histoplasma capsulatum Detection
- M033-39 Allergen Testing
- M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)
- Other See Analytical Price Guide

Preservation Method (Water): _____

Name of Sampler: **John Hatchett** Signature of Sampler: *John Hatchett*

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
PS-01	Outside	Air-O-Cell	M001	75L	8/19/10
PS-02	Front Hall-1 st Floor				
PS-03	1 st Floor Police Chief Sec.				
PS-04	Assistant Chiefs Office				
PS-05	1 st Floor Back Hall				
PS-06	Crime Stoppers				
PS-07	Basement Hallway				
PS-08	Weight Room				
PS-09	CSSU				

Client Sample # (s): **PS 01-09** Total # of Samples: **9**

Relinquished (Client): *[Signature]* Date: **8/19/10** Time: _____

Received (Client): *[Signature]* Date: **8-20-10** Time: _____

Comments: _____

**EMSL Analytical, Inc.**

200 Route 130 North Cinnaminson, NJ 08077

Phone: (856) 858-4800 Fax: (856) 786-0262 Web: <http://www.emsl.com> Email: westmontmicro@emsl.com

Attn: John Hatchett
EMTEC
P.O. Box 3703
Little Rock, AR 72203

EMSL Order: 371009509
Customer ID: ENGI55
Collected: 8/19/2010
Received: 8/20/2010
Analyzed: 8/21/2010

Proj: POLICE DEPARTMENT**Test Report: Air-O - Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)**

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	371009509-0001 PS-01 75 OUTSIDE			371009509-0002 PS-02 75 FRONT HALL-1ST FLR			371009509-0003 PS-03 75 1ST FLR POLICE CHF SEC		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	1	42	0.3	-	-	-	-	-	-
Ascospores	50	2110	17.2	-	-	-	1	42	13.1
Aspergillus/Penicillium	24	1010	8.2	-	-	-	-	-	-
Basidiospores	97	4090	33.3	-	-	-	-	-	-
Bipolaris++	1	42	0.3	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	89	3760	30.6	-	-	-	4	169	52.6
Curvularia	9	380	3.1	3*	40*	42.1	1	42	13.1
Epicoccum	1	42	0.3	-	-	-	1*	13*	4
Fusarium	4	169	1.4	-	-	-	-	-	-
Ganoderma	3	127	1	-	-	-	-	-	-
Myxomycetes++	8	338	2.8	1*	13*	13.7	-	-	-
Pithomyces	1	42	0.3	1	42	44.2	1	42	13.1
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	1	42	0.3	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	1	42	0.3	-	-	-	-	-	-
Cercospora	1	42	0.3	-	-	-	-	-	-
Nigrospora	1*	13*	0.1	-	-	-	1*	13*	4
Tetraploa	-	-	-	-	-	-	-	-	-
Total Fungi	292	12300	100	5	95	100	9	321	100
Hyphal Fragment	2	84	-	1	42	-	2	84	-
Insect Fragment	1	42	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	1	-	-	2	-

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. 200 Route 130 North, Cinnaminson NJ AIHA-LAP, LLC—EMLAP Lab 100194

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Jason Dobranic, Ph.D., Laboratory Manager
or Other Approved SignatoryFor information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Phone: (856) 858-4800 Fax: (856) 786-0262 Web: <http://www.emsl.com> Email: westmontmicro@emsl.com

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EMSL Order: 371009509
Customer ID: ENGI55
Collected: 8/19/2010
Received: 8/20/2010
Analyzed: 8/21/2010

Proj: POLICE DEPARTMENT

Test Report: Air-O - Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	371009509-0004 PS-04 75 ASST CHIEFS OFFICE			371009509-0005 PS-05 75 1ST FLR BACK HALL			371009509-0006 PS-06 75 CRIME STOPPERS		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	1	42	33.9	2	84	2.6	1	42	7
Ascospores	-	-	-	-	-	-	1*	13*	2.2
Aspergillus/Penicillium	-	-	-	47	1980	60.9	8	338	56.1
Basidiospores	-	-	-	1	42	1.3	-	-	-
Bipolaris++	1	42	33.9	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	4	169	5.2	1	42	7
Curvularia	2*	27*	21.8	1	42	1.3	3*	40*	6.6
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces	1*	13*	10.5	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	21	886	27.3	3	127	21.1
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Cercospora	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	1	42	1.3	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Total Fungi	5	124	100	77	3250	100	17	602	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	1	42	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	3	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	2	-	-	2	-

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. 200 Route 130 North, Cinnaminson NJ AIHA-LAP, LLC—EMLAP Lab 100194

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Jason Dobranic, Ph.D., Laboratory Manager
or Other Approved Signatory

For information on the fungi listed in this report please visit the Resources section at www.emsl.com



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077

Phone: (856) 858-4800 Fax: (856) 786-0262 Web: <http://www.emsl.com> Email: westmontmicro@emsl.com

Attn: John Hatchett
EMTEC
P.O. Box 3703
Little Rock, AR 72203

EMSL Order: 371009509
Customer ID: ENGI55
Collected: 8/19/2010
Received: 8/20/2010
Analyzed: 8/21/2010

Proj: POLICE DEPARTMENT

Test Report: Air-O - Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

Lab Sample Number:	371009509-0007			371009509-0008			371009509-0009		
Client Sample ID:	PS-07			PS-08			PS-09		
Volume (L):	75			75			75		
Sample Location:	BASEMENT HALLWAY			WEIGHT ROOM			CSSU		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	5	211	100
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	1	42	38.2	1	42	60.9	-	-	-
Curvularia	1	42	38.2	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces	-	-	-	2*	27*	39.1	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Cercospora	-	-	-	-	-	-	-	-	-
Nigrospora	1*	13*	11.8	-	-	-	-	-	-
Tetraploa	1*	13*	11.8	-	-	-	-	-	-
Total Fungi	4	110	100	3	69	100	5	211	100
Hyphal Fragment	2	84	-	-	-	-	1	42	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum

Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. 200 Route 130 North, Cinnaminson NJ AIHA-LAP, LLC—EMLAP Lab 100194

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

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FLOOR PLANS

PS-05
Air-O-Cell
3,250 counts/cubic meter
CO2 - 800 to 810 ppm
72 Degrees & 49% Humidity
Picture #8

PS-04
Air-O-Cell
124 counts/cubic meter
CO2 - 780 to 790 ppm
70 Degrees & 48% Humidity
Picture #6

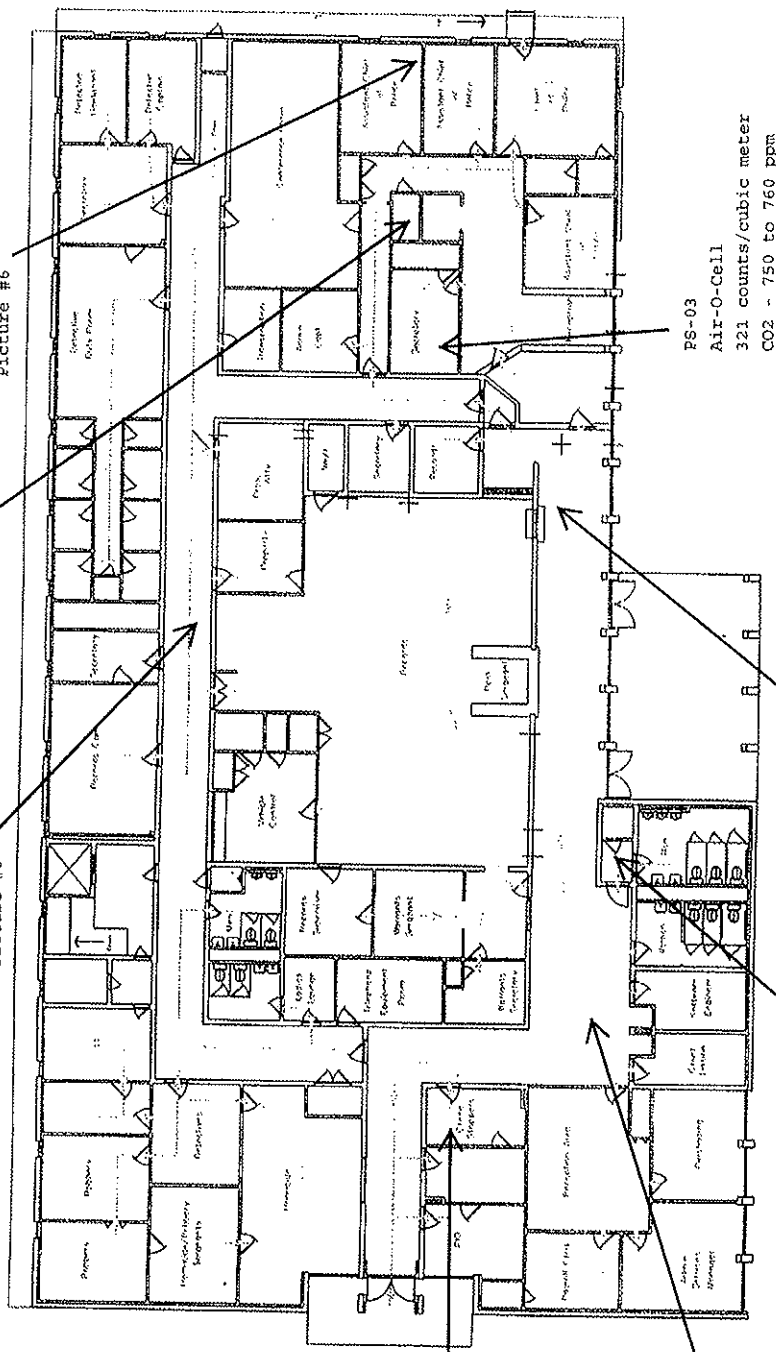
PS-01 (Outside Sample)
Air-O-Cell
12,300 counts/cubic meter
CO2 - 450 to 460 ppm
96 Degrees & 55% Humidity

PS-06
Air-O-Cell
602 counts/cubic meter
CO2 - 900 to 915 ppm
73 Degrees & 46% Humidity

Pictures #2 & #3

PS-02
Air-O-Cell
95 counts/cubic meter
76 Degrees & 45% Humidity
Picture #1

PS-03
Air-O-Cell
321 counts/cubic meter
CO2 - 750 to 760 ppm
71 Degrees & 48% Humidity
Picture #5

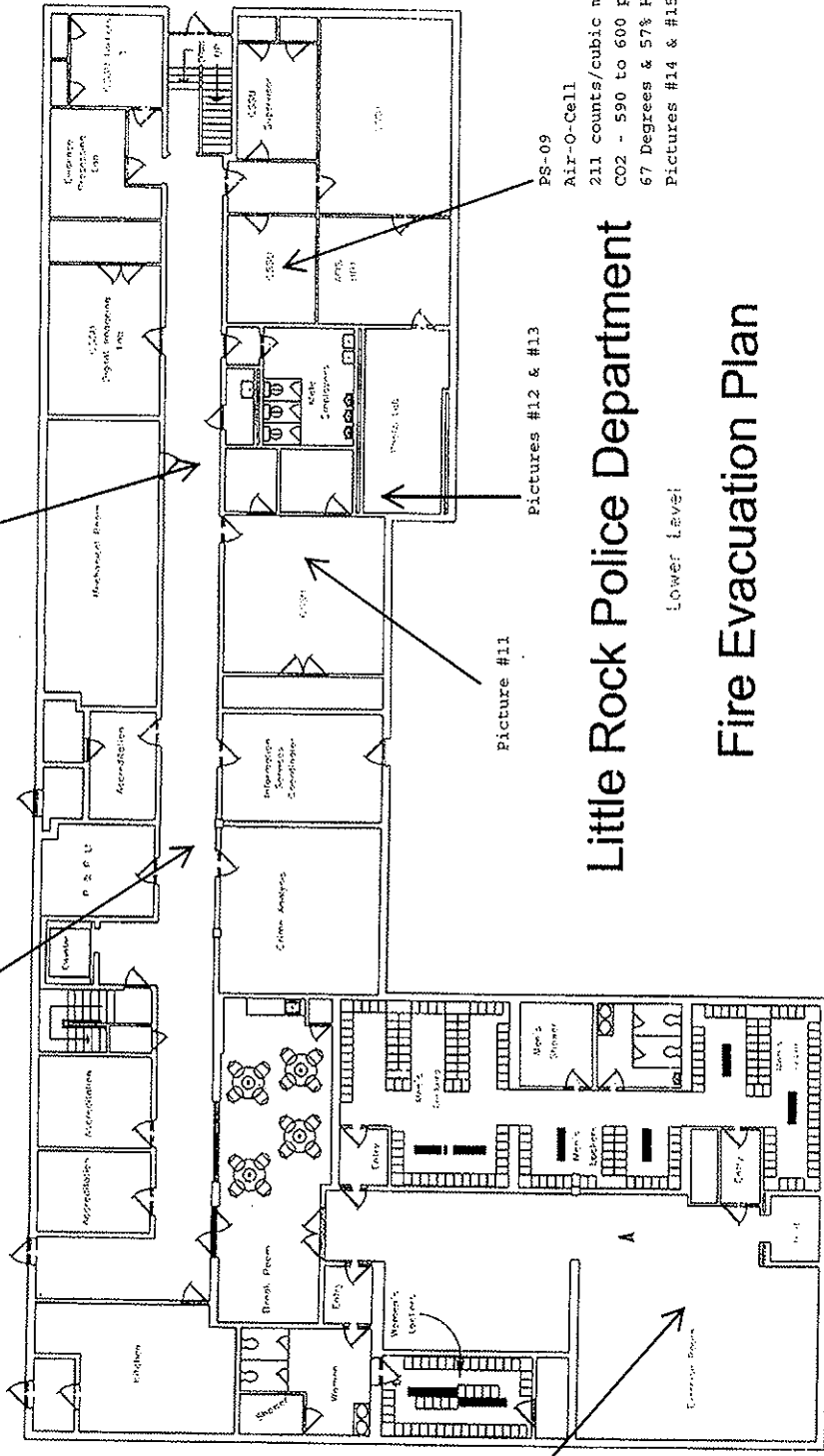


LITTLE ROCK POLICE DEPARTMENT

700 W. Markham St.
Little Rock, Arkansas

PS-07
 Air-O-Cell
 110 counts/cubic meter
 CO2 - 500 to 510 ppm
 76 Degrees & 65% Humidity

Pictures #9 & #10



PS-08
 Air-O-Cell
 69 counts/cubic meter
 CO2 - 460 to 470 ppm
 78 Degrees & 75% Humidity

Picture #11

Pictures #12 & #13

PS-09

Air-O-Cell
 211 counts/cubic meter
 CO2 - 590 to 600 ppm
 67 Degrees & 57% Humidity
 Pictures #14 & #15

Little Rock Police Department

Lower Level

Fire Evacuation Plan

PHOTOGRAPHS

**CITY OF LITTLE ROCK POLICE STATION
700 WEST MARKHAM
PAGE 1 OF 3**



**PICTURE#1- WATER DAMAGED PLASTER CEILING
IN FRONT LOBBY/ENTRANCE**



**PICTURE#2-WATER DAMAGE & FUNGAL GROWTH-
FIRST FLOOR CEILING-FRONT CORRIDOR**



**PICTURE#3-WATER DAMAGE-FIRST FLOOR
CEILING-FRONT CORRIDOR**



**PICTURE#4-WATER DAMAGE-FIRST FLOOR MEN'S
RESTROOM CEILING**



**PICTURE#5-WATER DAMAGED CEILING TILES IN
CHIEF OF POLICE-SECRETARY'S OFFICE**



**PICTURE#6-WATER DAMAGED CEILING TILES AND
WALL IN ASSISTANT CHIEF OF POLICE'S OFFICE**

**CITY OF LITTLE ROCK POLICE STATION
700 WEST MARKHAM
PAGE 2 OF 3**



PICTURE #7-ROOF DECKING IN ELECTRICAL ROOM ON FIRST FLOOR-AREA HAS SUSTAINED SEVERAL WATER LEAKS



PICTURE#10-METAL DUCTWORK ABOVE CEILING IN PICTURE #9



PICTURE #8-WATER DAMAGED CEILING TILE AND FUNGAL GROWTH IN BACK CORRIDOR OF FIRST FLOOR-WATER DAMAGE IS FROM PIPE CONDENSATION



PICTURE#9-WATER DAMAGED CEILING TILE AND FUNGAL GROWTH IN BASEMENT CORRIDOR

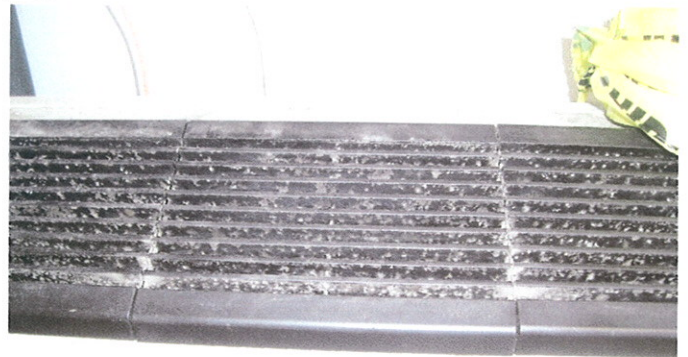


PICTURE#11-WATER DAMAGED CEILING TILES & FUNGAL GROWTH IN CSSU OFFICE

**CITY OF LITTLE ROCK POLICE STATION
700 WEST MARKHAM
PAGE 3 OF 3**



**PICTURE#12- WATER DAMAGED CEILING TILES
AND FUNGAL GROWTH IN PHOTO LAB**



**PICTURE#13-FUNGAL GROWTH ON FAN COIL UNIT
IN PHOTO LAB**

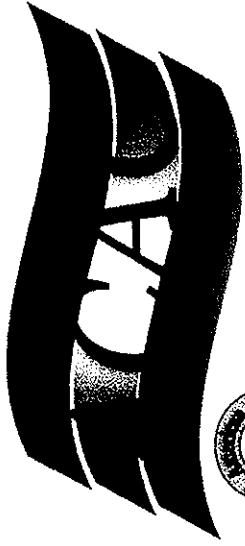


**PICTURE#14-SUPPLY VENT IN BREAK ROOM IN
BASEMENT**



**PICTURE#15-WATER DAMAGED CEILING TILE &
FUNGAL GROWTH IN BREAK ROOM IN BASEMENT**

EMTEC CERTIFICATIONS



Formerly the American
Indoor Air Quality Council

American Council for Accredited Certification

hereby certifies that

John A. Hatchett

has met all the specific standards and qualifications of the certification process
and is hereby certified as a

CIEC

**Council-certified
Indoor Environment Consultant**

This certificate is valid for 2 years, expiring January 31, 2012.

Charles F. Wiles, Executive Director

1001002

Certificate Number

This certificate remains the property of the American Council for Accredited Certification.

LICENSE
ISSUED BY
ARKANSAS STATE PLANT BOARD

Little Rock, Arkansas

License Number: MLH941B1-3022

Date Issued: 7/11/2010

to

John Hatchett

The above named individual has complied with the provisions of Act 488 of 1975 "Arkansas Pest Control Law" and PL92-516 (FIFRA) and is entitled under this license to engage in the following work:

Classification Number: Mold

- Class 1 - Termite & Other Structural Pest, Class 2 - Household Pest & Rodent Control, Class 3 - General Fumigation
- Class 4 - Ornamental Tree & Turf Pest Control, Class 5 - Weed Control, Class 6 - Golf Course Pest Control
- Class 7 - Food Mfg., Processing & Storage Pest Control, Class 8 - Food Related Fumigation
- Class 9A - Ornamental Tree & Turf Pest Control, Class 9B - Weed Control
- Class 10 - Golf Course Pest Control
- REG - Fire Ant Special

THIS LICENSE IS VALID THROUGH June 30, 2011, OR MAY BE INVALIDATED AT ANYTIME FOR CAUSE.

Manager, Commercial Pest Control

Sgt Bray

Director, Plant Industries

Larry Walker