

INDOOR AIR QUALITY ASSESSMENT REPORT
EARLY JANUARY 2014 WATER INTRUSION EVENT

COMMUNITY CONSOLIDATED SCHOOL DISTRICT 181
HINSDALE MIDDLE SCHOOL
100 SOUTH GARFIELD AVENUE
HINSDALE, ILLINOIS
IES NO. 915-02



INTEGRITY
ENVIRONMENTAL SERVICES, INC.

INDOOR AIR QUALITY ASSESSMENT REPORT
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COMMUNITY CONSOLIDATED SCHOOL DISTRICT 181
HINSDALE MIDDLE SCHOOL
100 SOUTH GARFIELD AVENUE
HINSDALE, ILLINOIS
IES NO. 915-02



January 16, 2014

C-11034

Mr. Gary Frisch
Assistant Superintendent of Business and Operations
Community Consolidated School District 181
6010 South Elm Street
Burr Ridge, Illinois 60527

Dear Mr. Frisch:

Final Report
Focused Indoor Air Quality Assessment
Community Consolidated School District 181
Hinsdale Middle School
100 South Garfield Avenue
Hinsdale, Illinois
IES No. 915-02

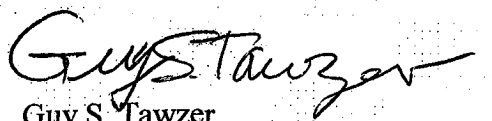
Integrity Environmental Services, Inc. has completed this final Indoor Air Quality Assessment Report for the above referenced District facility. One (1) original and two (2) copies of the Report have been provided.

This Report has been prepared based on observations made and sample data collected during our building investigation and sampling work conducted on January 10, 2014.

Opinions made or formed, other than those expressed herein are those of the reader and in no way shall obligate Integrity Environmental Services, Inc. The findings presented in this Report are representative of the date and times that the samples were collected. The findings presented herein should not be used or relied upon to evaluate the air quality measurements obtained at significantly later dates.

If you have any questions, please feel free to contact our office at (630) 718-9133.

INTEGRITY ENVIRONMENTAL SERVICES, INC.


Guy S. Tawzer
Vice President, Air Quality Division

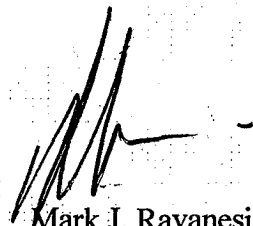
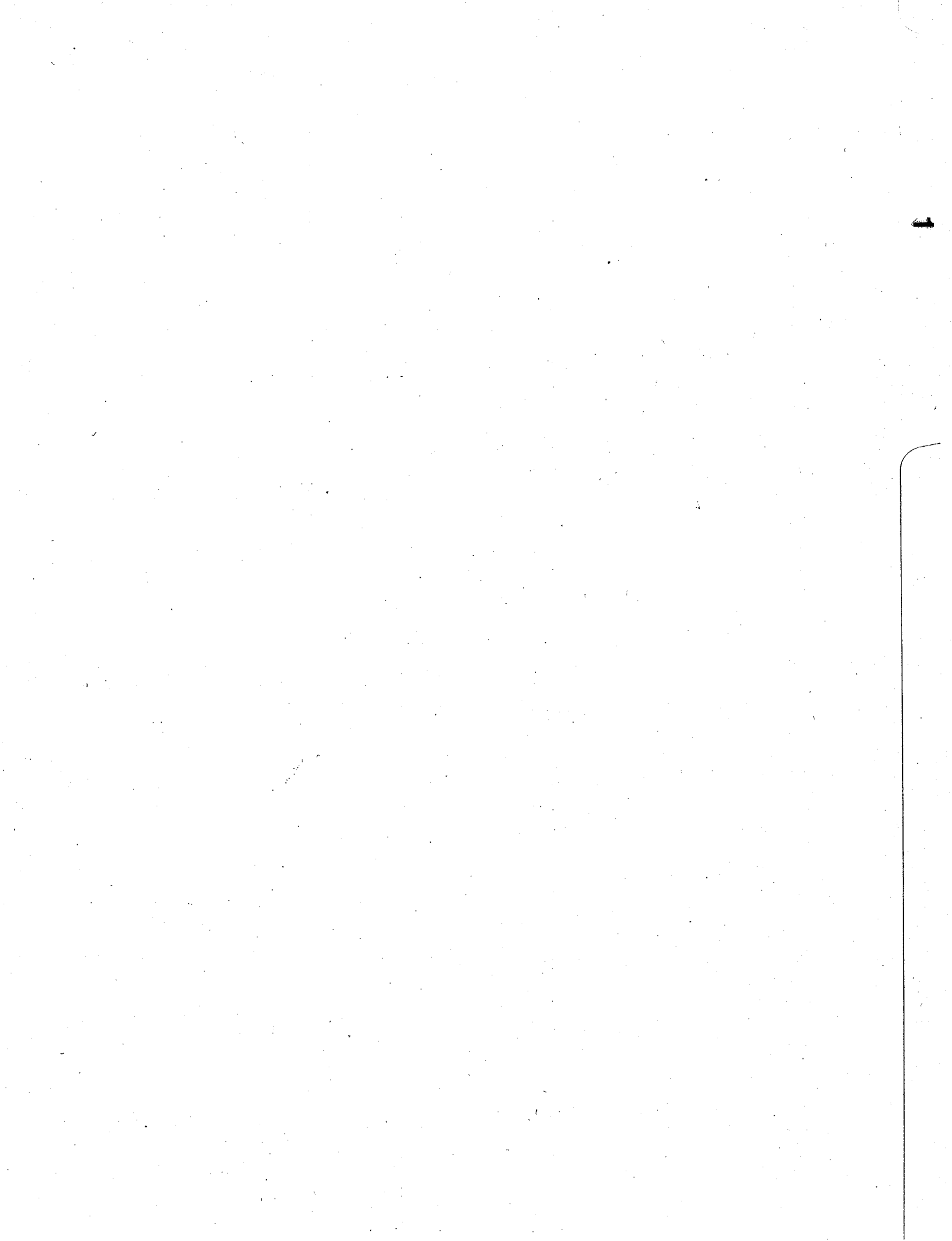

Mark J. Ravanese
President

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EXECUTIVE SUMMARY

**INDOOR AIR QUALITY ASSESSMENT REPORT
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A. INTRODUCTION:

The following paragraphs provide a narrative description of an indoor air quality assessment conducted for Community Consolidated School District 181 within the above referenced facility. This study was requested following a significant water intrusion event that was reported to have occurred (started) on January 4, 2013. This assessment was conducted to address any potential indoor air quality concerns that may exist due to this water intrusion event at Hinsdale Middle School.

At the request of the School District, Integrity Environmental Services, Inc. (IES) was present at the Hinsdale Middle School on Friday, January 10, 2014 to conduct an indoor air quality (IAQ) assessment. The IAQ assessment was conducted to collect and document concentrations of airborne mold spores, and to visually inspect the affected portions of the building for flood-related conditions including evidence of any visible mold, and the presence of water-impacted building materials following a recent series of three (3) pipe bursts caused by extremely cold exterior temperatures, which consequently flooded portions of the school building's first and second floors. The IES representative also inspected areas exhibiting on-going water intrusion caused by thawing ice and snow on the building's exterior. The inspection was conducted due to concerns raised by School District administrators, the School's faculty and staff, as well as parents of students regarding the possible presence of mold and the air quality within the school building as a result of these recent water intrusion events.

As part of our investigation, air samples were collected in areas of the school building impacted by the leaking and flooding. A visual inspection of the school building was also conducted. During this inspection, the IES representative noted the condition within each of the water-impacted areas. IES conducted the site inspection and air sampling procedures under the existing building conditions. Sample collection of bioaerosols began prior to the afternoon release of students and the faculty, while the building was still occupied. The weather at the time of the sampling event was windy, rainy and cold, with melting snow and ice. All exterior doors and windows within the school building were closed and the HVAC system was in operation. Numerous fans, dehumidifiers, and air scrubbers set-up by ACR, Inc. (a restoration company) were positioned and in operation throughout the building in all areas impacted by the flooding.

B. INSPECTION SUMMARY:

Prior to sampling, during discussions with Community Consolidated School District 181 Assistant Superintendent of Business and Operations, Mr. Gary Frisch, and School Principal, Mr. Ruben Pena, it was reported that three (3) pipes burst within the school building on Saturday, January 4, 2014. It was also reported that ARC, Inc. was contacted and that water extraction and drying/remediation efforts, including the use of commercial fans and dehumidifiers, removal and disposal of water-damaged materials, as well as the penetration of all water-impacted walls (to initiate air movement that will facilitate drying of surfaces within the interstitial wall spaces) was initiated within four (4) hours of the discovery of the second pipe leak. At the time of this investigation, the fans and dehumidifiers had been in operation for the better part of six (6) days. Also at the time of this investigation, the school building had been occupied for only three (3) days because classes were canceled on January 6 and 7, 2014 due to both the extreme temperatures and the water remediation efforts.

In the presence of numerous pieces of drying equipment, the IES representative used a moisture meter in the areas where samples were collected and noted that several areas, on both the first and second floor, and portions of stairway walls and room walls, were still wet with moisture contents ranging from 50% to more than 90%. All noted moisture was within one (1) foot of the floor elevation. Active water leaks from the ceiling were noted in classrooms 207 and 212. A water leak from the ceiling within Room 220B was also reported. These leaks are un-related to the pipe bursts and were the apparent result of ice and snow build-up on the building's roof and exterior soffits.

Classrooms 124, 125, 126, 215, 216, as well as the S5 stairwell were directly impacted by the leaks originating from the burst pipes. Many lay-in ceiling tiles in these areas sustained significant water damage and had already been disposed of. Floor tiles in Classrooms 215, 216, 214, and the adjacent second floor hallway were also impacted by the flood. Most of the floor tiles in these areas became loose from the standing water that seeped below the tiles and dissolve the floor tile glue. The majority of the floor tiles within the water-impacted areas on the second floor were removed and disposed. Laboratory station cabinets in Classroom 216 had been disassembled and moved into the center of the room and a portion of the room's east wall had been removed in order to access one (1) of the burst pipes and to facilitate the drying of all materials within the walls between the classroom and the second floor landing in stairwell S4.

At the time of this investigation, surfaces within the gymnasium mechanical room M307 were dry to the touch. The random use of the moisture meter on the gypsum walls within this room did not indicate the presence of excess moisture.

C. SAMPLING STRATEGY:

The sampling protocols for this project were developed in conjunction with existing guidelines and recommendations presented by the American Conference of Governmental Industrial Hygienists (ACGIH), the American Industrial Hygiene Association (AIHA), and Environmental Microbiology Laboratories, Inc., a nationally recognized, AIHA proficiency-tested laboratory specializing in microbial testing. In conjunction with our Air Quality Division, guidelines suggested by the Indoor Air Quality Association (IAQA) and Mycotech Biological, Inc. were utilized in helping determine and interpret sample data.

It should be noted that there are no current regulatory requirements governing the testing strategies and interpretation of sample data at this time. Our sampling strategy has included the incorporation of current guidelines and recommendations, as well as state-of-the-art methodologies to help define the levels of mold and related airborne bioaerosols within the subject areas of Hinsdale Middle School. IES collected representative samples within each sample location.

At each area air sample location, the IES representative collected a sample for mold spores using a particulate sampling cassette known as an "Allergenco-D" Disposable Air Sampling Cassette. The duration of each of the mold spore air samples was five (5) minutes at each sample location. A separate area sample was collected for mold spores outside the facility, on the southeast side of the school building, outside the building's main entrance. This sample was collected as a baseline or background sample.

Following collection, each air sample cassette was properly sealed, contained, and issued a separate and unique sample number. Each sample number and corresponding sample location was recorded on the laboratory's chain of custody form, prior to submittal to the laboratory for analysis.

Following the collection event, all samples were relinquished to STAT Analysis Corporation, located in Chicago, Illinois for analysis. The IES representative collected a total of twenty (20) area air samples for mold spores (including the required QA/QC blank). All sample locations are illustrated in Section 2, Exhibit A of this report.

Each of the air samples collected was analyzed for the presence, type, and quantity of fungal spores.

D. LABORATORY ANALYSIS SUMMARY:

Mold spores were found on seventeen (17) of the nineteen (19) air samples collected both inside and outside of the school building during this investigation. Results of the air sample analysis show that seven (7) types of mold spores were found on the collected air samples. Only one (1) type of mold spore (*Smuts/Myxomycetes sp.*) was found both inside and outside of the building. Six (6) types of spores (Ascospores, Aspergillus/Penicillium-type spores, a single Basidiospore, a single spore from the genus *Chaetomium sp.*, spores from the genus *Cladosporium sp.*, and a single spore from the genus *Pithomyces sp.*) were found exclusively on air samples collected inside the building.

Types of mold spores including Ascospores, Aspergillus/Penicillium-type spores, *Chaetomium sp.*, and *Cladosporium sp.* are indicators of the presence of moisture. While all interior airborne sample concentrations of mold spores were reported to be well below the MBI guideline of 650 spores per cubic meter of air (spores/m³) for individual spore concentrations, and the MBI guideline of 2,000 spores/m³ for total spore concentrations, the fact that the above-mentioned types of mold spores were identified on the samples collected from the buildings interior, but not on the exterior air sample indicates the likelihood of an interior source. Materials and surfaces that are still wet several days following the water intrusion event(s) are a likely source.

Although the airborne sample concentrations of most of these mold spores are considered to be within or below normal levels for the general population, persons who are sensitive and/or allergic to molds may still experience some discomfort.

Refer to Section 2, Exhibit A for drawings of all sample locations. Refer to Section 2, Exhibit B for Laboratory Analytical Results. Refer to Section 2, Exhibit C, Definitions, for additional information regarding the types of mold fungi and spores mentioned above.

E. CONCLUSIONS:

Based on our inspection, sample collection work, and laboratory analysis, Integrity Environmental Services, Inc. has made the following conclusions:

- Visible mold was not identified during this investigation.
- Water intrusion events were reported and observed.
- While drying equipment was in place and had been operational for several days, portions of various walls were still saturated with water.
- While few mold spores were actually detected on samples collected, sample results indicate the presence of interior sources of mold.
- Very few, mold spores were collected on the area air samples during this investigation. All interior area airborne mold spore sample concentrations were well below the Mycotech Biological, Inc. total spore concentration guideline of 2,000 spores/m³, as well as the individual spore concentration guideline of 650 spores/m³. Many of the types of mold spores collected are however known to be allergenic.

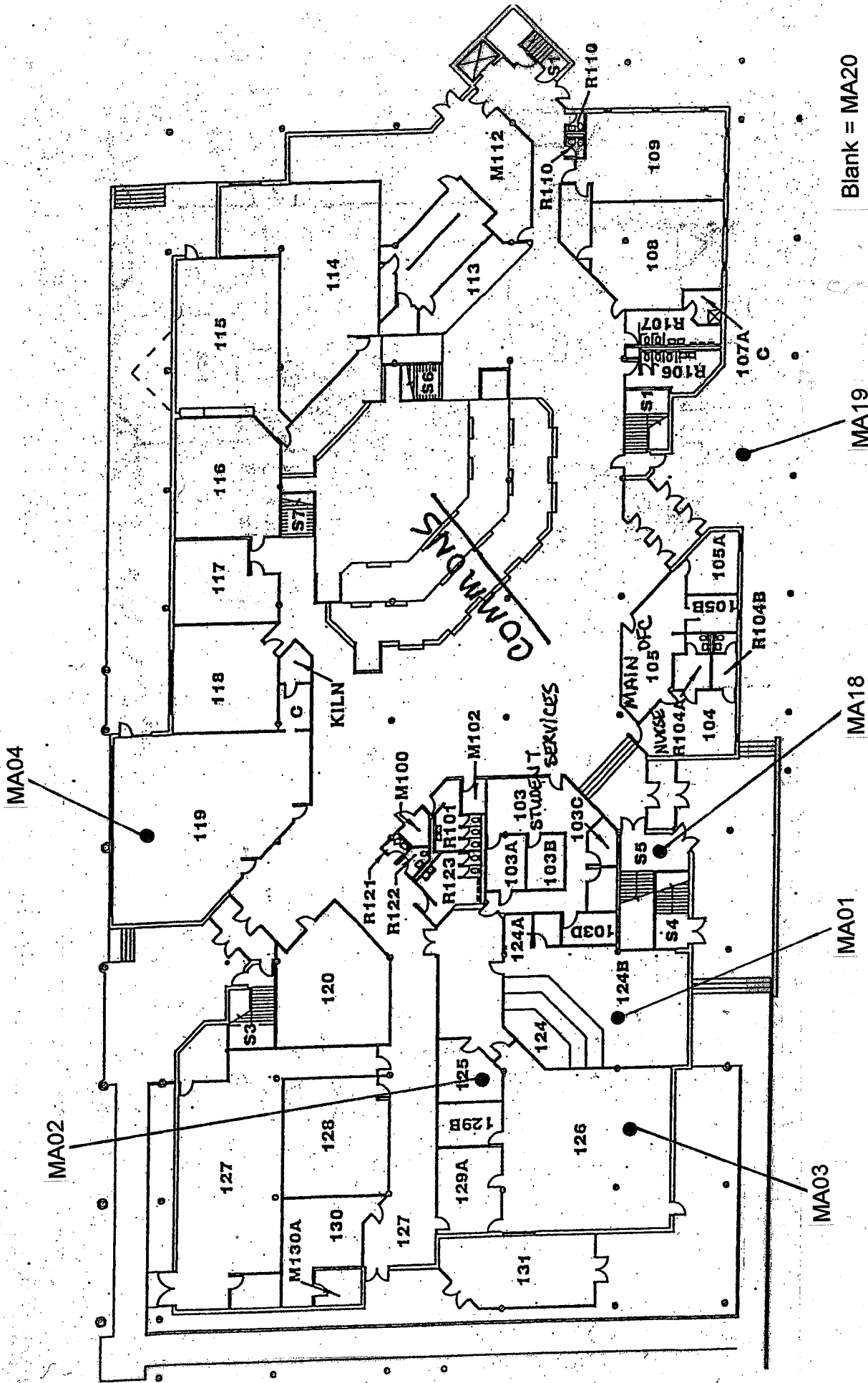
F. RECOMMENDATIONS:

Based upon sample analysis results and visual observations made during this assessment, Integrity Environmental Services, Inc. recommends that the following actions be taken:

1. Remove and dispose of all remaining wet/water damaged materials.
2. All surfaces impacted by the water intrusion event(s) should be cleaned and treated with an anti-microbial disinfectant.
3. Any surfaces exhibiting visible mold should be cleaned and disinfected with an anti-microbial disinfectant. Any porous material that cannot be completely decontaminated should be removed and disposed of.
4. Perform all remaining mold remediation and cleaning procedures within contained work areas, under negative pressure to prevent possible distribution of mold spores to other areas of the school building.

5. Following the conclusion of any mold remediation and surface cleaning activities, post remediation surface and air samples should be collected.

EXHIBIT A



Blank = MA20

IAQ ASSESSMENT
SAMPLE LOCATION
DIAGRAM



FIRST FLOOR

IES NO.: 915-02

DRAWN BY: GT
DATE: 01/13/14

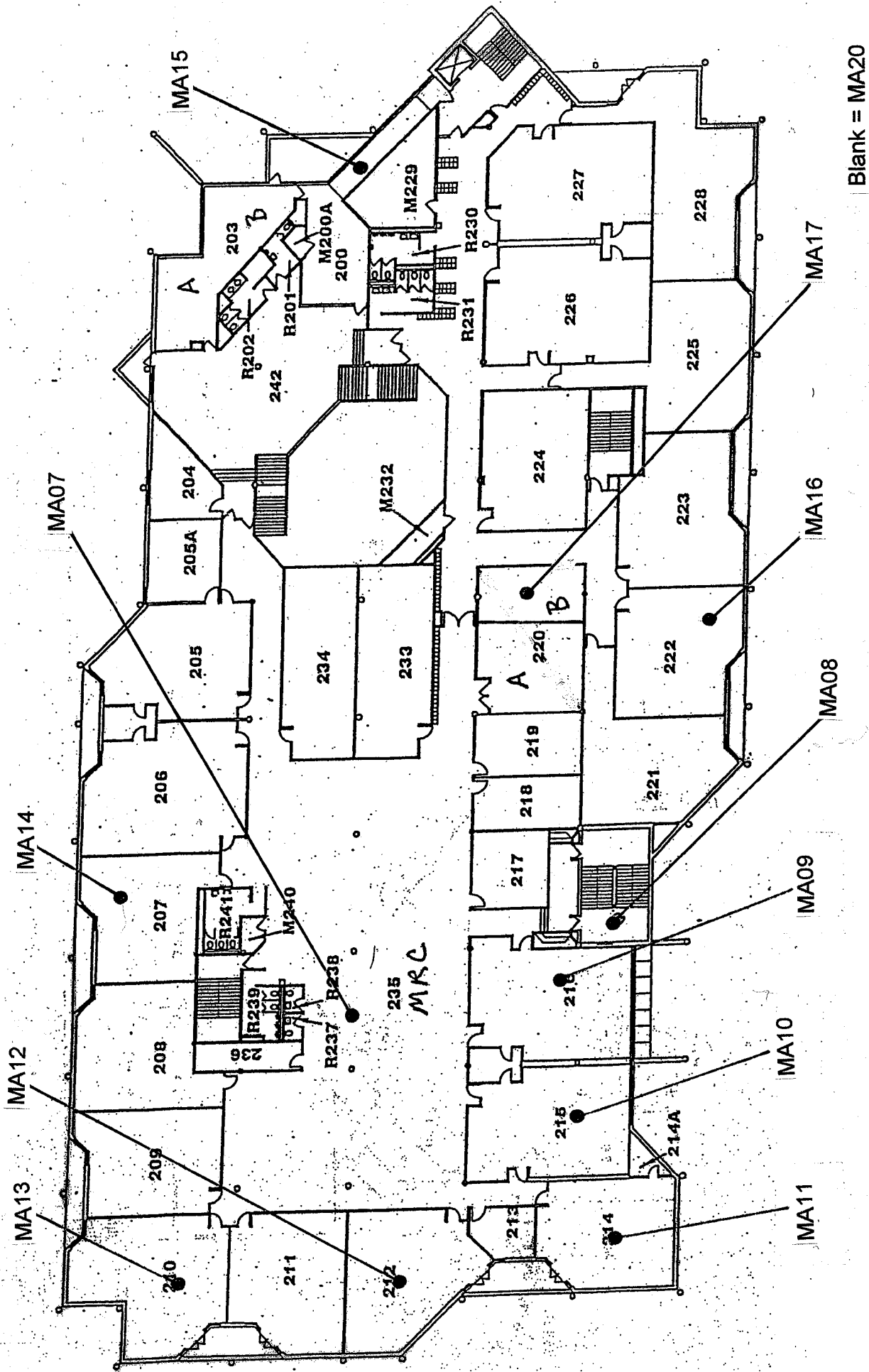
NO SCALE

PROJECT: HINSDALE MIDDLE SCHOOL
100 SOUTH GARFIELD AVENUE
HINSDALE, ILLINOIS


OWNER: COMMUNITY CONSOLIDATED SCHOOL DIST. 181
6010 SUTHELM STREET
BURR RIDGE, ILLINOIS

INTEGRITY
ENVIRONMENTAL SERVICES, INC.

1240 IROQUOIS DRIVE, SUITE 102
NAPERVILLE, ILLINOIS 60563
(630) 718-9133
(630) 718-9114 (FAX)



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 NORTH

**IAQ ASSESSMENT
 SAMPLE LOCATION
 DIAGRAM**

SECOND FLOOR

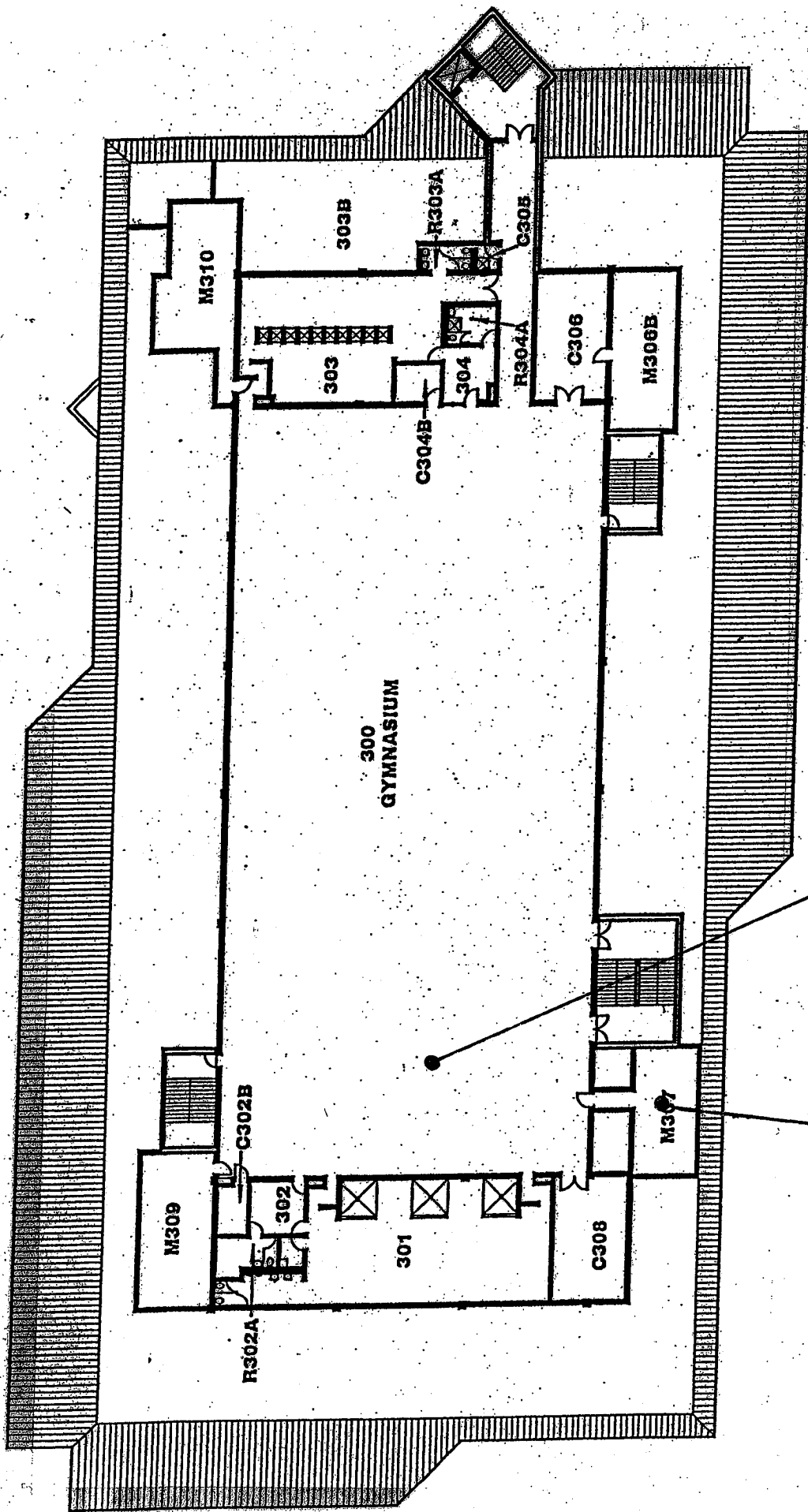
IES NO.: 915-02
 DRAWN BY: GT
 DATE: 01/13/14
 NO SCALE

PROJECT: HINSDALE MIDDLE SCHOOL
 100 SOUTH GARFIELD AVENUE
 HINSDALE, ILLINOIS

OWNER: COMMUNITY CONSOLIDATED SCHOOL DIST. 181
 6010 SOUTH HELM STREET
 BURR RIDGE, ILLINOIS

INTEGRITY
 ENVIRONMENTAL SERVICES, INC.

1240 IROQUOIS DRIVE, SUITE 102
 NAPERVILLE, ILLINOIS 60563
 (630) 719-9135
 (630) 719-9114 (FAX)



Blank = MA20

**IAQ ASSESSMENT
SAMPLE LOCATION
DIAGRAM**



THIRD FLOOR

DRAWN BY: GT
DATE: 01/13/14
IES NO.: 915-02

NO SCALE

PROJECT: HINSDALE MIDDLE SCHOOL
100 SOUTH GARFIELD AVENUE
HINSDALE, ILLINOIS

OWNER: COMMUNITY CONSOLIDATED SCHOOL DIST. 181
6010 SOUTHWELM STREET
BURR RIDGE, ILLINOIS

INTEGRITY
ENVIRONMENTAL SERVICES, INC.

1240 JROQUOIS DRIVE, SUITE 102
NAPERVILLE, ILLINOIS 60563
(630) 718-9183
(630) 718-9114 (FAX)

EXHIBIT B

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

January 15, 2014

Integrity Environmental Services, Inc.

1240 Iroquois Drive

Suite 302

Naperville, IL 60563

Telephone: (630) 718-9133

Fax: (630) 718-9114

RE: 915-02, Hinsdale Middle School, Throughout Bld

STAT Project No: 14010181

Dear Guy Tawzer:

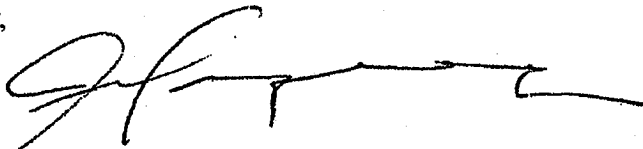
STAT Analysis received 20 samples for the referenced project on 1/14/2014 9:40:00 AM. The analytical results are presented in the following report.

Enclosed are the analytical results for the above referenced project. The samples were analyzed as per the enclosed chain of custody.

All analyses were performed in accordance with established microbiology methodology. All Quality Control criteria as specified in the methods have been met. QA/QC documentation and raw data will remain on file for future reference. Sample acceptance criteria has been met unless noted in the Case Narrative or Sample Receipt Checklist. If required, an estimate of uncertainty for the analyses can be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions about the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Albio Marquez

Senior Microscopist

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory. This analytical report shall become property of the Customer upon payment in full. Otherwise, STAT will be under no obligation to support, defend or discuss the analytical report.

STAT Analysis Corporation:

2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766

Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Analytical Report for Microbiological Analysis - Fungal Spores in Air

Client: Integrity Environmental Services, Inc Date/Time Received: 1/14/14 9:40 AM
 Project ID: 915-02 Hinsdale Middle School, Throughout Bldg Date Reported: 1/15/2014
 STAT Project No.: 14010181 Analyzed By: AM
 v3

Client Sample No.:	MA-01				MA-02				MA-03				MA-04			
Sample Description:	Rm 124				Rm 125				Rm 126				Rm 119			
Date Sampled:	1/10/2014				1/10/2014				1/10/2014				1/10/2014			
STAT Sample No.:	14010181-001				14010181-002				14010181-003				14010181-004			
Volume (m ³):	0.075				0.075				0.075				0.075			
	Total Count	Count/ m ³	DL	%	Total Count	Count/ m ³	DL	%	Total Count	Count/ m ³	DL	%	Total Count	Count/ m ³	DL	%
Total Fungal Spores:	6	80	1	100	4	53	1	100	5	67	1	100	1	13	1	100
<i>Alternaria</i>																
Ascospores	1	13	1	16.7	3	40	1	75.0								
<i>Aspergillus/Penicillium</i>	2	27	1	33.3												
Basidiospores									1	13	1	20.0				
<i>Botrytis</i>																
<i>Cercospora</i>																
<i>Chaetomium</i>																
<i>Cladosporium</i>	1	13	1	16.7												
<i>Curvularia</i>																
<i>Drechslera/Bipolaris</i>																
<i>Epicoccum</i>																
<i>Fusarium</i>																
<i>Nigrospora</i>																
<i>Oidium/Erysiphe</i>																
<i>Periconia</i>																
<i>Phoma</i>																
<i>Pithomyces</i>	1	13	1	16.7												
<i>Pleospora</i>																
<i>Polythrincium</i>																
<i>Rhizopus/Mucor</i>																
Rusts																
Smuts/Myxomycetes	1	13	1	16.7	1	13	1	25.0	4	53	1	80.0	1	13	1	100.0
<i>Stachybotrys</i>																
<i>Stemphylium</i>																
<i>Torula</i>																
<i>Ulocladium</i>																
Unidentified Fungi																
Other																
Mycelial Fragments	1															
Debris Level	Moderate				Moderate				Moderate				Moderate			
Organic Material	Present				Present				Present				Present			



Analysis Corporation:

2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766

Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Analytical Report for Microbiological Analysis - Fungal Spores in Air

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 Project ID: 915-02 Hinsdale Middle School, Throughout Bldg Date Reported: 1/15/2014
 STAT Project No.: 14010181 Analyzed By: AM

Client Sample No.:	M-05				M-06				M-07				M-08			
Sample Description:	W end of gym				Rm M307				MRC				Strwl S4 2nd floor			
Date Sampled:	1/10/2014				1/10/2014				1/10/2014				1/10/2014			
STAT Sample No.:	14010181-005				14010181-006				14010181-007				14010181-008			
Volume (m ³):	0.075				0.075				0.075				0.075			
	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%
Total Fungal Spores:	4	53	1	100	3	40	1	100	2	27	1	100	5	67	1	100
<i>Alternaria</i>																
Ascospores																
<i>Aspergillus/Penicillium</i>	1	13	1	25.0	1	13	1	33.3								
Basidiospores																
<i>Botrytis</i>																
<i>Cercospora</i>																
<i>Chaetomium</i>																
<i>Cladosporium</i>					1	13	1	33.3								
<i>Curvularia</i>																
<i>Drechslera/Bipolaris</i>																
<i>Epicoccum</i>																
<i>Fusarium</i>																
<i>Nigrospora</i>																
<i>Oidium/Erysiphe</i>																
<i>Periconia</i>																
<i>Phoma</i>																
<i>Pithomyces</i>																
<i>Pleospors</i>																
<i>Polythrincium</i>																
<i>Rhizopus/Mucor</i>																
Rusts																
Smuts/Myxomycetes	3	40	1	75.0	1	13	1	33.3	2	27	1	100.0	5	67	1	100.0
<i>Stachybotrys</i>																
<i>Stemphylium</i>																
<i>Torula</i>																
<i>Ulocladium</i>																
Unidentified Fungi																
Other																
Mycelial Fragments	1															
Debris Level	Moderate				Moderate				Moderate				Moderate			
Organic Material	Present				Present				Present				Present			



Analysis Corporation:

2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766

Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

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Client: Integrity Environmental Services, Inc Date/Time Received: 1/14/14 9:40 AM
 Project ID: 915-02 Hinsdale Middle School, Throughout Bldg Date Reported: 1/15/2014
 STAT Project No.: 14010181 Analyzed By: AM

Client Sample No.:	MA-13				MA-14				MA-15				MA-16			
Sample Description:	Rm 210				Rm 207				Rm 200				Rm 222			
Date Sampled:	1/10/2014				1/10/2014				1/10/2014				1/10/2014			
STAT Sample No.:	14010181-013				14010181-014				14010181-015				14010181-016			
Volume (m ³):	0.075				0.075				0.075				0.075			
	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%
Total Fungal Spores:	0			100	3	40	1	100	2	27	1	100	1	13	1	
<i>Alternaria</i>																
Ascospores																
<i>Aspergillus/Penicillium</i>																
Basidiospores																
<i>Botrytis</i>																
<i>Cercospora</i>																
<i>Chaetomium</i>																
<i>Cladosporium</i>																
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<i>Polythrincium</i>																
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Rusts																
Smuts/Myxomycetes					3	40	1	100.0	2	27	1	100.0	1	13	1	100.0
<i>Stachybotrys</i>																
<i>Stemphylium</i>																
<i>Torula</i>																
<i>Ulocladium</i>																
Unidentified Fungi																
Other																
Mycelial Fragments																
Debris Level	Moderate				Moderate				Moderate				Moderate			
Organic Material	Present				Present				Present				Present			



Analysis Corporation:

2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766

Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Analytical Report for Microbiological Analysis - Fungal Spores in Air

Client: Integrity Environmental Services, Inc

Date/Time Received: 1/14/14 9:40 AM

Project ID: 915-02 Hinsdale Middle School, Throughout Bldg

Date Reported: 1/15/2014

STAT Project No.: 14010181

Analyzed By: AM

Client Sample No.:	MA-17				MA-18				MA-19				MA-20			
Sample Description:	Rm 220B				Strwl S5 1st fl				Bldg ext				Blank			
Date Sampled:	1/10/2014				1/10/2014				1/10/2014				1/10/2014			
STAT Sample No.:	14010181-017				14010181-018				14010181-019				14010181-020			
Volume (m ³):	0.075				0.075				0.075				N/A			
	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%	Total Count	Count/m ³	DL	%
Total Fungal Spores:	1	13	1	100	2	27	1	100	4	53	1	100	0			100
<i>Alternaria</i>																
Ascospores																
<i>Aspergillus/Penicillium</i>																
Basidiospores																
<i>Botrytis</i>																
<i>Cercospora</i>																
<i>Chaetomium</i>					1	13	1	50.0								
<i>Cladosporium</i>																
<i>Curvularia</i>																
<i>Drechslera/Bipolaris</i>																
<i>Epicoccum</i>																
<i>Fusarium</i>																
<i>Nigrospora</i>																
<i>Oidium/Erysiphe</i>																
<i>Periconia</i>																
<i>Phoma</i>																
<i>Pithomyces</i>																
<i>Pleospors</i>																
<i>Polythrincium</i>																
<i>Rhizopus/Mucor</i>																
Rusts																
Smuts/Myxomycetes	1	13	1	100.0	1	13	1	50.0	4	53	1	100.0				
<i>Stachybotrys</i>																
<i>Stemphylium</i>																
<i>Torula</i>																
<i>Ulocladium</i>																
Unidentified Fungi																
Other																
Mycelial Fragments																
Debris Level	Moderate				Moderate				Moderate				Absent			
Organic Material	Present				Present				Present				Absent			

MICROBIOLOGY CHAIN OF CUSTODY RECORD

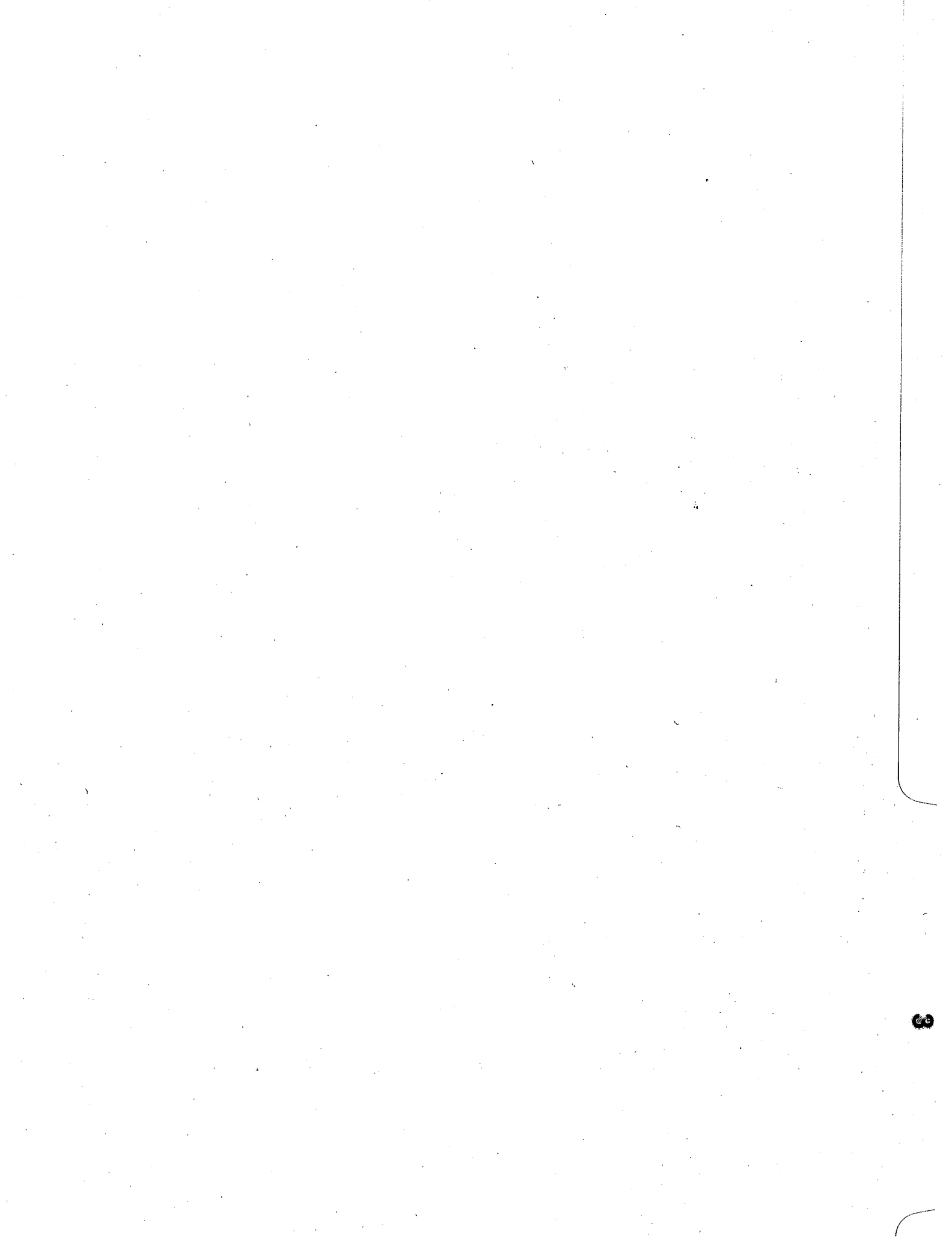
Client: Integrity Environmental Services, Inc.
 Street Address: 1240 Iniquis Avenue, Suite 102
 City, State, Zip: Naperville, IL 60563
 Phone: (630) 718-9133
 Fax: (630) 718-9114
 e-mail/Alt. Fax: ies2001@chicago.net
 Project Number: 915-02
 Project Name: Hinsdale Middle School
 Project Location: Throught Blvd.
 Project Manager: Guy Lawzer
 P.O. Number: 915-02

Office Use Only Below:
 Work Order No.: 1401181
 Samples Acceptable: Yes No
 Analyzed By: [Signature]
 Date/Time: [Signature]
 Data File: [Signature]
 QC By: [Signature]
 Reported By (Initial/Date/Time): [Signature]
 Verbal: [Signature]
 Fax/e-mail: [Signature]

Turn Around Time: <1 1 2 3 Viable: 6-10
 Other TAT: [Signature] Date Due: [Signature] Time Due: [Signature]
 Relinquished by: [Signature] Date/Time: [Signature]
 Received by: [Signature] Date/Time: [Signature]
 Relinquished by: [Signature] Date/Time: [Signature]
 Received for lab by: UPS [Signature] Date/Time: [Signature]
 Relinquished by: [Signature] Date/Time: [Signature]
 Received by: [Signature] Date/Time: [Signature]

Client Sample Number/Description:	Date Taken	Time Taken	Volume (Liters)	Area Wiped (Units) ²	Laboratory Sample No.	Non-Viable	Air Cassette	Direct Exam-Tape	Direct Exam-Swab	Direct Exam-Bulk	Viable:	Air Impact	Swab	Bulk	Other:
MA13 - Rm. 210	1-10-14	17:36	75		013		X								
MA14 - Rm. 207		17:45			014										
MA15 - Rm. 200		17:58			015										
MA16 - Rm. 222		18:13			016										
MA17 - Rm. 220B		18:27			017										
MA18 - Stral. 55 (1st Fl)		18:40			018										
MA19 - Bld. Ext.		18:53	↓		019										
MA20 - Blank	↓	—	0.0		020										

Comments:



DEFINITIONS

MOLD FUNGI AND SPORES –

An estimated 100,000 species of fungi are known to exist. Fungi may be single celled or multi-cellular. Various organisms such as yeasts, mushrooms, morels, truffles, and molds are actually fungi. Fungal growth is affected by moisture, temperature, and light. All humans are exposed to fungi through inhalation and ingestion, apparently, with no ill health effects. Many fungi are used as foods and sources of drugs that help fight disease. Most fungi are saprophytic, feeding on dead and decaying organic matter. Some species of fungi, however, are known to cause infectious diseases in humans. In most cases, the fungi are unable to cause disease in persons with a healthy immune system.

Three (3) types of fungal infections exist. They are defined as:

1. **Systemic Infection:** Caused by the inhalation of certain fungal spores. Most of these infections produce little or no symptoms.
2. **Opportunistic Infection:** Limited to those with impaired immunological defenses. In this situation, infection is secondary to a primary disease. Species of *Aspergillus*, *Cladosporium*, *Mucor*, *Rhizopus* and *Cryptococcus* are common opportunistic fungi.
3. **Dermatophytes:** A group of fungi that infect the hair, skin and nails. Direct contact with an infected individual or the sharing of items such as grooming utensils or clothes is usually how the infection is transmitted. Transmission to humans from an environmental source is rare.

Fungi produce toxic metabolites called mycotoxins. Mycotoxins are present in both spores and viable fungi. Usually, inhalation exposure of mycotoxins occurs following the disturbance of a contaminated source.

Fungi also produce volatile organic compounds (VOCs) while growing. Some of these compounds have noticeable odors that many people find offensive. It is thought that exposure to these VOCs may be generally responsible for some building-related symptoms (BRSs).

The following is a description of each genus of fungi found within the Community Consolidated School District 181's Hinsdale Middle School:

Ascospores: Spores were found on the air samples collected in Classrooms 124 and 125. These spores were not positively identified. They are possibly from species of *Alternaria*, *Aspergillus*, *Cladosporium*, or *Penicillium* among others.

- Aspergillus sp.*: Spores were found exclusively on air samples collected in Classroom 124, the gymnasium and in the gymnasium mechanical room M307. This fungus is associated with grains, nuts, cotton, organic debris and water damaged building materials. This is the most common group of fungi in our environment. Sixteen (16) of the over 160 species of *Aspergillus* are known to act as agents of etiological disease in humans. These diseases are fairly uncommon and do not normally occur in people with healthy immune systems. The spores produced by *Aspergillus sp.* appear very similar to the spores produced by *Penicillium sp.*
- Basidiospores: A single spore was found on the air samples collected in Classroom 126. This spore was not positively identified and is possibly from some species of yeasts (*Rhodotorula* and *Sporobolomyces*) that are found in some indoor environments or possibly from a variety of fungus known as *Cryptococcus sp.*
- Chaetomium sp.*: A single spore was found on the area air sample collected from the ground floor of stairwell S5. This fungus is found in various substrates such as paper and plant compost that contains cellulose. Many species are said to be able to dissolve cellulose fibers, causing materials to disintegrate, especially under moist conditions. This fungus is also reported to be allergenic.
- Cladosporium sp.*: Spores were found on air samples collected in Classroom 124 and in the gymnasium mechanical room M307. This fungus is commonly found both indoors and outdoors and is often located in spaces where condensation is collected and/or where there is poor ventilation. It is commonly found on the surface of fiberglass duct lining inside supply ducts. It is a common cause of allergies and hay fever and has also been associated with various skin and eye infections acquired by immune compromised individuals.
- Myxomycetes: Spores were found on almost every air sample collected both inside and outside of the school building with the exception of Classrooms 210 and 215. Myxomycetes are usually found outdoors on decaying plant material. They are easily dispersed by wind in their dry phase and occasionally are found in indoor environments. Under 600x microscopy, Myxomycetes are indistinguishable from smuts.
- Penicillium sp.*: Spores were found exclusively on air samples collected in Classroom 124, the gymnasium and in the gymnasium mechanical room M307. A large number of organisms belong to this genus. This fungus is commonly found in soil, food, cellulose, paint, grains, compost piles, carpet, wall paper, and in interior fiberglass duct insulation. It is reported to cause allergic reactions on skin and in susceptible individuals, may cause among other infections, hypersensitivity pneumonitis or allergic alveolitis. Some species can produce various mycotoxins that are harmful to humans. The spores produced by *Penicillium sp.* appear very similar to the spores produced by *Aspergillus sp.*

Pithomyces sp.: A single spore was found on the air sample collected in Classroom 124. This fungus is found on decaying plants. *Pithomyces sp.* produces a mycotoxin known as sporidesmin, which is an animal pathogen.

Smuts: Spores were found on almost every air sample collected both inside and outside of the school building with the exception of Classrooms 210 and 215. This allergen is a parasitic plant pathogen that needs a living host. Smuts are often found on corn, grass, weeds, flowering plants, and even other fungi. Smuts are distributed by wind. Under 600x microscopy, smuts are indistinguishable from mxomycetes.