

MICROBIAL SURFACE SAMPLE COLLECTION 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.

MICROBIAL SURFACE SAMPLE COLLECTION 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



January 17, 2014

C-11037

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:

Microbial Surface Sample Collection Report
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. has completed this final Microbial Surface Sample Collection Report for the above referenced School 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 prior to and during remediation activities in the areas of the school building impacted by the early January 2014 water intrusion event. Surface swab and bulk material sample data detailed in this Report were obtained on January 16, 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 conditions 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. Towzer
Vice President, Air Quality Division

Mark J. Ravanese
President

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EXECUTIVE SUMMARY

**MICROBIAL SURFACE SAMPLE COLLECTION REPORT
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A. INTRODUCTION:

The following paragraphs provide a narrative description of a microbial sample collection event and 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 sample collection and assessment work was conducted to determine the presence and concentration of mold spores in two (2) specific rooms of Hinsdale Middle School that had been impacted. Additionally, this sample collection and assessment work was conducted to determine the type of mold observed on portions of the interior surfaces of drywall (inside of walls) as remediation work was being performed.

At the request of the School District, Integrity Environmental Services, Inc. (IES) was present at the Hinsdale Middle School on Thursday, January 16, 2014 to collect both surface swab samples in Room 205a, Classroom 215 and Classroom 216, as well as to collect bulk samples from various locations impacted by the pipe burst water intrusion event including stairwell S5, Classroom 216, and the adjacent second floor hallway that connects the stairwell to the classroom. It should be noted that this sample collection work was conducted to collect and document concentrations of mold spores on surfaces and of visibly impacted materials found on drywall in the impacted areas. No air samples were obtained or analyzed during this phase of the building investigation.

As part of our investigation, a visual inspection of the subject areas within the school building was also conducted. During this inspection, the IES representative noted the condition within each area. IES conducted the site inspection and air sampling procedures under the existing building conditions. Sample collection began prior to the afternoon release of students and the faculty, while the building was still occupied. ServPro, the remediation contractor retained by the School District, had isolated the S4/S5 stairwell, Classroom 216, and the adjacent hallway connecting the two (2) areas. All exterior doors and windows within the school building were closed and the HVAC system was in operation. Negative air machines with HEPA filters, set-up by ServPro, were positioned and in operation within the stairwell and Classroom 216.

B. INSPECTION SUMMARY:

The IES representative was informed by Community Consolidated School District 181 Assistant Superintendent of Business and Operations, Mr. Gary Frisch, and School Principal, Mr. Ruben Pena that the teacher located in Room 205a was experiencing health issues believed to be related to mold. The IES representative was therefore asked to collect surface swab samples on surfaces and in HVAC ducts within the room. Due to the fact that Classroom 216 was directly impacted by the recent water intrusion event, the IES representative was also asked to collect surface swab samples on surfaces and in HVAC ducts in Classroom 216 as well.

Mr. Pena and a representative from ServPro also informed the IES representative that due to the water intrusion situation within Classroom 207 (water entering the building from the roof deck and/or the exterior metal soffit), drywall within Classroom 119, located directly below Classroom 207 was found to be wet and impacted by mold. While ServPro removed and disposed of the impacted drywall within Classroom 119, suspect mold was observed on the back of the cabinets that were in contact with the drywall wall. A sample from the back of the cabinets was also obtained for analysis. The IES representative was also asked to investigate and sample surfaces on the east wall of the gymnasium where the HVAC ducts enter the building through the exterior wall. Water staining on the wall in close proximity to the HVAC duct, and detached fiberglass insulation on the exterior of the duct, indicate water intrusion from the exterior of the building and a possible mold source.

In addition to collecting surface swab samples, the IES representative was asked by School District officials to collect several samples of the suspect mold observed on the interior surface of some gypsum walls (drywall) in order to identify the mold types and compare the collected bulk sample result to the results of the surface swab samples, as well as to the results of the previously obtained airborne mold spore samples.

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 swab sample location, the IES representative collected a sample for mold spores using a sterile cotton swab. Where possible, a 50 cm² template was placed on the subject surface and the swab was then collected over the entire defined area. In locations that were difficult to access, the template was not used and the sample was collected from an un-quantified area.

Following the collection of surface swabs, the IES representative collected pieces of drywall that exhibited suspect mold growth. Following collection, each surface swab sample and each bulk sample 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, Chicago, Illinois, for analysis. The IES representative collected a total of ten (10) surface swab samples (including the required QA/QC blank) and five (5) bulk samples. All sample locations are illustrated in Section 2, Exhibit A of this report.

Each of the surface swab samples collected was analyzed for the presence, type, and quantity of fungal spores. Each bulk sample collected was analyzed for the presence and type of mold.

D. LABORATORY ANALYSIS SUMMARY:

Mold spores were found on all nine (9) surface swab samples collected within the school building during this investigation. Results of the swab sample analysis show that eleven (11) types of mold spores were found on the collected samples.

In Room 205a, types of mold spores including Aspergillus/Penicillium-type spores, spores from the group including the genera *Drechslera sp.* and *Bipolaris sp.*, and spores from the genera *Chaetomium sp.* and *Pithomyces sp.* were observed on the samples collected from the desk top and the top of the book cabinet. Aspergillus/Penicillium-type spores and spores from the genera *Chaetomium sp.*, *Cladosporium sp.*, and *Epicoccum sp.* were found on the sample collected on the diffuser of the ceiling HVAC supply duct. Spores from the genera *Chaetomium sp.* and *Pithomyces sp.* were found on the sample collected from the above-ceiling HVAC return duct.

In Classroom 216, types of mold spores including Aspergillus/Penicillium-type spores and spores from the genera *Chaetomium sp.* and *Stachybotrys sp.* were found on the sample collected from one (1) of the room's many lab tops. Ascospores, Aspergillus/Penicillium-type spores and spores from the genera *Chaetomium sp.* and *Nigrospora sp.* were found on the sample collected on the diffuser of the ceiling HVAC supply duct. In Classroom 215, spores from the group including the genera *Drechslera sp.* and *Bipolaris sp.*, and spores from the genera *Cladosporium sp.*, *Epicoccum sp.*, and *Stachybotrys sp.* were found on the sample collected above the HVAC return duct.

On the east wall of the gymnasium, spores from the group including Smuts and the genus *Myxomycetes sp.* were found on the sample collected from the exterior surface of the duct that enters into the building from the exterior. In Classroom 119 (inadvertently listed on the sample chain-of-custody as Room 219), types of mold spores including Aspergillus/Penicillium-type spores, spores from the genera *Alternaria sp.*, *Chaetomium sp.*, and *Epicoccum sp.* were found on the sample collected from the back side of a cabinet that was positioned against the north wall where water-damaged, mold-impacted drywall was removed.

All concentrations of mold spores found on the surface swab samples were reported to be low (less than 25% coverage within the analyst's field of view while looking through the microscope).

Results of the bulk samples collected from portions of removed drywall report that on the first floor of stairwell S5, mold exhibited included Aspergillus/Penicillium-type, *Chaetomium sp.*, and *Stachybotrys sp.* On the landing in stairwell S5, between the first and second floors, mold exhibited included the same; Aspergillus/Penicillium-type, *Chaetomium sp.*, and *Stachybotrys sp.* On the second floor landing in stairwell S5, mold exhibited included Aspergillus/Penicillium-type and *Chaetomium sp.* Mold exhibited in the second floor hallway just outside of stairwell S5 also included Aspergillus/Penicillium-type and *Chaetomium sp.* In the hallway outside Classroom 216 (inadvertently listed as in Classroom 216 on the sample chain-of-custody), that leads to stairwells S4 and S5, the mold exhibited included Aspergillus/Penicillium-type, *Chaetomium sp.*, and *Stachybotrys sp.* The reported sample concentrations of these molds ranged from low to high, but were primarily moderate and high.

It should be known that Aspergillus/Penicillium-type molds and molds including *Chaetomium* and *Stachybotrys* are commonly found on water damaged materials such as sheet rock, paper, ceiling tiles, wall paper and cellulose containing insulation backing. Their presence on the drywall that has been significantly impacted by the pipe burst is not unexpected. A significant amount of what appeared to be drywall and/or ceiling tile dust was observed on surfaces within Classroom 216. While *Stachybotrys* spores are not easily airborne, spores could very well have been distributed as a portion of the gypsum wall in the classroom was removed in order to access one (1) of the broken water pipes. Spores from the genus *Stachybotrys sp.* were not identified on any of the other surface swab samples.

Molds including Aspergillus, Penicillium and Cladosporium are some of the most common types of mold and are frequently found in environments where water intrusion has occurred. *Chaetomium* is also commonly associated with water damaged materials. Recent air samples did identify the presence of Aspergillus/Penicillium-type spores in areas of the building on the first and third floors. *Epicoccum* is frequently found associated with Cladosporium in the air and occasionally in dust.

Molds including *Alternaria*, *Bipolaris*, *Drechslera*, *Nigrospora*, and *Pithomyces* are commonly associated with grasses and plants. While *Alternaria* is commonly found both inside and outside of buildings, *Bipolaris*, *Drechslera*, *Myxomycetes*, *Nigrospora*, *Pithomyces* and *Smuts* are typically found outside of a building, but can be associated with plant life located inside of the building.

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 identified and confirmed to be present on water-damaged drywall and on surfaces in close proximity to the drywall walls during this investigation.

- Low concentrations of mold spores were found on all sampled surfaces including the samples collected within the HVAC ductwork. It should be noted that the presence of some amount of spores with an HVAC system is not unexpected.
- Mold spores including *Aspergillus/Penicillium*-type and/or spores from the genus *Chaetomium sp.*, associated with water damage and moisture intrusion were identified on all but one (1) of the collected surface swab samples. The presence of these spores on the majority of the surface swab samples suggests the known fact that water intrusion is present within multiple areas of the building. Distribution of these spores through the building's HVAC system is possible.
- Spores from the genus *Stachybotrys sp.* were identified on surfaces within Classrooms 215 and 216. These surfaces are in close proximity to the drywall that was directly impacted by the three (3) burst pipes. While *Stachybotrys* was identified on water-damaged, mold contaminated drywall in the hallway outside Classroom 216 and in adjacent stairwell S5, *Stachybotrys* spores were not identified on any of the other surface swab samples collected. Based on these sample results, the airborne distribution to other areas of the building is not apparent.

F. RECOMMENDATIONS:

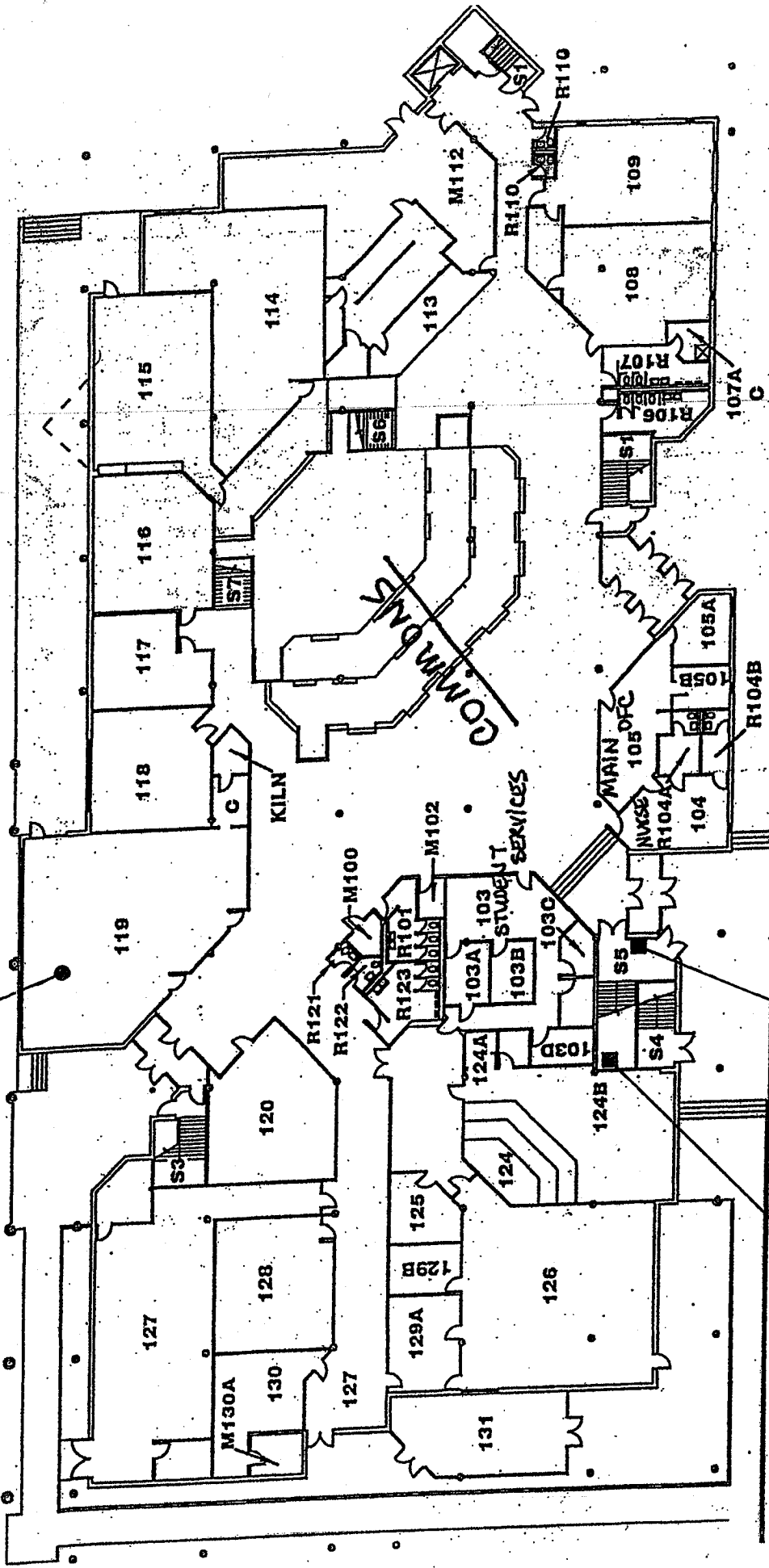
Based upon sample analysis results and visual observations made during this assessment, Integrity Environmental Services, Inc. recommends that the following actions be taken:

1. Remove and dispose of all remaining wet/water damaged materials in accordance with procedural specifications.
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 isolated 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.
6. While it is currently unknown if the HVAC system is significantly impacted, additional investigation and possible additional cleaning should be considered.

EXHIBIT A

- = Surface Swab Sample Location
- = Bulk Sample Location

MS09



Blank = MS10

MS09

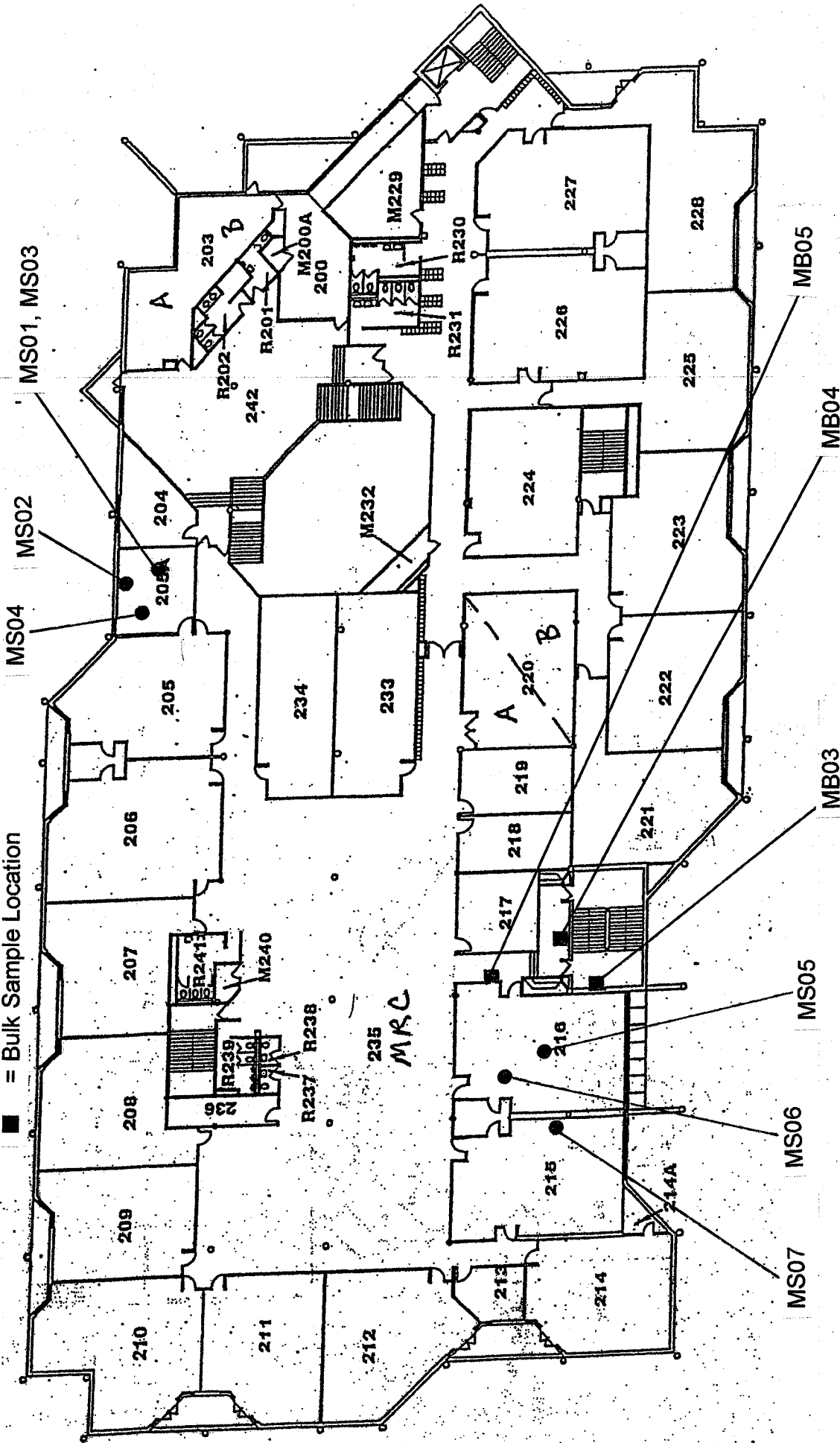
MS09

<p>INTEGRITY ENVIRONMENTAL SERVICES, INC.</p> <p>1240 IRROQUOIS DRIVE, SUITE 102 NAPERVILLE, ILLINOIS 60565 (630) 7199135 (630) 7199114 (FAX)</p>	<p>PROJECT: HINSDALE MIDDLE SCHOOL 100 SOUTH GARFIELD AVENUE HINSDALE, ILLINOIS</p> <p>OWNER: COMMUNITY CONSOLIDATED SCHOOL DIST. 181 6010 SOUTH ELM STREET BURR RIDGE, ILLINOIS</p>	<p>DRAWN BY: GT DATE: 01/17/14</p> <p>IES NO.: 915-02</p> <p>NO SCALE</p>	<p>IAQ ASSESSMENT SAMPLE LOCATION DIAGRAM</p> <p>FIRST FLOOR</p>
--	--	---	--



● = Surface Swab Sample Location

■ = Bulk Sample Location



Blank = MS10

IAQ ASSESSMENT
SAMPLE LOCATION
DIAGRAM



NO SCALE

SECOND FLOOR

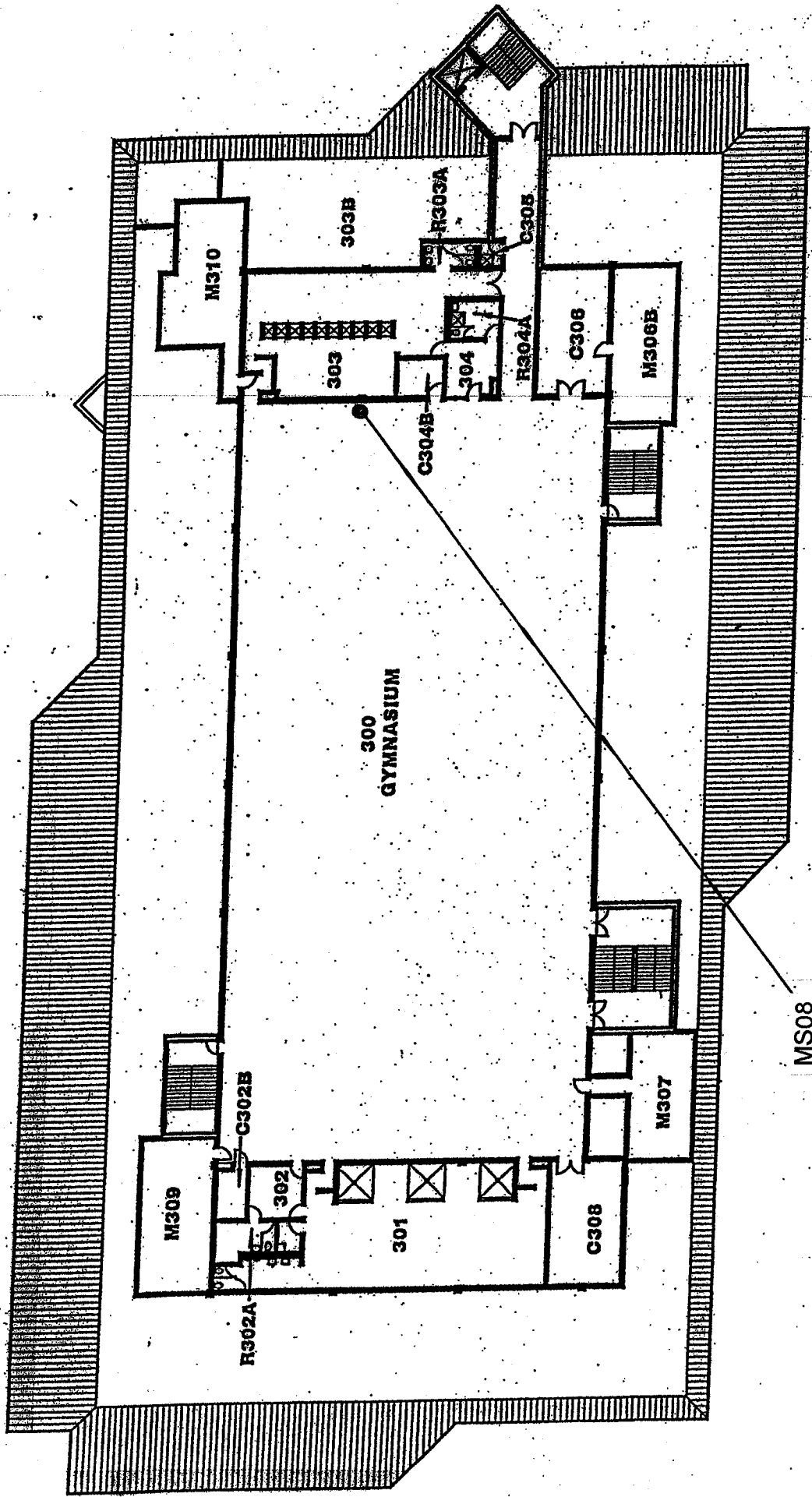
DRAWN BY: GT
DATE: 01/17/14
IES NO.: 915-02

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

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

INTEGRITY
ENVIRONMENTAL SERVICES, INC.

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



- = Surface Swab Sample Location
- = Bulk Sample Location

Blank = MS10

<p>INTEGRITY ENVIRONMENTAL SERVICES, INC.</p> <p>1240 IROQUOIS DRIVE, SUITE 102 NAPERVILLE, ILLINOIS 60563 (630) 718-9133 (630) 718-9114 (FAX)</p>	<p>PROJECT: HINSDALE MIDDLE SCHOOL 100 SOUTH GARFIELD AVENUE HINSDALE, ILLINOIS</p> <p>OWNER: COMMUNITY CONSOLIDATED SCHOOL DIST. 181 6010 SOUTH HELM STREET BURR RIDGE, ILLINOIS</p>	<p>DRAWN BY: GT DATE: 01/17/14</p> <p>IES NO.: 915-02</p> <p>NO SCALE</p>
<p>NORTH</p>		<p>IAQ ASSESSMENT SAMPLE LOCATION DIAGRAM</p> <p>THIRD FLOOR</p>

EXHIBIT B

SURFACE SWAB SAMPLE DATA

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 17, 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, 2nd FI Classrooms

STAT Project No: 14010335

Dear Guy Tawzer:


STAT Analysis received 10 samples for the referenced project on 1/16/2014 4:54:00 PM. 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.

**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 - Direct Examination

Client: Integrity Environmental Date/Time Received: 1/16/14 4:54 PM
 Project ID: 915-02 Hinsdale Middle School 2nd fl classroom Date Analyzed: 1/17/2014
 STAT Project No.: 14010335 Analyzed By: AM

Client Sample No.:	MS01-Rm 205A desk	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-001	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	Low concentration
	<i>Aspergillus/Penicillium</i>	Low concentration

Client Sample No.:	MS02-Rm 205A book case	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-002	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	Low concentration
	<i>Pithomyces</i>	Low concentration
	<i>Drechslera/Bipolaris</i>	Low concentration
	<i>Aspergillus/Penicillium</i>	Low concentration

Client Sample No.:	MS03-Rm 205A supply duct	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-003	
		Relative Abundance:
Identification:	<i>Epicoccum</i>	Low concentration
	<i>Chaetomium</i>	Low concentration
	<i>Aspergillus/Penicillium</i>	Low concentration
	<i>Cladosporium</i>	Low concentration

Client Sample No.:	MS04-Rm 205A return duct	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-004	
		Relative Abundance:
Identification:	<i>Pithomyces</i>	Low concentration
	<i>Chaetomium</i>	Low concentration

High concentration: greater than 75% spore cover/field of view
 Moderate concentration: 25% to 75% spore cover/field of view
 Low concentration: less than 25% spore cover/field of view

SOP 6210

Analytical Report for Microbiological Analysis - Direct Examination

Client: Integrity Environmental Date/Time Received: 1/16/14 4:54 PM
 Project ID: 915-02 Hinsdale Middle School 2nd fl classroom Date Analyzed: 1/17/2014
 STAT Project No.: 14010335 Analyzed By: AM

Client Sample No.:	MS05-Rm 216 lab top	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-005	
		Relative Abundance:
Identification:	<i>Aspergillus/Penicillium</i>	Low concentration
	<i>Chaetomium</i>	Low concentration
	<i>Stachybotrys</i>	Low concentration

Client Sample No.:	MS06-Rm 216 supply duct	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-006	
		Relative Abundance:
Identification:	<i>Aspergillus/Penicillium</i>	Low concentration
	<i>Chaetomium</i>	Low concentration
	<i>Nigrospora</i>	Low concentration
	<i>Ascospores</i>	Low concentration

Client Sample No.:	MS07-Rm 215 return duct	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-007	
		Relative Abundance:
Identification:	<i>Cladosporium</i>	Low concentration
	<i>Drechslera/Bipolaris</i>	Low concentration
	<i>Stachybotrys</i>	Low concentration
	<i>Epicoccum</i>	Low concentration

Client Sample No.:	MS08-Gym duct on east wall	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-008	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	Low concentration
	<i>Smuts/Myxomycetes</i>	Low concentration

High concentration: greater than 75% spore cover/field of view
 Moderate concentration: 25% to 75% spore cover/field of view
 Low concentration: less than 25% spore cover/field of view

**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 - Direct Examination

Client: Integrity Environmental Date/Time Received: 1/16/14 4:54 PM
 Project ID: 915-02 Hinsdale Middle School 2nd fl classroom Date Analyzed: 1/17/2014
 STAT Project No.: 14010335 Analyzed By: AM

Client Sample No.:	MS09-Rm 219 cabinet	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-009	
		Relative Abundance:
Identification:	<i>Aspergillus/Penicillium</i>	Low concentration
	<i>Alternaria</i>	Low concentration
	<i>Epicoccum</i>	Low concentration
	<i>Chaetomium</i>	Low concentration

Client Sample No.:	MS10-Blank	
Date Sampled:	1/16/2014	
Matrix:	Swab	
STAT Sample No.:	14010335-010	
		Relative Abundance:
Identification:	<i>No spores found</i>	

High concentration: greater than 75% spore cover/field of view
 Moderate concentration: 25% to 75% spore cover/field of view
 Low concentration: less than 25% spore cover/field of view

SOP 6210

MICROBIOLOGY CHAIN OF CUSTODY RECORD

Client: Integrity Environmental Services, Inc.
 Street Address: 1240 Iroquois Avenue, Suite 102
 City, State, Zip: Naperville, IL 60563
 Phone: (630) 718-9133
 Fax: (630) 718-9114
 e-mail/Alt. Fax: je62001@shelbahl.net
 Project Number: 915-02
 Project Name: Hinsdale Middle School
 Project Location: 2nd Floor Classrooms
 Project Manager: Guy Lawzer
 P.O. Number: 915-02

Work Order No.: 14610335
 Samples Acceptable: Yes No
 Analyzed By: [Signature] No: [Blank]
 Date/Time: [Blank]
 Data File: [Blank]
 QC By: [Blank]
 Reported By (Initial/Date/Time): [Blank]
 Verbal: [Blank]
 Fax/e-mail: [Blank]

Turn Around Time: < 1 2 3 Viable: 6-10
 Other TAT: [Blank] Date Due: 1-17-16 Time Due: 17:00
 Relinquished by: [Signature] Date/Time: 1-16-16
 Received by: [Signature] Date/Time: 1-16-16
 Relinquished by: [Signature] Date/Time: 1-16-16
 Received for lab by: [Signature] Date/Time: 1-16-16
 Relinquished by: [Blank] Date/Time: [Blank]
 Received by: [Blank] Date/Time: [Blank]

Client Sample Number/Description:	Date Taken	Time Taken	Volume (Liters)	Area Wiped (Units) ²	Laboratory Sample No.	Air Cassette	Direct Exam-Tape	Direct Exam-Swab	Direct Exam-Bulk	Imp	Air Impact	Swab	Bulk	Other
M501-Rm. 205c Desk	1-16-14	12:53		50 cm	001		X							
M502-Rm. 205a-Book Case		13:00			002									
M503-Rm. 205c-Supply Desk		13:05			003									
M504-Rm. 205a-Return Desk		13:15			004									
M505-Rm. 216-Lab Top		13:28			005									
M506-Rm. 216-Supply Desk		13:40			006									
M507-Rm. 215-Return Desk		13:52			007									
M508-Gym-Duct on E. Wall		14:30			008									
M509-Rm. 219 Cabinet		14:48			009									
M510-Blank					010									

Comments: Need Results by 17:00 1-17-14.

BULK SAMPLE DATA

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: IEP-A ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

January 17, 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, 2nd Fl Classrooms

STAT Project No: 14010334

Dear Guy Tawzer:

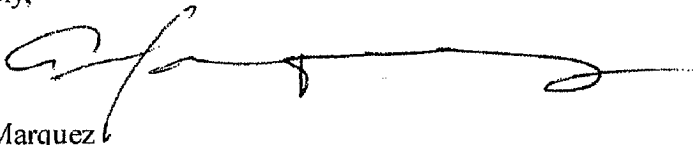
STAT Analysis received 5 samples for the referenced project on 1/16/2014 4:54:00 PM. The analytical results are presented in the following report.

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.

**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 - Direct Examination

Client: Integrity Environmental
 Project ID: 915-02, Hinsdale Middle School, 2nd fl classrooms
 STAT Project No.: 14010334

Date/Time Received: 1/16/14 4:54 PM
 Date Analyzed: 1/17/2014
 Analyzed By: AM

Client Sample No.:	MB01 S5-1st floor	
Date Sampled:	1/16/2014	
Matrix:	Bulk	
STAT Sample No.:	14010334-001	
		Relative Abundance:
Identification:	<i>Stachybotrys</i>	High concentration
	<i>Chaetomium</i>	Low concentration
	<i>Aspergillus/Penicillium</i>	Low concentration

Client Sample No.:	MB02-S5 Landing (1-2)	
Date Sampled:	1/16/2014	
Matrix:	Bulk	
STAT Sample No.:	14010334-002	
		Relative Abundance:
Identification:	<i>Stachybotrys</i>	High concentration
	<i>Chaetomium</i>	Moderate concentration
	<i>Aspergillus/Penicillium</i>	Moderate concentration

Client Sample No.:	MB03-S5-2nd floor landing	
Date Sampled:	1/16/2014	
Matrix:	Bulk	
STAT Sample No.:	14010334-003	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	High concentration
	<i>Aspergillus/Penicillium</i>	High concentration

Client Sample No.:	MB04-Hall outside 2nf fl 54/55	
Date Sampled:	1/16/2014	
Matrix:	Bulk	
STAT Sample No.:	14010334-004	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	High concentration
	<i>Aspergillus/Penicillium</i>	High concentration

High concentration: greater than 75% spore cover/field of view
 Moderate concentration: 25% to 75% spore cover/field of view
 Low concentration: less than 25% spore cover/field of view

SOP 6210

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Analytical Report for Microbiological Analysis - Direct Examination

Client:	Integrity Environmental	Date/Time Received:	1/16/14 4:54 PM
Project ID:	915-02, Hinsdale Middle School, 2nd fl classrooms	Date Analyzed:	1/17/2014
STAT Project No.:	14010334	Analyzed By:	AM

Client Sample No.:	MB05-Hall outside 215	
Date Sampled:	1/16/2014	
Matrix:	Bulk	
STAT Sample No.:	14010334-005	
		Relative Abundance:
Identification:	<i>Chaetomium</i>	High concentration
	<i>Aspergillus/Penicillium</i>	Moderate concentration
	<i>Stachybotrys</i>	Moderate concentration

High concentration: greater than 75% spore cover/field of view
Moderate concentration: 25% to 75% spore cover/field of view
Low concentration: less than 25% spore cover/field of view

MICROBIOLOGY CHAIN OF CUSTODY RECORD

Client: Integrity Environmental Services, Inc.
 Street Address: 1240 Iroquois Avenue, Suite 102
 City, State, Zip: Naperville, IL 60563
 Phone: (630) 718-9133
 Fax: (630) 718-9174
 e-mail/Alt. Fax: ies201@sheltonlab.net
 Project Number: 915-02
 Project Name: Hinsdale Middle School
 Project Location: 2nd Floor Classrooms
 Project Manager: Guy Lawzet
 P.O. Number: 915-02

Work Order No.: 14010334
 Office Use Only Below
 Samples Acceptable: Yes No
 Analyzed By: [Signature]
 Date/Time: 1/17/14
 Data File: _____
 QC By: _____
 Reported By (Initial/Date/Time): _____
 Verbal: _____
 Fax/e-mail: _____

Turn Around Time: <1 1 2 3 Viable: 6-10
 Other TAT: _____ Date Due: 1-17-14 Time Due: 17:00
 Relinquished by: [Signature] Date/Time: 1-16-14
 Received by: [Signature] Date/Time: 1-16-14
 Relinquished by: [Signature] Date/Time: 1-16-14
 Received for lab by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Client Sample Number/Description:	Date Taken	Time Taken	Volume (Liters)	Area Wiped (Units) ²	Laboratory Sample No.	Air Cassette	Direct Exam - Tape	Direct Exam - Swab	Direct Exam - Bulk	Vials	Air Impact	Swab	Bulk	Other	Date/Time
<u>M801-55-1st Fl.</u>	<u>1-16-14</u>				<u>001</u>										
<u>M802-55-Landing (1-2)</u>					<u>002</u>										
<u>M803-55-2nd Fl. Landing</u>					<u>003</u>										
<u>M804 - Hall outside 2nd Fl 5/56</u>					<u>004</u>										
<u>M805 - Hall outside 2nd Fl 2/5</u>					<u>005</u>										

Comments: Need Results by 17:00, 1-17-14

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:

Alternaria sp.: Spores were found on the surface swab sample collected on the back of a cabinet in the art room; Classroom 119. This fungus is very common, found both indoors and outdoors in soil, dead organic debris, foodstuffs, and textiles. This mold is a plant pathogen and is one of the main fungal causes of allergies.

- Ascospores:* Spores were found on the surface swab sample collected from the HVAC supply duct in Classroom 216. These spores were not positively identified. They are possibly from species of *Alternaria*, *Aspergillus*, *Cladosporium*, or *Penicillium* among others.
- Aspergillus sp.:* Spores were found on all of the collected drywall bulk samples, on the surface swab samples collected from the desk top, the book case, and the HVAC supply diffuser in Room 205a, on the lab top and on the HVAC supply diffuser in Classroom 216, and on the back of the cabinet in the art room; Classroom 119. 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.*
- Bipolaris sp.:* These spores were found on the surface swab samples collected on the book case in Room 205a and within the HVAC return duct in Classroom 215. This fungus is commonly known as a plant parasite, and can grow as a mold in semi-dry environments. *Bipolaris sp.* can cause allergic fungal sinusitis.
- Chaetomium sp.:* These spores were found on all of the collected drywall bulk samples, on all surface swab samples collected in Room 205a, on the surface swab samples collected on the lab top and HVAC supply duct diffuser in Classroom 216, on the HVAC duct located on the east wall of the gymnasium, and on the back of the cabinet in the art room; Classroom 119. 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 the surface swab samples collected on the HVAC supply duct diffuser in Classroom 216, and in the HVAC return duct in Classroom 215. 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.
- Dreschlera sp.:* These spores were found on the surface swab samples collected on the book case in Room 205a and within the HVAC return duct in Classroom 215. This fungus is found on grasses, grains, and decaying food. It has been known to cause a corneal infection of the eye.

- Epicoccum sp.*: Spores were found on the surface swab samples collected on the HVAC supply duct diffuser in Classroom 216, in the HVAC return duct in Classroom 215, and on the back of the cabinet in the art room; Classroom 119. This fungus is commonly found in plants, soils, grains, textiles and paper products. It is usually found in association with *Cladosporium* and *Aureobasidium*. Considered to be a saprophyte, *Epicoccum*, is routinely found on air samples and occasionally found in dust samples. This fungus is reported to be an allergen.
- Myxomycetes: Spores were found on the HVAC duct located on the east wall of the gymnasium. 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.
- Nigrospora sp.*: These spores were found on the surface swab samples collected on the HVAC supply duct diffuser in Classroom 216. This fungus is reported to be either parasitic or saprophytic in plants. It is also reported to be allergenic.
- Penicillium sp.*: Spores were found on all of the collected drywall bulk samples, on the surface swab samples collected from the desk top, the book case, and the HVAC supply diffuser in Room 205a, on the lab top and on the HVAC supply diffuser in Classroom 216, and on the back of the cabinet in the art room; Classroom 119. 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.*: These spores were found on the surface swab samples collected on the book case and in the HVAC return duct in Room 205a. 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 the HVAC duct located on the east wall of the gymnasium. 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 myxomycetes.
- Stachybotrys sp.*: Fungal spores were found on the drywall bulk samples collected from the first floor and the mid landing (between the first and second floor) in stairwell S5, from the drywall bulk sample collected in the hallway outside Classroom 216, and on the surface swab samples collected from the lab top in Classroom 216 and from within the HVAC return duct located above the ceiling in Classroom 215.

This fungus does extremely well on water damaged materials such as sheet rock, paper, ceiling tiles, wall paper and cellulose containing insulation backing. The presence of this fungus in an indoor environment is important due to its ability to produce extremely toxic mycotixins. Exposure can be through skin contact, ingestion, or inhalation. Symptoms include dermatitis, cough, rhinitis, nose bleeds, a burning sensation in the mouth and nasal passages, cold and flu symptoms, headache, general malaise, and fever.