MAIN OFFICE:

50 Salem Street, Ste. 103B
Lynnfield, MA 01940
(781) 213-9198

BRANCH OFFICES:

46 Watergate Lane
W. Barnstable, MA 02668
(508) 274-5703

10 Diamond Drive
Derry, NH 03038
(603) 434-5245

www.axiomenv.com

December 22, 2021

Mr. Michael Lane
Environmental Health & Safety Manager
Office of Court Management/
Facilities Management & Court Capital
Massachusetts Superior Courts
Lowell Justice Center
370 Jackson Street
Lowell, MA 01852

VIA EMAIL

AXIOM Project 01275.007

RE: Indoor Air Quality Testing, 80 State Street, Springfield, MA

Dear Mr. Lane,

At your request, Axiom Partners, Inc. (AXIOM) performed indoor air quality (IAQ) testing in the referenced superior courthouse building. The testing was performed on December 1, 2021, by AXIOM Industrial Hygienist, Michael Keady and consisted of the following:

I. INDOOR AIR TESTING AND OBSERVATIONS

1. Visual Assessment of Interior Spaces

AXIOM performed a general inspection of the interior spaces for visible signs of potential water damage or mold/fungal growth. This did not include above ceiling spaces and HVAC equipment.

2. General Air Quality Testing Parameters

AXIOM performed testing of indoor air quality parameters throughout the building using a direct reading Q-Trak® IAQ Monitor which continuously measures and records levels of carbon monoxide (CO), carbon dioxide (CO_2), temperature and relative humidity (rH).

AXIOM positioned the Q-Trak in 26 locations over the course of the day, with run times in each location ranging between 10 and 15 minutes. Locations were chosen to represent general air quality and the locations are documented on the attached floor plans.

Results are compared with established indoor air quality guidelines which are used to assess the adequacy of indoor air quality and ventilation.

3. Air Testing for Volatile Organic Compounds (VOCs)

A calibrated TSI GM460 Gas Monitor was used to take real-time spot readings for VOCs[1] in multiple locations throughout the building. The GM460 is a hand-held device that detects and measures more than 600 of the most common VOCs and has a lower detection limit of 1.0 ppb.

[1] Includes a library of over 600 common VOCs

The screening locations and associated Gas Monitor responses were be recorded on an indoor air sampling form. The locations mimicked the Q-Trak sampling locations.

4. Air Testing for Total Dust

AXIOM performed continuous dust monitoring throughout the building using a direct-reading SidePak AM520 dust monitor unit. This portable unit measured and recorded total dust concentrations.

The SidePak™ Personal Aerosol Monitor AM520i is a portable, battery-operated, data-logging, device that provides real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog.

AXIOM periodically moved the SidePak units throughout the building mimicking the Q-Trak and VOC sampling locations.

5. Air Testing for Non-Culturable Mold (Fungi)

AXIOM also collect air samples for direct optical examination for mold and fungal spores using Allergenco-D air sampling cassettes which are used for the rapid collection and analysis of a wide range of airborne aerosols, including fungal spores, pollen, insect parts, skin cell fragments, fibers, and inorganic particulates. AXIOM collected 8 air samples from inside the building and 2 outdoor baseline/control samples (10 total samples).

The air samples were analyzed by EMSL Analytical, inc. (EMSL) located in Woburn, MA. EMSL is accredited under the American Industrial Hygiene Association (AIHA) for fungal analysis. A chain-of-custody form was used to document sample handling and to specify analytical requirements.

II. SUMMARY OF INDOOR AIR TESTING

1. Observations

During the course of performing the air testing, AXIOM inspected interior spaces in the building and made the following observations:

1. There were numerous areas with dirty HVAC diffusers and adjacent ceiling tiles;
2. Water-stained ceiling tiles were observed in stairwell by Room 321;
3. There was visible signs of water damage on wall above water dispenser, juvenile court side 2nd floor elevator lobby and 3rd floor elevator lobby;
4. Signs of a water leak at a window located in the 2nd Floor Judges Lobby 241;
5. No visible signs and no odors associated with mold/fungi were noted in the building;
6. Most areas in the building appeared to be relatively clean; and,
7. Some unidentified stains were observed on carpets in some offices (possibly from drink/coffee spills).

2. General Air Quality Testing Parameters, VOCs and Total Dust

Table 1 provides a summary of the Q-Trak, SidePak and GM460 indoor air quality testing. In addition to our IH taking regular measurements and recording them on a field form, the Q-Trak and SidePak units operated in the data logging mode where it recorded and logged readings every 60 seconds throughout the sampling period. The GM460 is an automatic datalogging device that collects readings every 5 minutes when operational.

TABLE 1
SUMMARY OF Q-TRAK, SIDEPAK AND GM460 TESTING RESULTS

AIR QUALITY PARAMETER	MINIMUM / MAXIMUM OF MEASURED VALUES	AVERAGE OF MEASURED VALUES	GUIDELINES
Temperature (T)	47.5 / 79.6 °F	71.0 °F	68 – 75 °F [a,b] 73 – 79 °F (summer)
Relative Humidity (rH)	18.1 / 38.8 %	26.3 %	30 – 60% [a,b]
Carbon Dioxide (CO_2)	444 / 899[f] ppm	653 ppm	≤ 800 ppm [b,c]
Carbon Monoxide (CO)	0.0 / 0.7 ppm	0.0 ppm	9 ppm [a,b]/50 ppm [d]
Volatile Organic Compounds (VOC)	0 / 392 ppb	5 ppb	300 ppb [b, e]
Total Airborne Particulate	0.0 / 0.425 mg/m^3	0.016 mg/m^3	15.0 mg/m^3/5 [d]

[a] ASHRAE 55-2013 Std. (American Society of Heating, Refrigerating & Air Conditioning Engineers).
[b] ≤ means less than or equal to, °F = degrees Fahrenheit, % = percent, ppm = parts per million, mg/m^3 = milligrams per cubic meter; TWA = Time Weighted Average over 8-hours
[c] Occupational Safety & Health Administration (OSHA) proposed indoor air quality (IAQ) rule (59 FR 15968).
[d] OSHA (Occupational Safety and Health Administration) Permissible Exposure Limit.
[e] Refer to attached Total VOC summary table in Attachment 6.
[f] The Q-Trak logged an instantaneous max reading of 1051 ppm CO_2 at 09:29 – possibly due to the sensor near the user's breathing zone during transportation of the device between survey locations. Reviewing the remaining data log, this peak result does not appear to be of concern.

Attachment 1 includes the field recording forms. The Q-Trak, SidePak and GM460 data summaries and graphs are provided in Attachment 2.

4. Air Testing for Non-Culturable Mold (Fungi)

Table 4 provides a summary of the spore trap air sampling results, and the complete lab report are provided in Attachment 3.

TABLE 4
SUMMARY OF AIRBORNE FUNGAL SPORE TESTING RESULTS

SAMPLE NUMBER	LOCATION	TOTAL FUNGI (S/m^3)[1]	MOLD SPORE TYPE
4480445	3rd Floor, Hall Next to Elevator	40	Basidiospores
4480450	3rd Floor, Juvenile Court, Employee Lounge	0	None Detected
4480540	2nd Floor, Juvenile Court, Hall by Probation Office	40	Myxomycetes
4480471	2nd Floor, Housing Court, Room 204	40	Myxomycetes
4480529	1st Floor, Housing Court Clerk's Office	40	Myxomycetes
4480547	1st Floor, Stairs by Judge's Lobby	0	None Detected
4480541	Basement, Juvenile Lock-Up	90	Basidiospores
4480535	Basement, Stairs Leading to Garage	100	Myxomycetes
4480493	Outside, Front Steps on State St	21,500	Myxomycetes
4480462	Outside, Side Yard by Murals	3,420	Myxomycetes, Pithomyces, Rust, Unidentified Spores

[1]S/m[3] = spore counts per cubic meter of air

Airborne fungi below 250 S/m[3] are normally not a concern for indoor environments[2]. Airborne levels outdoors are normally between 500 and 1,000 S/m[3], but, can easily exceed 10,000 S/m[3] during the spring and summer months. Indoor airborne levels between 250 and 1,000 S/m[3] are typically considered to be moderate and levels that exceed 1,000 S/m[3] are often considered elevated[3] and may result in active mold growth.

It is important to note that bioaerosols (fungi/mold) are always present and it is the excess quantity of microorganisms that can be of concern. By comparing the microbiological profiles of indoor sample results to outside samples, it is often possible to determine if amplification of microorganisms is occurring within the building.

Comparing the microbial profiles of the air samples, AXIOM has concluded that the airborne fungal spore levels on the days of the sampling were not elevated, and amplification was not occurring.

In summary, based on the results of the air quality testing described herein, AXIOM did not identify any air quality conditions or levels for measured parameters that were significantly outside acceptable levels of indoor air quality.

Although the TVOC levels are considered acceptable, it should be noted that as a result of increased cleaning and sanitizing inside building due to Covid-19, reports of higher-than-normal levels of VOCs inside buildings have been on the rise.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Evan MacArthur Project Manager/Sr. IH	Stephen E. Minassian Principal	Edward K. Kearney, CIH Principal

Attachments: A1, Field data forms
A2, Direct Read Instrument Reports
A3, Fungi/mold testing report
A4, Sample location floor plans
A5, TVOC reference table

[2] New York Committee for Occupational Safety and Health
[3] Occupational Safety and Health Administration Technical Manual, Section III, Chapter 2, § IV (c)

ATTACHMENT 1

FIELD DATA FORMS

IAQ READINGS

Date: 12/1/21
Project No.: 01275.008
Industrial Hygienist(s): Michael Keady

Location: 80 State St, Springfield MA
Project Name: Air Quality Investigation, Springfield Hall of Justice

TIME	LOCATION	TEMP (°F)	RH (%)	CO_2 (PPM)	CO (PPM)	VOCS (PPB)	PART. (MG/M^3)
0913	3rd Floor, Housing Court, Employee Lounge 321	68.2	31.9	669	0.1	0	0.044
0924	3rd Floor, Housing Court, Room 305	72.6	27.1	618	0.1	0	0.003
0935	3rd Floor, Housing Court, Corridor Next to Elevator	74.0	25.9	614	0.1	0	0.006
0946	3rd Floor, Housing Court, Employee Lounge 307	74.1	28.8	735	0.1	0	0.38
0958	3rd Floor, Juvenile Court, Corridor Next to 341-342	71.0	27.8	712	0.1	0	0.0
1009	3rd Floor, Juvenile Court, Probation Court Clerks Office	73.0	27.2	751	0.1	2	0.0
1020	2nd Floor, Juvenile Court Employee Lounge	68.8	29.7	734	0.1	0	0.0
1031	2nd Floor, Juvenile Court, Elevator Lobby	70.8	27.8	730	0.1	3	0.0
1042	2nd Floor, Juvenile Court, Corridor Outside Probation Office	71.8	27.3	769	0.1	6	0.0
1053	2nd Floor, Hallway Outside Juvenile Court 2	72.7	25.4	652	0.1	9	0.0
1104	2nd Floor, Housing Court, Jury Deliberation Room 201	72.9	24.8	681	0.1	7	0.002
1115	2nd Floor Housing Court, Room 204	79.4	21.5	743	0.1	12	0.0
1126	2nd Floor, Outside Housing Court 2	77.0	23.7	790	0.0	13	0.0
1137	1st Floor, Housing Court, Outside Men's Room	72.7	27.7	905	0.0	12	0.0
1148	1st Floor, Housing Court Clerks Office	73.6	25.4	643	0.0	16	0.0
1229	1st Floor, Juvenile Court Clerks Office	72.1	23.1	608	0.0	4	0.0
1240	1st Floor, Next To Stairs in Lobby, Outside Juvenile Court Clerks Office	73.2	24.2	654	0.1	7	0.0
1251	1st Floor, Stairwell Outside of Juvenile Court Judge's Lobby	69.7	27.9	702	0.0	7	0.0
1302	1st Floor, Juvenile Court, Witness Waiting Room	70.0	29.5	870	0.0	9	0.002
1313	Basement, Juvenile Lock-Up	74.6	24.3	592	0.1	7	0.0
1324	Basement, District Attorney's Office	73.9	22.5	616	0.1	5	0.049
1335	Basement, Juvenile Court Conference Room B-30	72.8	24.1	637	0.0	6	0.0
1346	Basement, Storage Room B10	69.9	27.2	483	0.0	15	0.023
1357	Basement, Stairwell to Garage, Employee Exit	71.7	18.0	487	01	1	0.0

°F = degrees Fahrenheit; % = percent; ppm = parts per million, mg/m^3 = milligrams per cubic meter

IAQ READINGS

Date: 12/1/21
Project No.: 01275.008
Industrial Hygienist(s): Michael Keady

Location: 80 State St, Springfield MA
Project Name: Air Quality Investigation, Springfield Hall of Justice

TIME	LOCATION	TEMP (°F)	RH (%)	CO_2 (PPM)	CO (PPM)	VOCS (PPB)	PART. (MG/M^3)
1408	Garage, Parking Spot 59	51.3	32.8	492	0.0	0	0.006
1419	Outside, Sidewalk of State St	49.6	37.7	484	0.0	0	0.002

°F = degrees Fahrenheit; % = percent; ppm = parts per million, mg/m^3 = milligrams per cubic meter

ATTACHMENT 2

Q-TRAK SUMMARY REPORT & GRAPH,
SIDEPAK PARTICULATE REPORT & GRAPH
GM460 SUMMARY REPORT & GRAPH

Instrument		Data Properties	
Model	VelociCalc/Q-Trak 7575	Start Date	12/1/2021
Meter S/N	7575X1910009	Start Time	9:10:06
Probe Model	982	Stop Date	12/1/2021
Probe S/N	P19140039	Stop Time	14:18:05
Meter Cal Date	03/10/2021	Total Time	5:07:59
CO2 Cal	03/10/2021	Logging Interval	10 seconds
Temperature Cal	03/10/2021		
Humidity Cal	03/10/2021		
CO Cal	03/10/2021		

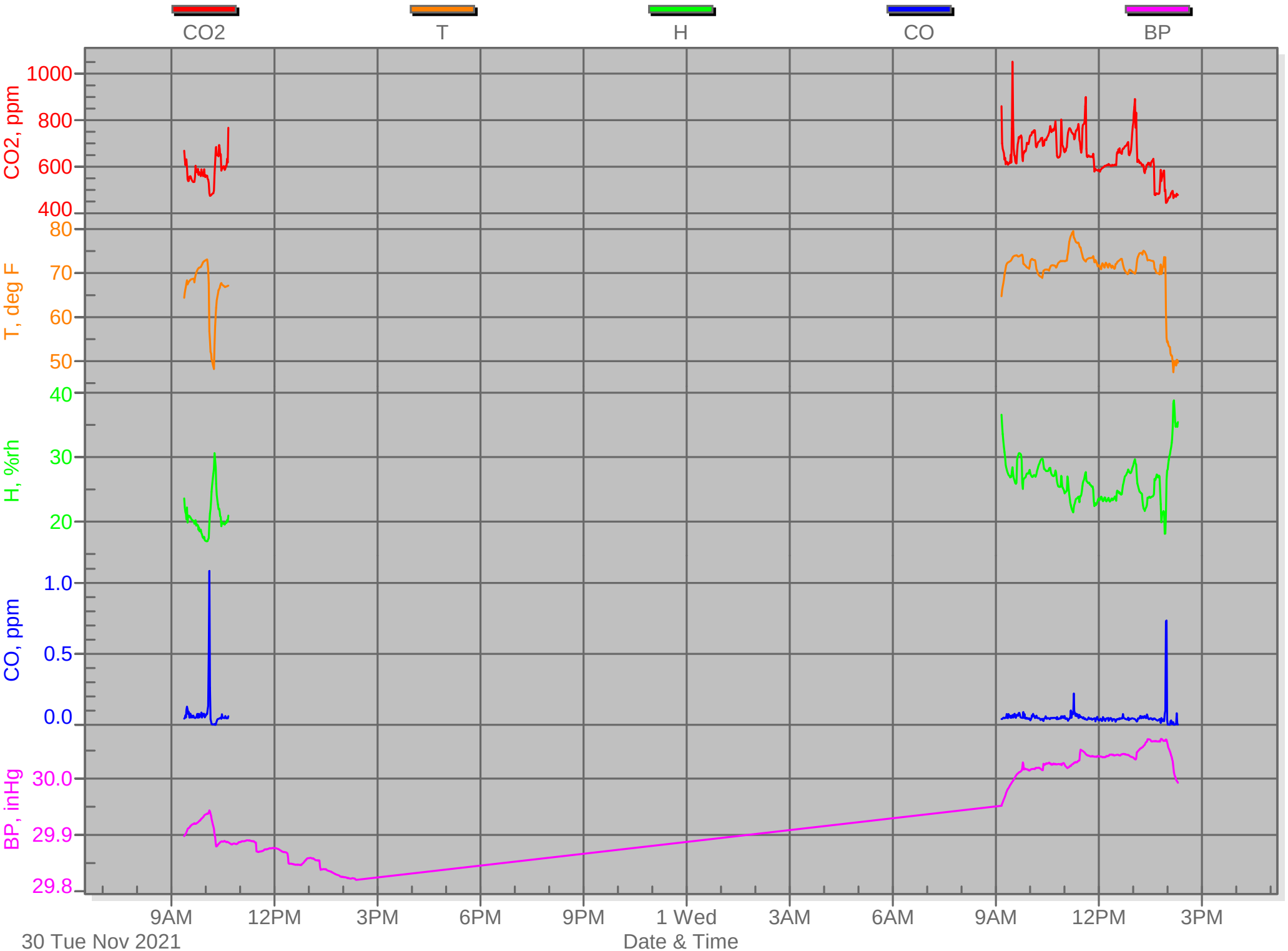
	CO2 ppm	T deg F	H %rh	CO ppm	BP inHg
Max	899	79.6	38.8	0.7	30.07
Min	444	47.5	18.1	0	29.95
Avg.	653	71.0	26.3	0.0	30.03

Q-Trak Test Data

Sample	Date	Time	CO2 ppm	T deg F	H %rh	CO ppm	BP inHg
298	12/1/2021	9:10:06	860	64.8	36.6	0	29.95
299	12/1/2021	9:11:06	701	66.2	35	0	29.96
300	12/1/2021	9:12:06	677	67	33.6	0	29.96
301	12/1/2021	9:13:06	668	67.6	32.5	0	29.96
302	12/1/2021	9:14:06	658	68.5	31.6	0	29.96
303	12/1/2021	9:15:06	630	69.6	30.8	0	29.97
304	12/1/2021	9:16:06	639	70.4	30	0	29.97
305	12/1/2021	9:17:06	611	71.2	28.8	0.1	29.97
306	12/1/2021	9:18:06	617	71.7	28.5	0	29.97

Q-Trak 7575 Data

50 and 80 State St Springfield MA



UNDERSTANDING, ACCELERATED

Test 2 Report

Name: Test 2

Description: None

Location: Unknown

Instrument Name: SidePak Aerosol Monitor

Device Model Number: AM520

Device Serial Number: 5201912003

Firmware Version: A.08

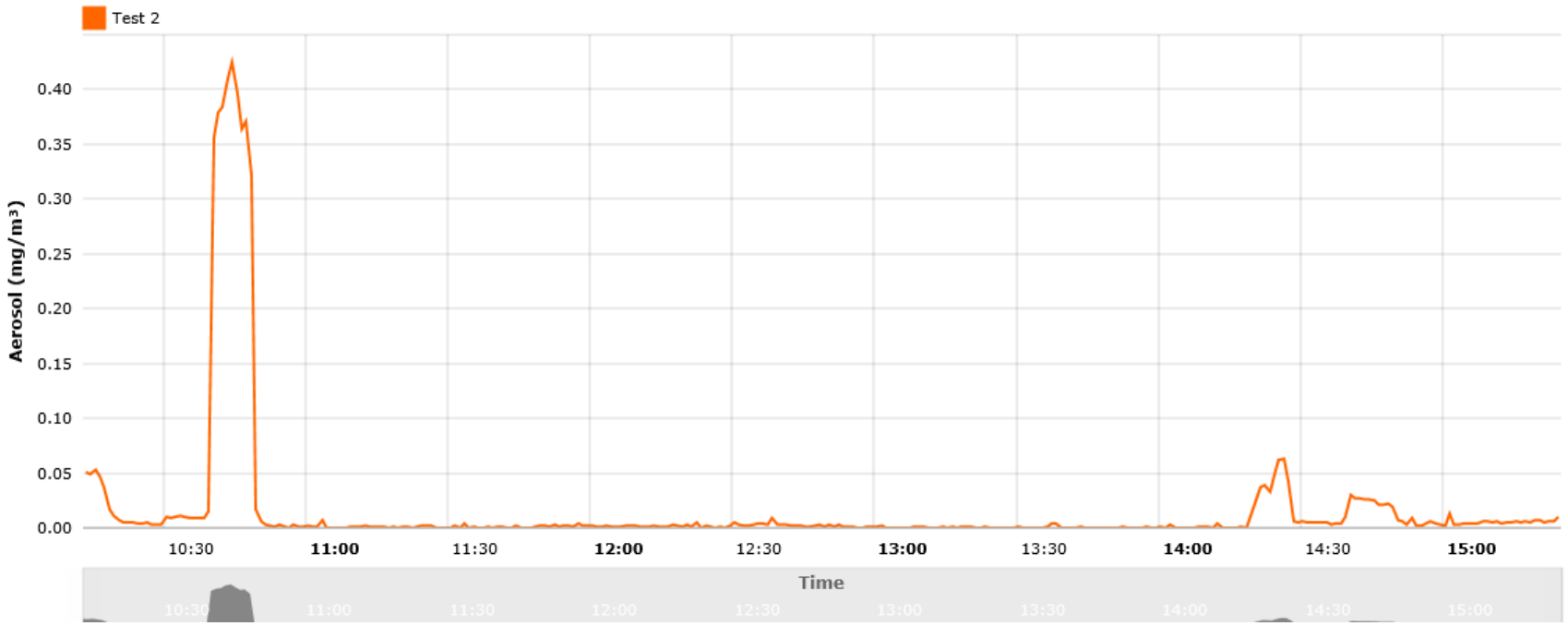
Last Factory Calibration: 3/12/2021

Data Properties	
Start Date	12/1/2021
Start Time	10:12 AM
End Date	12/1/2021
End Time	3:24 PM
Test Length	00:05:12:00
Logging Interval	60 second(s)
Number of Data Points	312

Additional Information	
Threshold Alarms	7
STEL event(s)	True

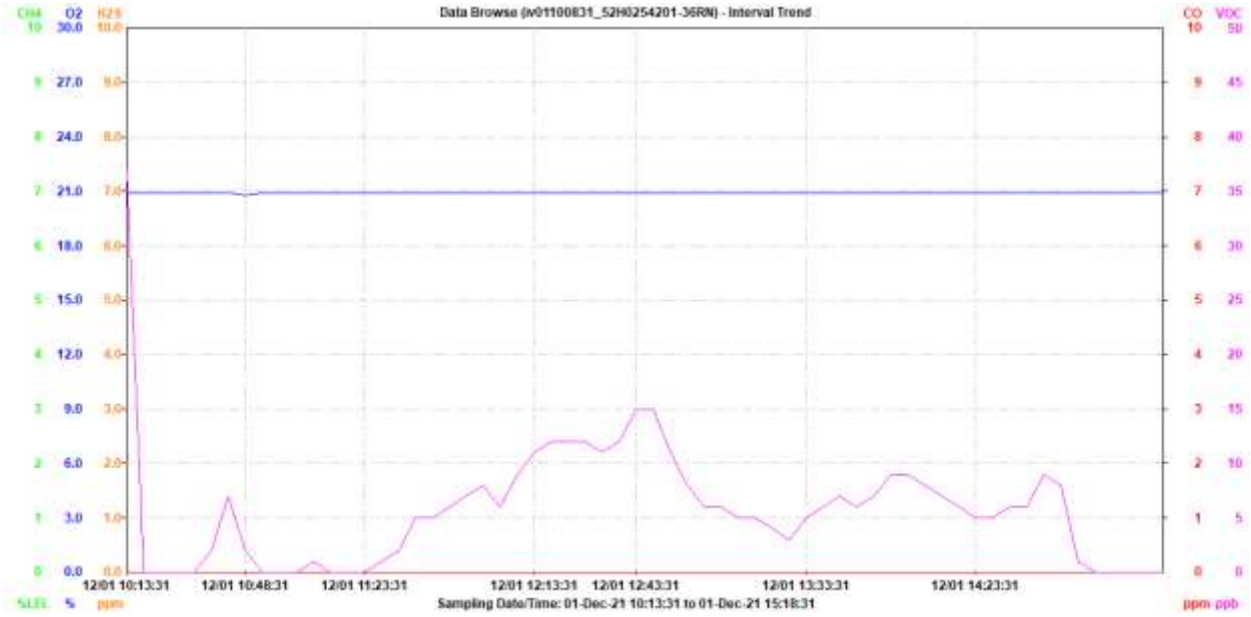
Test Statistics

Channel	Average	Minimum	Maximum	Cal Factor	TWA
Aerosol (mg/m³)	0.016	0 12/01/2021 02:18:53	0.425 12/01/2021 10:44:53	1 Factory 06/27/2021	0.01


Test 2
Aerosol (mg/m³)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
Time

GM460 VOCs 12/1/21

Gas(FullScale)	Avg	Max	Max Date/Time	Min	Min Date/Time	Warning	Alarm	STEL	TWA
CH4(100%LEL)	0 %LEL	1 %LEL	12/1/2021 10:08	*****	*****	10 %LEL	50 %LEL	*****	*****
O2(40.0%)	20.80%	20.90%	12/1/2021 10:08	20.80%	12/1/2021 10:45	19.50%	23.50%	*****	*****
H2S(100.0ppm)	0.0 ppm	0.0 ppm	12/1/2021 10:08	*****	*****	5.0 ppm	30.0 ppm	5.0 ppm	1.0 ppm
CO(500ppm)	0 ppm	2 ppm	12/1/2021 15:05	*****	*****	25 ppm	50 ppm	200 ppm	25 ppm
VOC(50000ppb)	5 ppb	392 ppb	12/1/2021 10:08	*****	*****	5000 ppb	10000 ppb	*****	*****



ATTACHMENT 3

EMSL MOLD AIR SAMPLING LABORATORY REPORT

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132109230
Customer ID: AXIO80
Customer PO:
Project ID:

Attention: Evan MacArthur
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Project: 01275.008 - 80 State Street

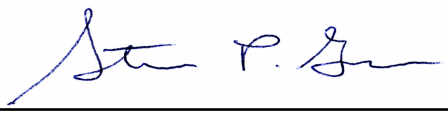
Phone: (781) 213-9198
Fax: (781) 213-6992
Collected Date: 12/01/2021
Received Date: 12/02/2021
Analyzed Date: 12/09/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

	132109230-0001			132109230-0002			132109230-0003		
Lab Sample Number:									
Client Sample ID:	4480445			4480450			4480540		
Volume (L):	75			75			75		
Sample Location:	3rd Floor, Hall Next to Elevator			Juvenile Court, Employee Lounge			Juvenile Court, Probation Office, Hall		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	1	40	100	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	1	40	100
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**1**	**40**	**100**	**-**	**None Detected**	**-**	**1**	**40**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	43	-	-	43	-	-	43	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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



Steve Grise, Laboratory Manager
or other Approved Signatory

High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC-EMLAP Accredited #180179

Initial report from: 12/09/2021 09:35 AM

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

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132109230
Customer ID: AXIO80
Customer PO:
Project ID:

Attention: Evan MacArthur
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Project: 01275.008 - 80 State Street

Phone: (781) 213-9198
Fax: (781) 213-6992
Collected Date: 12/01/2021
Received Date: 12/02/2021
Analyzed Date: 12/09/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

	132109230-0004			132109230-0005			132109230-0006		
Lab Sample Number:									
Client Sample ID:	4480471			4480529			4480493		
Volume (L):	75			75			75		
Sample Location:	Housing Court, Room 204			Housing Court, Clerk's Office			Front Steps, Outside		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	40	100	1	40	100	503	21500	100
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**1**	**40**	**100**	**1**	**40**	**100**	**503**	**21500**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	43	-	-	43	-	-	43	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	-	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	-	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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

Steve Grise, Laboratory Manager
or other Approved Signatory

Initial report from: 12/09/2021 09:35 AM

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

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132109230
Customer ID: AXIO80
Customer PO:
Project ID:

Attention: Evan MacArthur
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Project: 01275.008 - 80 State Street

Phone: (781) 213-9198
Fax: (781) 213-6992
Collected Date: 12/01/2021
Received Date: 12/02/2021
Analyzed Date: 12/09/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

	132109230-0007			132109230-0008			132109230-0009		
Lab Sample Number:									
Client Sample ID:	4480462			4480547			4480541		
Volume (L):	75			75			75		
Sample Location:	Side Yard, State Street			Stairs, Outside Judge's Lobby			Juvenile Lock-up		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	2	90	100
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	78	3300	96.5	-	-	-	-	-	-
Pithomyces++	1	40	1.2	-	-	-	-	-	-
Rust	1	40	1.2	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	1	40	1.2	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**81**	**3420**	**100**	**-**	**None Detected**	**-**	**2**	**90**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	43	-	-	43	-	-	43	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	-	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	-	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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

Steve Grise, Laboratory Manager
or other Approved Signatory

Initial report from: 12/09/2021 09:35 AM

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Fax: (781) 213-6992
Collected Date: 12/01/2021
Received Date: 12/02/2021
Analyzed Date: 12/09/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	**132109230-0010**		
Client Sample ID:	**4480535**		
Volume (L):	**75**		
Sample Location:	**Stairs Leading to Garage**		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-
Ascospores	-	-	-
Aspergillus/Penicillium	-	-	-
Basidiospores	-	-	-
Bipolaris++	-	-	-
Chaetomium++	-	-	-
Cladosporium	-	-	-
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium++	-	-	-
Ganoderma	-	-	-
Myxomycetes++	3	100	100
Pithomyces++	-	-	-
Rust	-	-	-
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Total Fungi	**3**	**100**	**100**
Hyphal Fragment	-	-	-
Insect Fragment	-	-	-
Pollen	-	-	-
Analyt. Sensitivity 600x	-	43	-
Analyt. Sensitivity 300x	-	13*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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

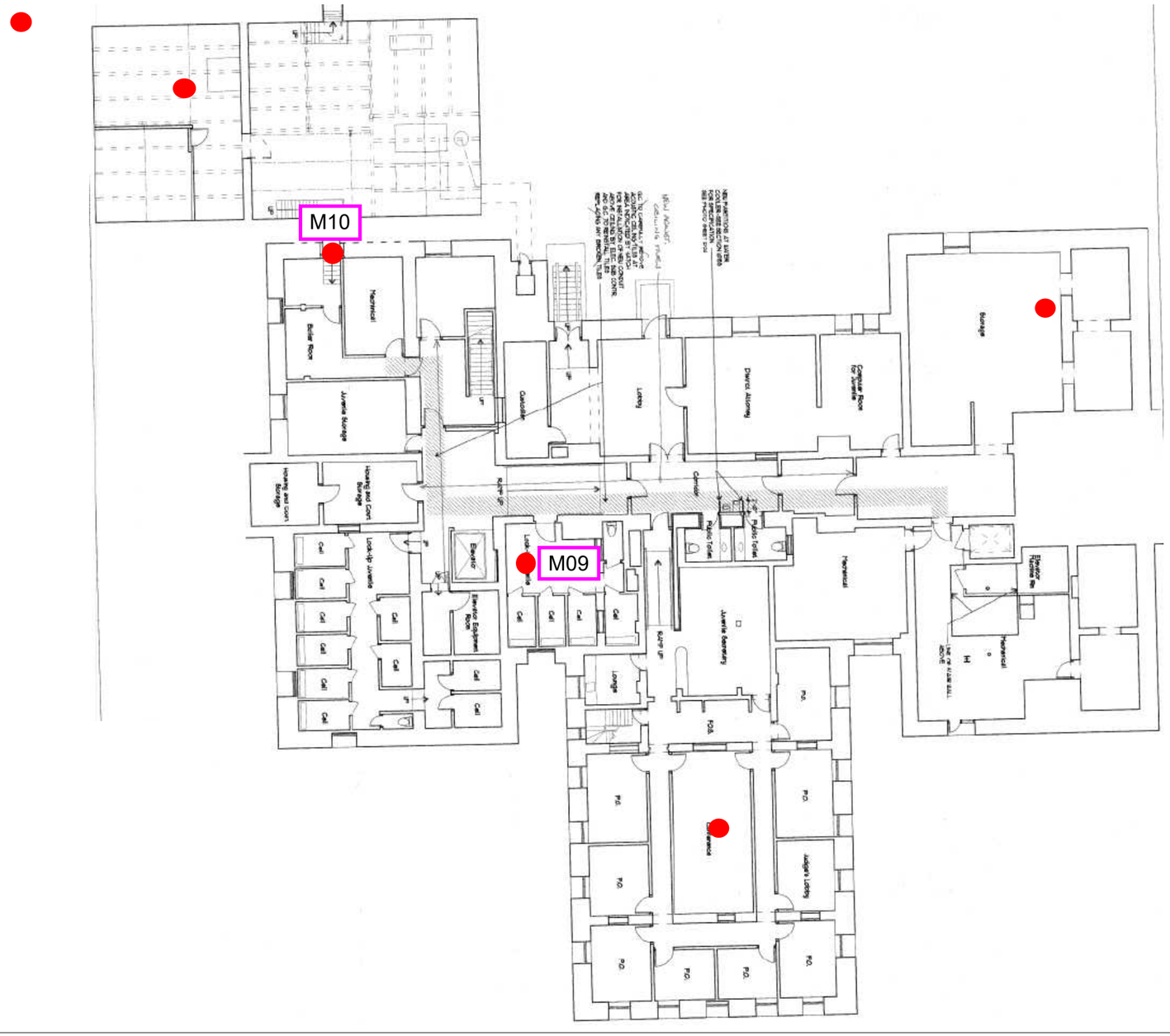
Steve Grise, Laboratory Manager
or other Approved Signatory

Initial report from: 12/09/2021 09:35 AM

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

ATTACHMENT 4

SAMPLE LOCATION FLOOR PLANS



LEGEND

- IAQ Sample Location
- M09 — Mold Sample Location

Bi-Weekly IAQ Survey

Round 3 of 6
December 1, 2021

1 HAMPDEN SUP CT
BASEMENT FLOOR PLAN

PLAN NOT FOR CONSTRUCTION

REVISIONS | DATE

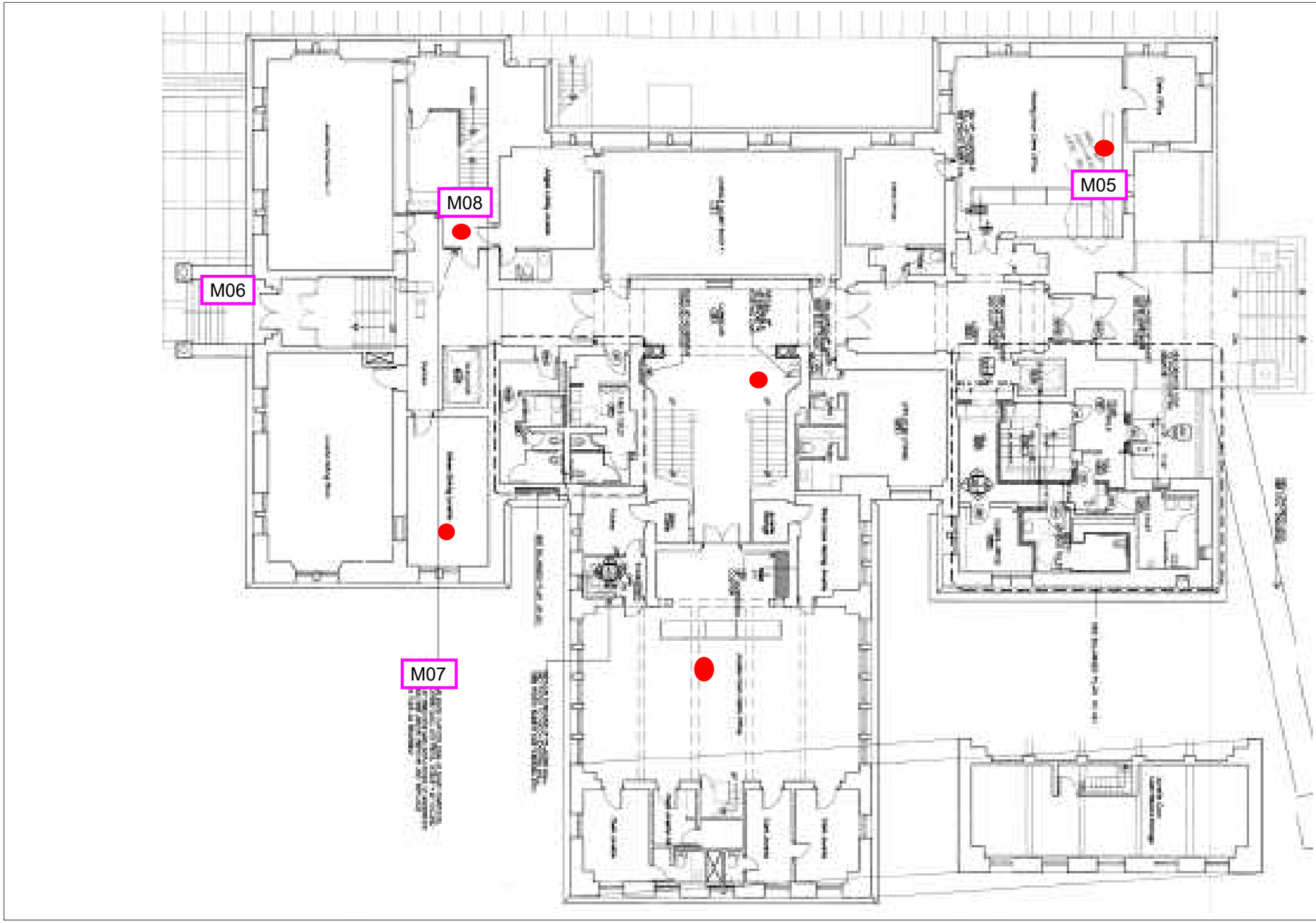
NORTH

80 State Street, Springfield MA

AXIOM PARTNERS, INC.
50 B Salem St., Suite 103
LynnField, MA 01940
(781) 213-9198
www.axiomenv.com

DRAWING TITLE: Hampden Superior Ct Basement Floor Plan	PROJECT TITLE: Hampden Sup. Ct IAQ Survey 80 State St, Springfield MA		DATE: 12/01/21
APPROVED:	BUILDING NUMBER	CHECKED / DRAWN	PROJECT NO.: 01275.008
APPROVED:	LOCATION		DRAWING NO.: IAQ 1 DWG. 1 OF 4

axiom PARTNERS environmental engineers



LEGEND

IAQ Sample Location

M05 Mold Sample Location

Bi-Weekly IAQ Survey

Round 3 of 6

December 1, 2021

2 HAMPDEN SUP CT
FIRST FLOOR PLAN

PLAN NOT FOR CONSTRUCTION

REVISIONS | DATE

NORTH

80 State Street, Springfield MA

AXIOM PARTNERS, INC.
50 B Salem St., Suite 103
LynnField, MA 01940
(781) 213-9198
www.axiomenv.com

DRAWING TITLE: Hampden Superior Ct 1st Floor Plan

PROJECT TITLE: Hampden Sup. Ct IAQ Survey
80 State St, Springfield MA

APPROVED:

APPROVED:

BUILDING NUMBER | CHECKED | DRAWN

LOCATION

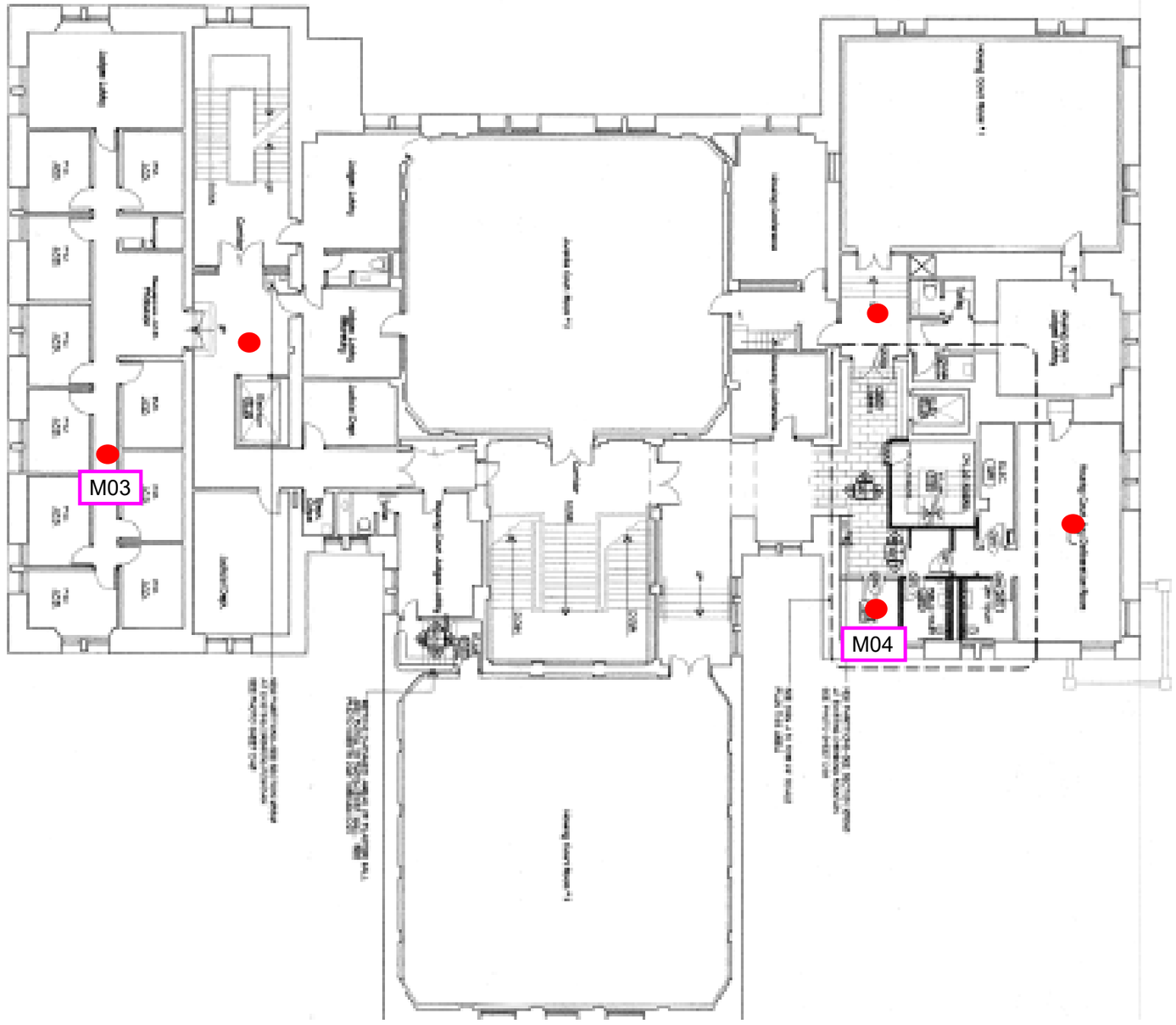
DATE: 12/01/21

PROJECT NO.: 01275.008

DRAWING NO.: IAQ 2

DWG. 2 OF 4

axiom PARTNERS environmental engineers



LEGEND

- IAQ Sample Location
- M03 — Mold Sample Location

Bi-Weekly IAQ Survey

Round 3 of 6
December 1, 2021

3 HAMPDEN SUP CT
SECOND FLOOR PLAN

PLAN NOT FOR CONSTRUCTION

REVISIONS | DATE

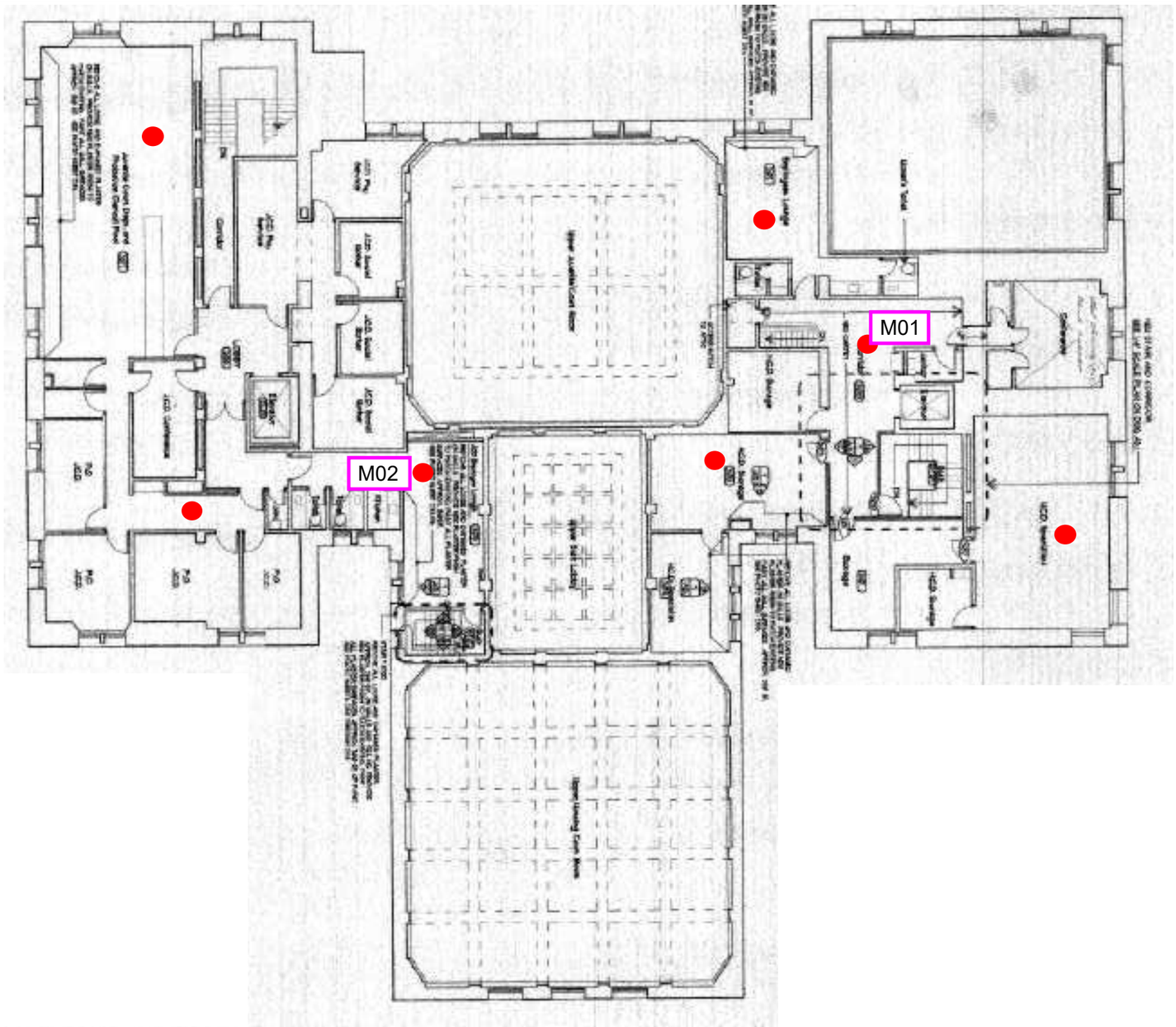
NORTH

80 State Street, Springfield MA

AXIOM PARTNERS, INC.
50 B Salem St., Suite 103
LynnField, MA 01940
(781) 213-9198
www.axiomenv.com

DRAWING TITLE: Hampden Superior Ct 2nd Floor Plan
PROJECT TITLE: Hampden Sup. Ct IAQ Survey 80 State St, Springfield MA
DATE: 12/01/21
PROJECT NO.: 01275.008
APPROVED:
BUILDING NUMBER | CHECKED | DRAWN
APPROVED:
LOCATION
DRAWING NO.: IAQ 3
DWG. 3 OF 4

axiom partners environmental engineers



LEGEND

IAQ Sample Location

M01 Mold Sample Location

Bi-Weekly IAQ Survey

Round 3 of 6
December 1, 2021

4 HAMPDEN SUP CT
THIRD FLOOR PLAN

PLAN NOT FOR CONSTRUCTION

REVISIONS | DATE

NORTH

80 State Street, Springfield MA

AXIOM PARTNERS, INC.
50 B Salem St., Suite 103
LynnField, MA 01940
(781) 213-9198
www.axiomenv.com

DRAWING TITLE: Hampden Superior Ct 3rd Floor Plan
PROJECT TITLE: Hampden Sup. Ct IAQ Survey 80 State St, Springfield MA
DATE: 12/01/21
PROJECT NO.: 01275.008
DRAWING NO.: IAQ 4
DWG. 4 OF 4
APPROVED:
BUILDING NUMBER
CHECKED
DRAWN
APPROVED:
LOCATION

axiom partners environmental engineers

ATTACHMENT 5

TVOC CONCENTRATION REFERENCE TABLE

TVOC Indoor Air Concentration Reference Guide

TVOC Level *ug*/m3	Level of Concern	Symptoms	Comments
<300 (0.3 ppm)	Low	No irritation or discomfort is expected	There is a low likelihood that specific VOC sources are present
300 to 500 (0.3 to 0.5 ppm)	Acceptable	Occasional irritation or discomfort may be possible with sensitive individuals	There is a low to moderate likelihood that specific VOC sources are present
500 to 1,000 (0.5 to 1.0 ppm)	Marginal	Complaints about irritation and discomfort are possible in sensitive individuals	A moderate likelihood that specific VOC sources are it is recommended that steps be taken to identify the sources
1,000 to 3,000 (1.0 to 3.0 ppm)	High	Irritation and discomfort are very likely	A high likelihood that specific VOC sources are present and it is highly recommended that steps be taken to identify them
>3,000 (>3.0 ppm)	Very High	Irritation and discomfort are very possible	These levels are usually found in an industrial environment where workers are exposed to chemicals