

## REQUEST FOR BOARD ACTION

ITEM NO. 10.

**DATE OF MEETING:** October 17, 2011

**REQUESTED BY:** Pat Simmons, Administrative Officer, Public Works

**SHORT TITLE:** Resolution to Approve Air Quality Upgrades and Moisture Remediation in the Pender County Jail and Authorizing Purchase Order to Tim's Heating & Air Inc.: \$29,229 and Eastern Environmental, Inc.: \$19,850.

**BACKGROUND:** The Pender County Jail received notification from the NC Division of Occupational Safety and Health about potential moisture problems at the Jail. Public Works requested Air Quality Analytical, Inc. to conduct a moisture assessment in the Pender County Jail and identify the current conditions and provide recommendations for moisture remediation and HVAC system upgrades.

Five (5) HVAC contractors and four (4) environmental specialist contractors were provided the scope of work according to the requirements specified by Air Quality Analytical, Inc. The only contractors that met the criteria and submitted proposals are as follows: Tim's Heating & Air, Inc. and Eastern Environmental, Inc. Due to their high quality work and level of service they have previously provided to Pender County it is our recommendation to award the specialized work to the respective contractors.

**SPECIFIC ACTION REQUESTED:** The Pender County Board of Commissioners is requested to authorize a purchase order to Tim's Heating & Air, Inc., in the amount of: \$29,229 for air quality upgrades and Eastern Environmental Inc. in the amount of: \$19,850 for moisture remediation in the Pender County Jail.

**COUNTY MANAGER'S RECOMMENDATION**

Respectfully recommend approval.

RB  
Initial

**RESOLUTION**

**NOW, THEREFORE BE IT RESOLVED** by the Pender County Board of Commissioners that:

a purchase order is authorized to Tim's Heating & Air, Inc. in the amount of \$29,229 and Eastern Environmental in the amount of \$19,850 for upgrades and moisture remediation in the Pender County Jail. The Chairman/County Manager is authorized to execute any/all documents necessary to implement this resolution.

Account # 60-407405 \$49,079

**AMENDMENTS:**

MOVED \_\_\_\_\_ SECONDED \_\_\_\_\_

APPROVED \_\_\_\_\_ DENIED \_\_\_\_\_ UNANIMOUS

YEA VOTES: Brown \_\_\_ Tate \_\_\_ Rivenbark \_\_\_ Ward \_\_\_ Williams \_\_\_

\_\_\_\_\_  
George R Brown, Chairman      10-17-2011  
Date

\_\_\_\_\_  
ATTEST      10-17-2011  
Date

# Eastern Environmental, Inc.

Asbestos • Lead Paint • Mold • HazMat • Interior Demolition

25224 US Hwy. 17 North Hampstead, NC 28443 • Office: 910-329-1129 • Cell: 910-617-7821 • Fax: 910-329-1149

Date: July 8, 2011

TO: Pat Simmons  
Administration Officer  
Pender Co. Public Works  
210 S. Bennett St.  
Burgaw, NC 28425

Location of work – PENDER COUNTY JAIL  
MOLD REMEDIATION

Dear Pat:

Eastern Environmental, Inc. is pleased to submit the following proposal which includes pricing, scope of services, project schedule, payment terms and notes and clarifications that relate to the above referenced project. It is our intent to remain flexible with respect to alternatives and options that may be of interest to you during your evaluation of this proposal.

## PRICING

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Eastern Environmental, Inc. shall furnish all supervision, labor, consumable materials, tools, equipment, warehousing, employee certification, medical surveillance, personnel air monitoring and subsistence to perform the Scope of Services below.

**\$19,850.00**

## SCOPE OF SERVICES

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- Dehumidify and filter the air in the work areas
- Thoroughly clean all walls, ceilings, floors and other horizontal surfaces within the specified areas by HEPA vacuuming and wiping with a fungicide solution
- After drying, apply a mold inhibiting encapsulant to the walls and ceilings

## PROJECT NOTES AND CLARIFICATIONS

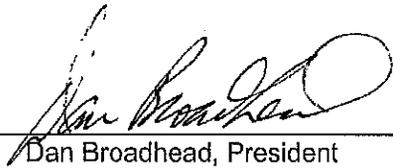
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1. The base bid has been priced to commence in a continuous and on-going manner. Work schedule to be 8:00 AM – 5:00 PM Mon - Fri until the project is completed.
2. Disposal of the waste will be made at the Sampson Co. landfill, located in Roseboro, NC. A manifest will accompany each load that is transported to the facility and will be made available to the owner/generator.
3. Water and electricity are to be provided at the work site by others.
4. Pricing does not include the price of an industrial hygiene firm to conduct clearance air sampling.

**TERMS & CONDITIONS**

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1. Eastern Environmental, Inc. has priced this proposal utilizing our standard insurance limits of 1 million general liability and 2 million aggregate. Additional coverage may be obtained and additional fees may apply.
2. Payment terms of "**DUE UPON RECEIPT**" are contractually binding for the scope of this project, regardless of the payment terms agreed to between your firm and the owner or client. Billing terms are one-hundred percent (100%) of the contract value of materials delivered and labor performed to date, unless retainage is applicable. When retainage is applicable, final retainage payment shall be paid within 30 days of Eastern Environmental, Inc.'s final completion of the project.
3. The terms of this proposal shall be null and void if not accepted within 30 days unless officially extended in writing.

Prepared by:  \_\_\_\_\_  
Dan Broadhead, President

Date: October 6, 2011

Accepted by: \_\_\_\_\_

Date: \_\_\_\_\_

**TIM'S HEATING & AIR CONDITIONING, INC. 64 MERGANSER LOOP, ROCKY POINT NC 28457  
BID (SERVICE & MATERIAL) (910) 602-3324 OR (910) 259-8804 (License # 16821 - H1, H2, H3, P)**

BID # 4623	DATE :	09/12/2011
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**To:** Pender County Public Works  
**Contact:** Samenthia Jones  
**Job Name:** Pender County Jail  
**Job Location:** 605 E. Freemont St.  
**City, State, Zip:** Burgaw, NC 28425  
**Billing Address:** P.O. Box 1205  
**City, State, Zip:** Burgaw, NC 28425  
**Office:** 910-259-1249  
**Mobile:**  
**Fax:** 910-259-1297

*We are pleased to submit the following bid:*

**Job Description:**

Tim's Heating and Air Conditioning, Inc. (THAC, Inc.) to provide and install the following as described below.

*After examining Pender County Jail Mold Assessment report by Analytical Company and site visit. It is our (THAC, Inc.) professional opinion to recommend the following repairs and or changes to Pender County Jail. At site visit, it was noted a couple of exhaust fans not operating and all outside air was closed off at 100%.*

*Pressure of building was noted to be in a negative pressure. Negative pressure buildings increases the unconditioned outside air infiltration to enter building. Outside air introduced by infiltration will enter areas that will invite the growth of certain types of mold.*

*March, 2009, THAC, Inc. replaced all bad exhaust fans on roof and professionally cleaned all supply ducting, return ducting, added return and supply ducting in hall way in middle section of jail. THAC, Inc. also sealed doorways to courtyard area with gasket material to reduce outside air infiltration.*

*After re-examination existing ducting it is our opinion Middle section of jail and 14 men cell need to be cleaned and sealed if possible. All other remain ducting appear to still be in good condition. Cleaning will not be necessary at this time.*

*It is our professional recommendation to perform Testing and Balancing (T&B) to each existing HVAC system, supply air, return air, fresh air and exhaust air in building. THAC, Inc. to assist Research Air Flo, Inc. (A NC certified NEBB T&B Company) to perform T&B report of existing conditions of building. After first T&B report has been completed THAC, Inc. will evaluate results, repair and adjust all as needed to provide positive pressure to building. All repairs needed to achieve proper T&B will be charged at time and material as work is completed. (See item #5)*

*It is not known the reason why outside fresh air dampers are closed on existing RTU's. Outside air damper controls and or motors could be bad over the years. Dampers could be closed manually or could have been closed for higher cooling and heating capacity.*

*Existing building has approximately 4,000 cfm's of exhaust air leaving building. This exhaust air from within the building must be replaced with 4,000+ cfm's through existing air conditioning system's throughout the building to achieve a positive pressure. If building temperature can not be achieved due to additional outside air entering building, this issue would have to be addressed with a preconditioning outside air energy recovery system. To know exactly if the existing heating and cooling capacities are adequate, a heat gain and heat loss calculation evaluation (Energy Audit) must be performed on complete building to verify load conditions. (Energy Audit is not included in this proposal)*

*Replace louvered damper in existing smoke damper located in 14 men cell exterior wall. Existing damper is leaking high amounts of outside air infiltration in building.*

*It is also the recommendation of THAC, Inc. to install Ultra Violet Lights in front of all RTU's evaporator coils. UV Lights will help maintain cleanliness to drain pans, evaporator coils and also improve air quality. Improving air quality, will reduce bacterial growth and mold formation. Pricing upon request.*

- 1) THAC, Inc. to provide Testing and Balancing (T&B) to all RTU's supply ducting, return ducting, outside fresh air and exhaust system's.
- 2) THAC, Inc. to adjust opposed blade dampers on supply and return grilles for T&B if accessible.
- 3) THAC, Inc. to adjust damper quadrants on supply and return outlets for T&B if accessible..
- 4) THAC, Inc. to adjust all outside air dampers on RTU's and set per CFM noted on plans.
- 5) THAC, Inc. to repair, replace and or install damper quadrants, opposed blade dampers, exhaust motors, fresh air exhaust motors and motorized dampers on all systems needed to achieve proper Testing and Balancing of system's.

**Item #5 to be charged as follows:**

- 5-a) All repairs to be charged on a time and material performance.

5-b) All materials will be charged at invoice pricing plus 30%.

5-c) Labor rates are as follows:

Installation Technician = \$72.00 hourly

Installation Laborer = \$42.00 hourly

Service Technician = \$90.00 hourly

6) THAC, Inc. to assist Air Medic Duct Cleaning Company to clean and seal the following;

6a) ~Clean all affected growth (5 men cell wall/ 2 men A cell, ceiling/ 2 men B cell, hall wall at the door) non-porous areas with Foster ® 40-80 Disinfectant, a convenient, ready-to-use formulation that is effective against a broad spectrum of bacteria. It can be used to disinfect washable, nonporous, hard surfaces in homes, schools, restaurants, hospitals, and other institutions. Foster 40-80 Disinfectant is also EPA registered to be effective against odor-causing bacteria and fungi when used in water damage restoration situations on porous and semi-porous surfaces.

6b) ~Coat these areas with Fiber lock IAQ 6000, an extremely durable coating developed to withstand moist, humid conditions that provide the ideal environment for fungal growth. This 100% acrylic coating offers durability in combination with excellent mold resistance. Fiber lock IAQ 6000 contains an EPA-registered, broad-spectrum fungicide to prevent the growth of mold on the surface of the cured film. Plus, its smooth finish minimizes dirt buildup that provides nutrients for mold growth.

6c) ~Remove and clean all return grills and air supply diffusers( only on the three HVAC systems noted above) by utilizing HEPA vacuuming, high-pressure washing, and chemical techniques.\* All rusted grills will need to be replaced or sanded and repainted. (Grille replacement is not included in this quote.)

6d) ~Clean blowers using high-pressured air and wire brushes to remove contaminates and allow the unit to work efficiently.

6e) ~Clean all supply mains and return boxes using source removal techniques including power brushing, air washing, and contact vacuuming procedures with high volume vacuum collection equipment.

6f) ~Upon completion of cleaning, each system will be fogged with an E.P.A. registered chemical called "Envirocon" to help control mold and mildew. The use of Oxine is our first choice in this situation but would require the building to be evacuated for 3-4 hours.

6g) ~After cleaning HVAC systems we will seal the interior porous insulation with Foster® Continuous Defense 40-20™ Fungicidal Protective Coating. This is an EPA registered and the industry's leading coating. It is formulated to prevent the spread of mold and bacteria in areas such as walls, ceilings, interior and HVAC ducting. FOSTER Continuous Defense 40-20™ Fungicidal Protective Coating is a polyacrylate copolymer emulsion specifically formulated for long-term fungicidal activity, with no loss of activity on aging. It is formulated to effectively prevent the spread of molds and odor-causing bacteria on its surface. As a result, the building occupants may enjoy a work space free of the odor systems problems often associated with contaminated HVAC duct systems.

6h) ~All of our cleaning efforts should help to resolve this issue. But it is also imperative that any suggestions given by Tim's Heating & Air to improve the function of this HVAC unit checks and balances, etc. Should be followed or the issue will persist.

6i) ~All work will be performed in compliance with NADCA's ACR 2006 Recommended Procedures. Any work not listed in this proposal should be proposed and billed separately. This shall include but not be limited to: duct repairs, replacement of interior/exterior duct insulation, replacing old registers, etc.

7) THAC, Inc. to provide and install (1) Tamco louvered damper. Damper to be sized to fit existing opening of existing damper. New damper to be fabricated with aluminum and stainless steel construction. Ends of louvers and blades to be equipped with silicone blade gaskets for low air loss.

QUANTITY	DESCRIPTION			TOTAL
1	Section 1 - HP #1 & HP #3, T&B		\$2,970.00	\$2,970.00
1	Section 2 - HP #2 & HP #4, T&B		\$3,614.00	\$3,614.00
1	Section 3 - RTAC #3, 4 & 5, T&B		\$3,828.00	\$3,828.00
1	Section 4 - RTAC #1 & 2, T&B		\$2,670.00	\$2,670.00
1	Section 5 - Kitchen equipment, T&B		\$900.00	\$900.00
1	Parts and Labor allotment for estimated repairs needed while T&B is performed. See item #5 - 5-c.		\$2,500.00	\$2,500.00
1	Cleaning and sealing Duct in middle section of jail (10 ton RTU). Cleaning 14 men cell duct (2-5 ton RTU).		\$10,750.00	\$10,750.00
1	Tamco louvered damper		\$1,997.00	\$1,997.00
				\$0.00
				\$0.00
*Terms: To be determined.				
This bid prepared by: Tim Merritt / pres. THAC, Inc.			Base Bid	\$29,229.00
SIGNATURE :			Date Accepted	Total Bid
			Valid Until	10/12/2011

# **Air Quality Analytical, Inc.**

*Indoor Air Quality Consulting and Environmental Services*



## **Property Mold Assessment**

### **Property:**

Pender County Jail  
104 N. Walker Street  
Burgaw, NC

### **Generated for:**

Mrs. Samenthia Jones  
Pender County Sheriff's Office  
605 E. Fremont Street  
Burgaw, NC 28425

**AQA Project No.:** 11-107-0615

**Survey Date:** June 15, 2011

**Report Date:** June 23, 2011

**Report by:** John R. Folger, CIE, CIEC  
CIEC# 0607095, CIE# 00536  
NC Asbestos Building Inspector#11095

# Air Quality Analytical, Inc.

Indoor Air Quality Consulting and Environmental Services

June 23, 2011

Mrs. Samenthia Jones  
Pender County Sheriff's Office  
605 E. Fremont Street  
Burgaw, NC 28425

RE: AQA Job # 11-107-0615, Property Mold Assessment, Pender County Jail, 104 N. Walker Street, Burgaw, NC.

Dear Mrs. Jones,

At your request on June 15, 2011 Air Quality Analytical, Inc. (AQA) conducted a mold assessment of the above referenced property. The purpose of this survey was to identify current conditions in order to provide recommendations for remediation procedures and engineering controls necessary for the proper mold remediation within the facility.

Assessment methodology: AQA conducted a cursory walk thru to observe locations where mold growth was occurring. Air samples were collected from representative areas within the facility, one (1) sample was collected from the outside for comparative purposes. Surface samples were collected from suspect mold growth in various locations. Digital photographs were taken to document areas where mold growth was present. Air and surface samples were delivered to the laboratory for analysis via Direct Microscopy utilizing recognized analytical sampling methods.

Visual Observations: The following visual observations were made:

1. Mold growth was observed in locations throughout the facility. Mold is occurring on painted concrete walls, windows, and HVAC components in the hallways where air conditioning supply is administered to the cells. Mold growth was also identified in various locations within the cell common spaces and also in the inmate bunk areas. Mold growth is documented in the "photographic log" provided as an attachment to this report.
2. Heavy rust on metals and efflorescence of calcium salts from concrete walls is present in the older sections of the jail where sustained condensation and humidity is occurring.
3. The air supply lines are attached to the ceilings in the hallways immediately adjacent to windows. Heavy rust is present on supply registers.
4. HVAC supply lines are not insulated on the outside but are likely insulated on the inside of the duct lines.
5. Light mold growth was observed in the Women's cell on sealant materials on the floor edges.

Air samples results: Air samples provided evidence of elevated levels of *Penicillium/Aspergillus* mold groups in four (4) of the eight (8) samples collected indoors. These mold groups are considered "marker" or "indicator" fungi (those generally identified in buildings with water damaged building materials). Other mold spore species were identified at comparable levels to outdoor spore levels.

Surface samples identified the presence of *Penicillium/Aspergillus* and *Cladosporium* mold groups on the wall systems where sampled.

**Executive Summary**

*Penicillium/Aspergillus* mold groups should be considered strong allergens. Several species of each genus are considered toxigenic molds. Physical indoor growth or amplification in ambient air sources of these species can cause health related responses in individuals with immune system compromise (E.g.-Cancer, Asthma) or predisposed individuals with hypersensitivity to mold spore exposure.

Note: Interpretation of air samples was conducted utilizing Indoor Environmental Standards Organization (IESO) and American Conference of Governmental Industrial Hygienist (ACGIH) Standards and other relevant industry standards for countable mold spore samples.

Acceptable Industry Standards: For *air samples*: <300 Spores/m<sup>3</sup> Individual mold groups, <5 Spores/m<sup>3</sup> *Stachybotrys species*, <1,000 Spores/m<sup>3</sup> total mold spores, 10:1 Ratio Indoor/Outdoor <50 Spores/cm<sup>2</sup> individual species, No evidence of *Stachybotrys species*.

Conclusions: The following conclusions were made from the information compiled by the assessment:

1. Mold growth is occurring within the cell area due to condensation that occurs on cooler surfaces where hot and cold air meet. The infiltration of radiant heat (heat gain) through windows in the hallways and cell rooms mixing with cold air from the supply lines is resulting in condensation of water from the ambient air on cooler surface areas (E.g.- metal ducts, walls, etc.). Mold growth generally appears within 3-5 days of sustained condensation.
2. Mold growth in the Women's dorm is likely due to similar thermal conditions (air mixing); however, occurring on sealant materials at the floor base, likely due to the temperature levels at the floor base and properties of the sealant to support mold growth.
3. Engineering controls must be utilized to limit condensation that is occurring within the facility. Condensation indicates that the HVAC systems are not functioning properly. HVAC systems should be removing water from ambient air but are often potential sources of humidity when malfunctioning. Condensate drain lines should be inspected for stoppage/clogs, and the air handling units (AHUs), and duct lines inspected for mold growth.
4. If fiberglass insulation is present within supply duct lines cleaning is not feasible. Mold contaminated duct lines with fiberglass insulation on the interior should be removed and replaced. Replacement duct lines should have a higher R-value appropriate to thermal conditions.

The following section will describe the proper engineering control and remediation activities that will be necessary to properly remediate mold growth and correct conditions promoting mold growth. It may be difficult for the layperson to understand all recommended activities.

\* **Mold Remediation Specifications:**

1. HVAC systems should be shut down and isolated via 6-mil polyethylene and duct tape during remediation activities.
2. 6-mil polyethylene critical barriers should be installed to isolate affected room areas where material remediation or exterior wall cleaning is to be conducted. HEPA filtration units should be installed within the isolated room areas and exhausted to the outside of the building. A negative air pressure differential of 0.020 inches of water via manometric gauge should be maintained throughout remediation activities.
3. Refrigerant dehumidifiers should also be installed within the room areas to remove moisture from surface areas.

4. Mold growth should be removed from painted and non-painted surface areas via HEPA vacuuming, palm sanding, or scrubbing wall surfaces with scouring brushes or cloths.
5. All remaining surface areas should be disinfected utilizing HEPA vacuuming and wet-wiping with a disinfectant solution (E.g.-Quaternary ammonia). This cleaning should be conducted within the contained room areas and throughout room areas where mold spore levels are found to be elevated.
6. All painted surface areas should be coated with an antimicrobial encapsulant. Fosters 40-25® is the recommended encapsulant.
7. HVAC systems should be cleaned by a professional HVAC systems cleaning contractor. Cleaning should be per NADCA ACR 2006 guidelines for cleaning HVAC systems. This should entail cleaning of the Air Handling Unit (E.g.-fan, coils, and condensate drain lines) and all supply duct lines.
8. Post Remediation Verification: The Indoor Environmental Professional (IEP): Certified Indoor Environmental Consultant (CIEC) should conduct an inspection of each area subsequent to completion of the described remediation activities. The inspection should include air and surface sampling within the affected areas. A Post Remediation Verification (PRV) report should be provided to the facility representative.
9. An engineering assessment should be performed to identify corrective measures that may be necessary to control humidity within the facility. Humidity should be maintained between 30-50% year round to impede future mold growth.

**Closing statements:** It is important that changes in occupancy, remodeling, maintenance procedures, the condition of the building envelope (roof and siding) and HVAC function and many other factors can have a significant effect on indoor air quality (IAQ). Maintaining acceptable IAQ is an ongoing effort and must be monitored continually to be effective.

The results of the tests represent conditions only at the time testing or sampling occurred. Thus, this report should not be relied upon to represent conditions on dates other than those reported and does not imply that the facility is free of these or other contaminants.

Our opinions are based on findings and upon our professional expertise with no warranty or guarantee implied herein. This report is intended for the sole use of your party and its assigned agents. Its contents shall not be used or relied upon by other parties without prior written authorization of Air Quality Analytical, Inc.

Thank you for the opportunity to provide you with our services. If you have any questions or concerns regarding this letter or sample results provided, please do not hesitate to call.

Sincerely,



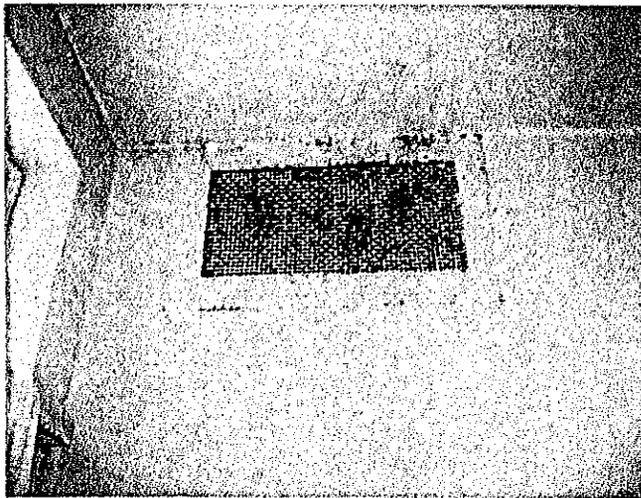
Electronically Signed by:  
John R. Folger  
CIE No. 00536  
CIEC No 0607095  
June 23, 2011

John Folger, CIE, CIEC

Photo Documentation:



5 Men Cell: Mold growth at windows



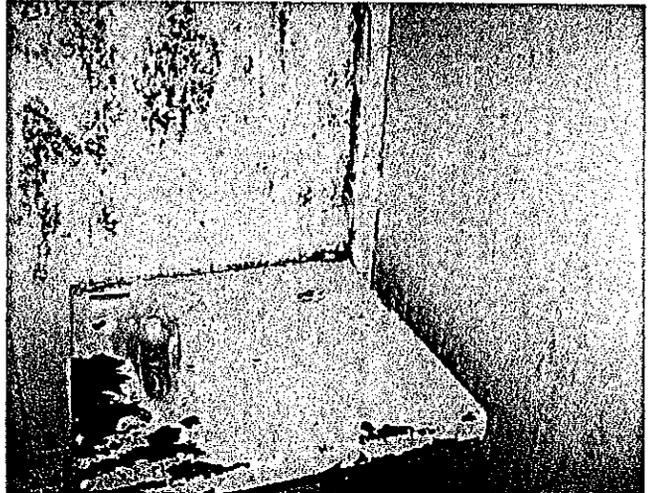
Rusted supply register



Covered supply register, rust along wall



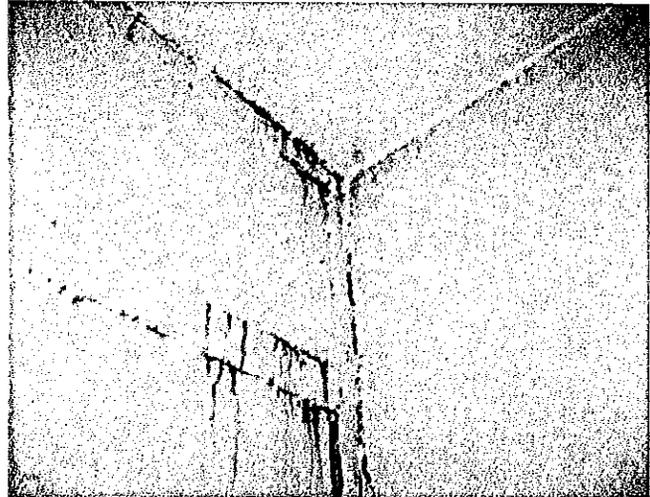
Rust on the light fixture



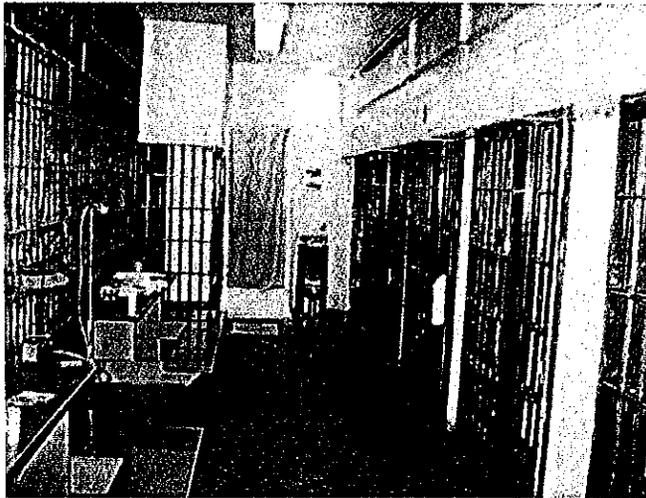
Rust and mold in cell area



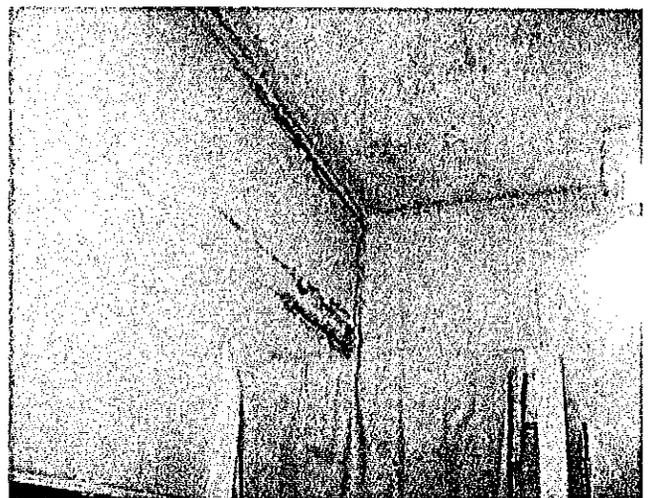
Mold on wall surfaces



Rust due to chronic condensation



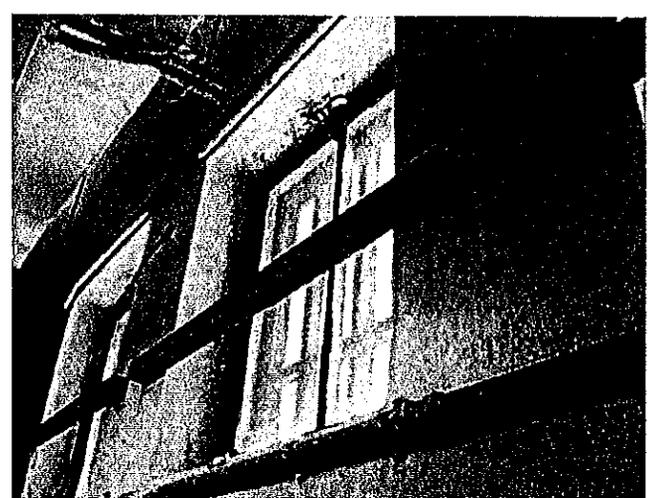
9 Men Cell



Rust around shower area



Supply line in the Hallway



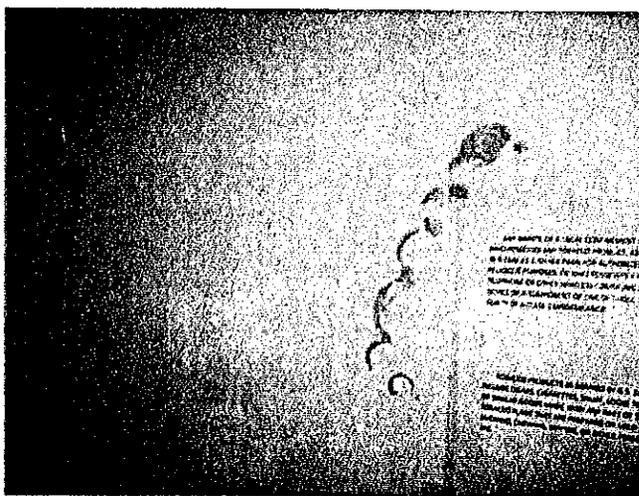
Rust and mold at windows



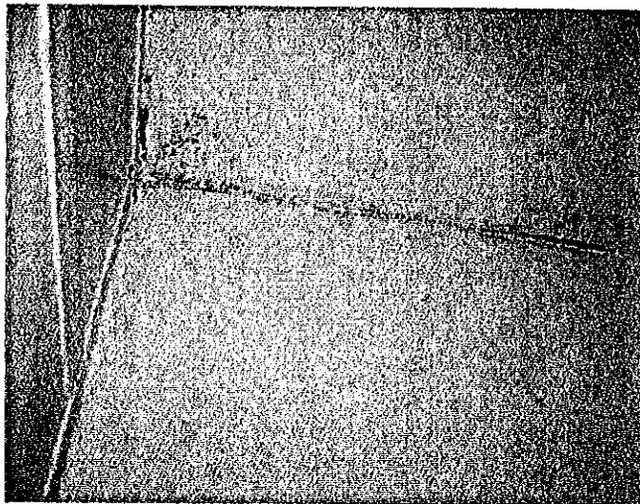
Heavy mold growth around windows



Water damages around window



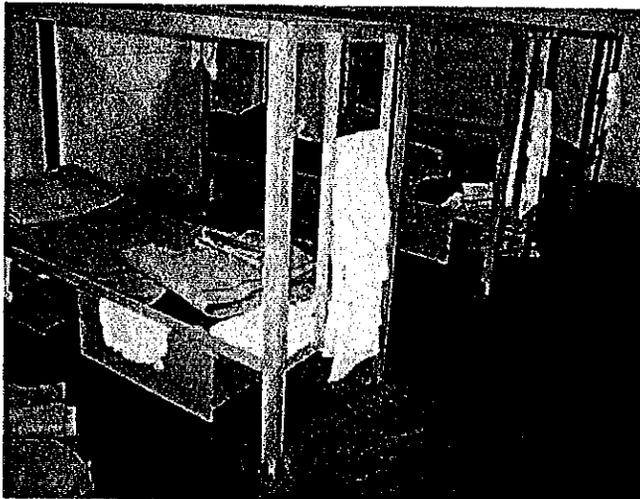
Mold on the concrete wall systems



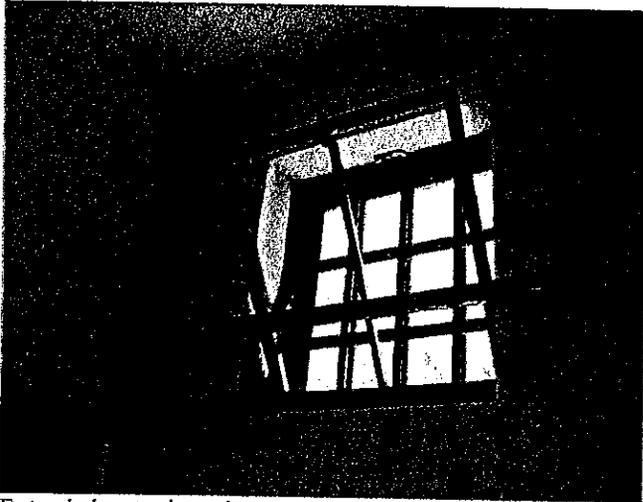
Mold on the ceiling of the sleeping area



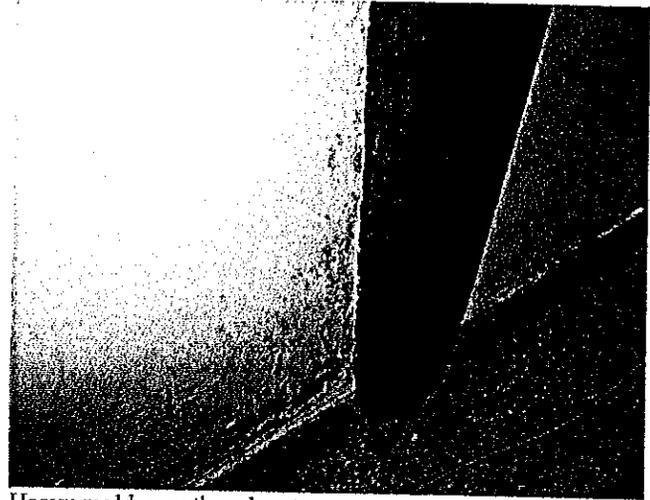
Men's cots



Women's Dorm cots



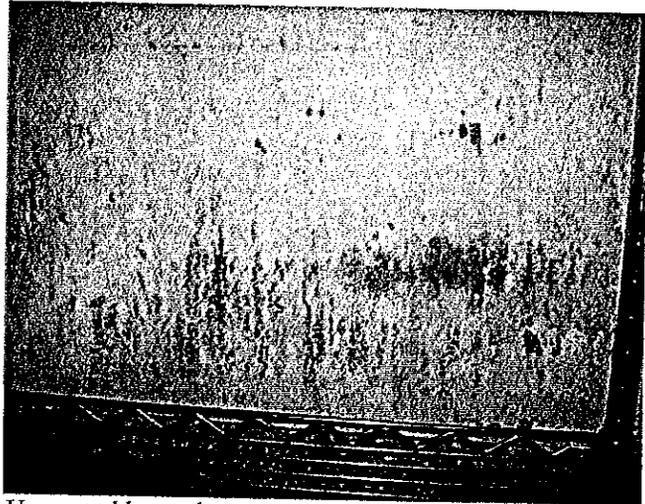
Extended water intrusion



Heavy mold growth and rust



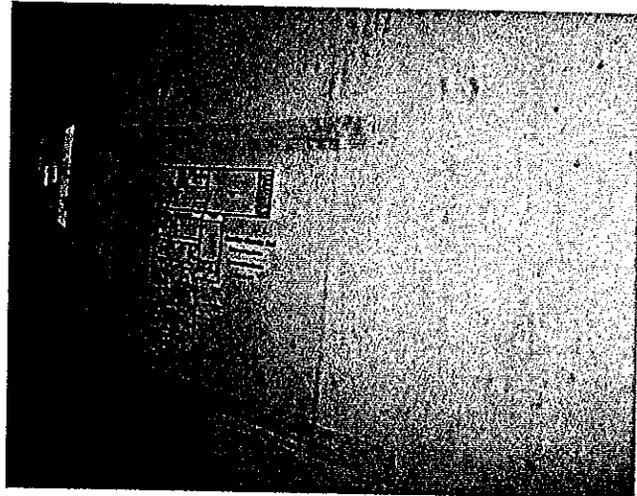
Rusted conduit lines



Heavy mold growth

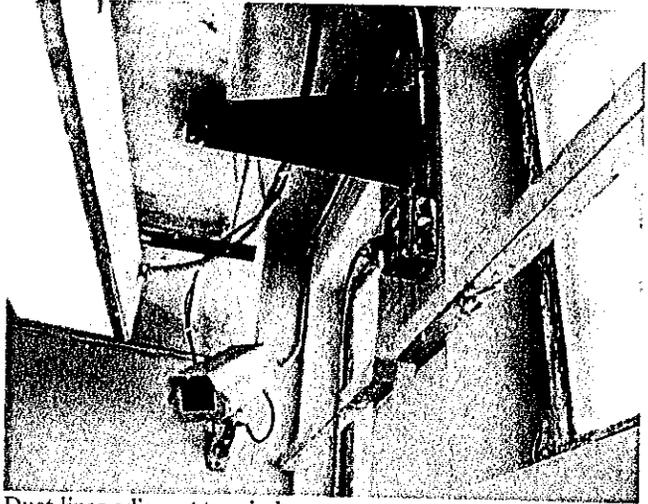


Additional photos

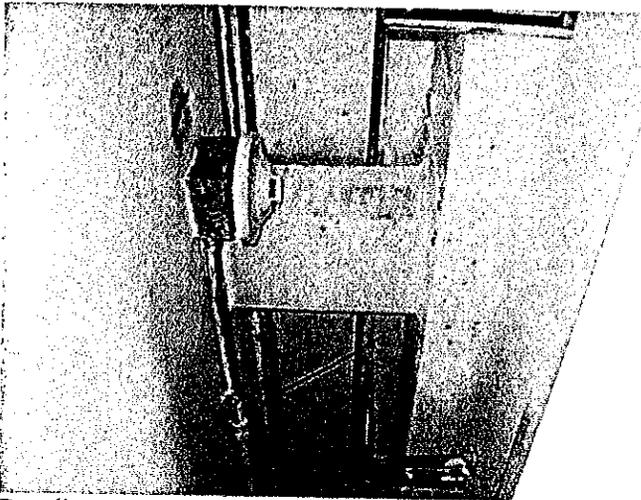




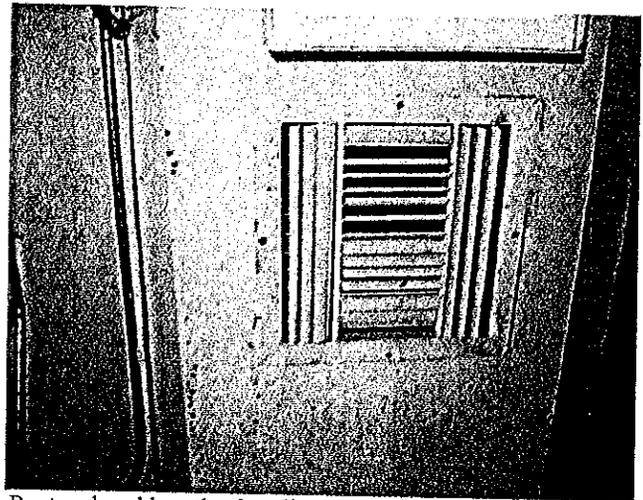
HVAC air supply



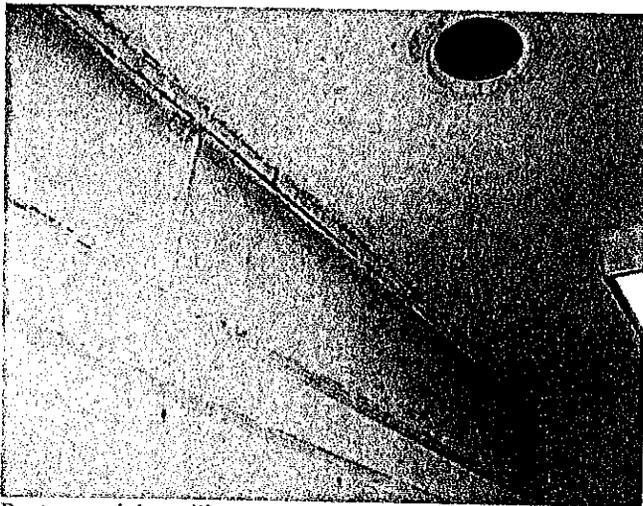
Duct lines adjacent to windows



Duct line



Rust and mold on the duct line



Rust around the ceiling

# Air Quality Analytical, Inc.

Indoor Air Quality Consulting and Environmental Services

3411 Marsh Hawk Court, Wilmington, NC 28409  
Tel: (910) 392-3511 Fax: (910) 392-3557

## LABORATORY TEST REQUEST

ACCOUNT NAME:

Pender County Sheriff's Office

ADDRESS:

605 E. Fremont St., Burgaw, NC 28425

[sam.jones@pendersheriff.com](mailto:sam.jones@pendersheriff.com)

Client Phone/Fax/E-mail:

(910) 352-2969, (910) 259-1212

AQA JOB NO.:

11-107-0615

CONTACT: John Folger Telephone: (910) 431-1019 [jfolger@ec.rr.com](mailto:jfolger@ec.rr.com) DATE SHIPPED: 6/15/2011

WO/PO #: 11-107-0615 CLIENT'S JOB NAME/#: Pender County Jail, 104 N. Walker St

SAMPLE TYPE: NUMBER OF SAMPLES: TURN AROUND TIME SPECIFIED:  
Cyclax-D (Air) 9  
\_\_\_\_ Immediate \_\_\_\_ 6hr \_\_\_\_ 24hr  48 \_\_\_\_ 3-5 day  
\_\_\_\_ Regular

**SPECIAL INSTRUCTIONS: Please e-mail to [jfolger@ec.rr.com](mailto:jfolger@ec.rr.com)**

Sample Number	Sample Area	Sample Description	Sample Date	Sample Volume	Lab Analysis Requested
107-01	5 men cell		6/15/2011	200	A001
107-02	9 men cell		6/15/2011	200	A001
107-03	Boys Cell		6/15/2011	200	A001
107-04	2 men A cell		6/15/2011	200	A001
107-05	2 men B cell		6/15/2011	200	A001
107-06	Girls Cell		6/15/2011	200	A001
107-07	8 men cell		6/15/2011	200	A001
107-08	Dorm		6/15/2011	200	A001
107-09	Outside		6/15/2011	200	A001

DATE/TIME	CONDITION OF SAMPLE	SAMPLES RECEIVED BY	SAMPLES RELEASED BY
6/15/2011	sealed	 SIGNATURE	 SIGNATURE

# Air Quality Analytical, Inc.

Indoor Air Quality Consulting and Environmental Services

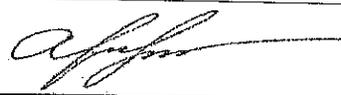
## MOLD SPORE ANALYSIS

Account Name:	Pender County Sheriff's Office		
Address:	605 E. Fremont St., Burgaw, NC 28425		
Client Job Name:	Pender County Jail, 104 N. Walker St		
AQA Job #:	11-107-0615	Date:	6/15/2011

Samples analyzed by Brightfield Microscopy at 600X

Sample Number	107-01			107-02			107-03		
Location	5 men cell			9 men cell			Boys Cell		
Debris Rating	1			1			1		
Sample Medium	Cyclex-D			Cyclex-D			Cyclex-D		
Percentage Read	100			100			100		
Volume (L)	200			200			200		
Detection Limit	5			5			5		
	Total count	Count/m3	%	Total count	Count/m3	%	Total count	Count/m3	%
Hyphal fragments		0			0			0	
Pollen		0			0			0	
<b>Total Fungal Count</b>	<b>77</b>	<b>385</b>	<b>100</b>	<b>59</b>	<b>295</b>	<b>100</b>	<b>196</b>	<b>980</b>	<b>100</b>
<i>Alternaria</i>		0	0.0		0	0.0		0	0.0
<i>Ascospores</i>	10	50	13.0	8	40	13.6	20	100	10.2
<i>Penicillium/Aspergillus</i>		0	0.0		0	0.0	110	550	56.1
<i>Basidiospores</i>	15	75	19.5	6	30	10.2	15	75	7.7
<i>Botrytis</i>		0	0.0		0	0.0		0	0.0
<i>Chaetomium</i>		0	0.0		0	0.0		0	0.0
<i>Cladosporium</i>	22	110	28.6	20	100	33.9	30	150	15.3
<i>Curvularia</i>		0	0.0		0	0.0		0	0.0
<i>Drechslera/Bipolaris</i>		0	0.0		0	0.0		0	0.0
<i>Epicoccum</i>		0	0.0		0	0.0		0	0.0
<i>Dytrpaceae</i>		0	0.0		0	0.0		0	0.0
<i>Fusarium</i>		0	0.0		0	0.0		0	0.0
<i>Nigrospora</i>		0	0.0		0	0.0		0	0.0
<i>Pithomyces/Ulocladium</i>		0	0.0		0	0.0		0	0.0
<i>Periconia</i>		0	0.0		0	0.0		0	0.0
<i>Rusts/Smuts</i>		0	0.0		0	0.0		0	0.0
<i>Stachybotrys</i>		0	0.0		0	0.0		0	0.0
<i>Torula</i>		0	0.0		0	0.0		0	0.0
<i>Colorless</i>	30	150	39.0	25	125	42.4	21	105	10.7
<i>Unidentified Spores</i>		0	0.0		0	0.0		0	0.0

Notes:

Analyst:   
 A. Folger, Lab Manager

Date Analyzed: 6/20/2011

# Air Quality Analytical, Inc.

Indoor Air Quality Consulting and Environmental Services

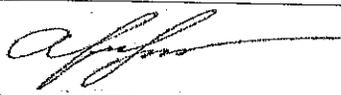
# MOLD SPORE ANALYSIS

Account Name:	Pender County Sheriff's Office		
Address:	805 E. Fremont St., Burgaw, NC 28425		
Client Job Name:	Pender County Jail, 104 N. Walker St		
AQA Job #:	11-107-0615	Date:	6/15/2011

Samples analyzed by Brightfield Microscopy at 600X

	107-04			107-05			107-06		
	Total count	Count/m3	%	Total count	Count/m3	%	Total count	Count/m3	%
Sample Number	107-04			107-05			107-06		
Location	2 men A cell			2 men B cell			Girls Cell		
Debris Rating	1			1			1		
Sample Medium	Cyclex-D			Cyclex-D			Cyclex-D		
Percentage Read	100			100			100		
Volume (L)	200			200			200		
Detection Limit	5			5			5		
Hyphal fragments		0			0			0	
Pollen		0			0			0	
<b>Total Fungal Count</b>	<b>778</b>	<b>3890</b>	<b>100</b>	<b>486</b>	<b>2430</b>	<b>100</b>	<b>330</b>	<b>1650</b>	<b>100</b>
<i>Alternaria</i>		0	0.0		0	0.0		0	0.0
<i>Ascospores</i>	10	50	1.3	15	75	3.1	10	50	3.0
<i>Penicillium/Aspergillus</i>	730	3650	93.8	420	2100	86.4	270	1350	81.8
<i>Basidiospores</i>	10	50	1.3	6	30	1.2	15	75	4.5
<i>Botrytis</i>		0	0.0		0	0.0		0	0.0
<i>Chaetomium</i>		0	0.0		0	0.0		0	0.0
<i>Cladosporium</i>	12	60	1.5	20	100	4.1	15	75	4.5
<i>Curvularia</i>		0	0.0		0	0.0		0	0.0
<i>Drechslera/Bipolaris</i>		0	0.0		0	0.0		0	0.0
<i>Epicoccum</i>		0	0.0		0	0.0		0	0.0
<i>Dytrpaceae</i>		0	0.0		0	0.0		0	0.0
<i>Fusarium</i>		0	0.0		0	0.0		0	0.0
<i>Nigrospora</i>		0	0.0		0	0.0		0	0.0
<i>Pithomyces/Ulocladium</i>		0	0.0		0	0.0		0	0.0
<i>Periconia</i>		0	0.0		0	0.0		0	0.0
<i>Rusts/Smuts</i>		0	0.0		0	0.0		0	0.0
<i>Stachybotrys</i>		0	0.0		0	0.0		0	0.0
<i>Torula</i>		0	0.0		0	0.0		0	0.0
<i>Colorless</i>	16	80	2.1	25	125	5.1	20	100	6.1
<i>Unidentified Spores</i>		0	0.0		0	0.0		0	0.0

Notes:

Analyst:   
A. Folger, Lab Manager

Date Analyzed: 6/20/2011

# Air Quality Analytical, Inc.

Indoor Air Quality Consulting and Environmental Services

## MOLD SPORE ANALYSIS

Account Name:	Pender County Sheriff's Office		
Address:	605 E. Fremont St., Burgaw, NC 28425		
Client Job Name:	Pender County Jail, 104 N. Walker St		
AQA Job #:	11-107-0615	Date:	6/15/2011

Samples analyzed by Brightfield Microscopy at 600X

Sample Number	107-07			107-08			107-09		
Location	8 men cell			Dorm			Outside		
Debris Rating	3			1			1		
Sample Medium	Cyclex-D			Cyclex-D			Cyclex-D		
Percentage Read	100			100			100		
Volume (L)	200			200			200		
Detection Limit	5			5			5		
	Total count	Count/m3	%	Total count	Count/m3	%	Total count	Count/m3	%
Hyphal fragments		0			0			0	
Pollen		0			0			0	
<b>Total Fungal Count</b>	<b>95</b>	<b>475</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>100</b>	<b>429</b>	<b>2145</b>	<b>100</b>
<i>Alternaria</i>		0	0.0		0	0.0		0	0.0
<i>Ascospores</i>	15	75	15.8	2	10	10.0	125	625	29.1
<i>Penicillium/Aspergillus</i>		0	0.0		0	0.0		0	0.0
<i>Basidiospores</i>	30	150	31.6	3	15	15.0	110	550	25.6
<i>Botrytis</i>		0	0.0		0	0.0		0	0.0
<i>Chaetomium</i>		0	0.0		0	0.0		0	0.0
<i>Cladosporium</i>	25	125	26.3		0	0.0	35	175	8.2
<i>Curvularia</i>		0	0.0		0	0.0		0	0.0
<i>Drechslera/Bipolaris</i>		0	0.0		0	0.0		0	0.0
<i>Epicoccum</i>		0	0.0		0	0.0	4	20	0.9
<i>Dytrapeaceae</i>		0	0.0		0	0.0		0	0.0
<i>Fusarium</i>		0	0.0		0	0.0		0	0.0
<i>Nigrospora</i>		0	0.0		0	0.0		0	0.0
<i>Pithomyces/Ulocladium</i>		0	0.0		0	0.0	5	25	1.2
<i>Periconia</i>		0	0.0		0	0.0		0	0.0
<i>Rusts/Smuts</i>		0	0.0		0	0.0		0	0.0
<i>Stachybotrys</i>		0	0.0		0	0.0		0	0.0
<i>Torula</i>		0	0.0		0	0.0		0	0.0
<i>Colorless</i>	25	125	26.3	15	75	75.0	150	750	35.0
<i>Unidentified Spores</i>		0	0.0		0	0.0		0	0.0

Notes:

Analyst:   
 A. Folger, Lab Manager

Date Analyzed: 6/20/2011



# Air Quality Analytical, Inc. TAPE LIFT ANALYSIS

*Indoor Air Quality Consulting and Environmental Services*

Account Name:	Pender County Sheriff's Office
Address:	605 E. Fremont St., Burgaw, NC 28425
Client Job Name:	Pender County Jail, 104 N. Walker St
AQA Job #:	11-107-0615
Sample Date:	6/15/2011

Sample #	Location	Identification	Concentration	Comments
107-01TL	5 men cell wall	<i>Cladopsorium sp.</i>	Loaded	
		<i>Penicillium/Aspergillus</i>	Loaded	
107-02TL	Boys Cell wall	No Spores		
107-03TL	2man A cell, ceiling	<i>Cladopsorium sp.</i>	Loaded	
107-04TL	2 men B cell, hall wall at the door	<i>Cladopsorium sp.</i>	Loaded	

*Samples analyzed by Brightfield Microscopy at 600X.*

<i>Semi-Quantitative Concentrations</i>	
<i>Rare:</i>	<i>1-10 spores</i>
<i>Few:</i>	<i>11-20 spores</i>
<i>Moderate:</i>	<i>21-40 spores</i>
<i>Many:</i>	<i>41-100 spores</i>
<i>Loaded:</i>	<i>More than 100 spores</i>

Analyst: \_\_\_\_\_



A. Folger, Lab Manager

Date Analyzed: 6/20/2011