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January 31, 2022

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, Springfield District Courthouse, 50 State Street, Springfield, MA

Dear Mr. Lane,

At your request, Axiom Partners, Inc. (AXIOM) performed indoor air quality (IAQ) testing at the referenced courthouse building. The testing was performed on January 12, 2022, by AXIOM Industrial Hygienist, Michael Keady. The IAQ survey 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 IAQ parameters throughout the building using a direct reading Q-Trak® IAQ Monitor which continuously measures and records levels of carbon monoxide (CO), carbon dioxide (CO₂), temperature and relative humidity (rH).

AXIOM positioned the Q-Trak in 36 locations over the course of the day, with run times in each location ranging between 10 and 20 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 IAQ 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 VOCs¹ 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 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 TSI SidePak™ AM520i dust monitor. 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 unit throughout the building mimicking the Q-Trak and Gas Monitor 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 10 air samples from inside the building and 2 outdoor baseline/control samples (12 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. Most areas in the building appeared to be relatively clean
2. No visible signs and no odors associated with mold/fungi were noted in the building
3. As previously reported, there were numerous areas with dirty HVAC diffusers and adjacent ceiling tiles
4. As previously reported, there were water-stained ceiling tiles by the windows in the Law Library and in the corner of the Registry of Probate and in Office 204
5. A trash receptacle used to collect water from a leaking window was noted in the 4th floor Jury Pool Room and,
6. As previously reported, 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 SidePak and GM460 indoor air quality testing. In addition to our IH taking regular measurements and recording them on a field form, the SidePak unit 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. Due to an unknown equipment issue, the Q-Trak did not record sensor data to the unit's data log file.

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)	64.4 / 77.1 °F	72.4 °F	68 – 75 °F ^{a,b} 73 – 79 °F (summer)
Relative Humidity (rH)	9.6 / 15.9 %	11.2 %	30 – 60% ^{a,b}
Carbon Dioxide (CO ₂)	490 / 676 ppm	566 ppm	≤ 800 ppm ^{b,c}
Carbon Monoxide (CO)	0.0 / 0.1 ppm	0.03 ppm	9 ppm ^{a,b} /50 ppm ^d
Volatile Organic Compounds (VOC)	0 / 24 ppb	10.9 ppb	300 ppb ^{b, e}
Total Airborne Particulate	0.002 / 0.025 mg/m ³	0.008 mg/m ³	15.0 mg/m ³ ^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, ppb = parts per billion, mg/m³ = 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.

Attachment 1 includes the field recording forms. The Q-Trak and SidePak data summaries 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. The complete laboratory report is provided in Attachment 4.

TABLE 4
SUMMARY OF AIRBORNE FUNGAL SPORE TESTING RESULTS

SAMPLE NUMBER	LOCATION	TOTAL FUNGI (S/m ³) ¹	MOLD SPORE TYPE
4509188	Jury Pool 446	90	Myxomycetes
4509170	Registration of Deeds 400	40	Myxomycetes
4509109	Superior Courtroom 4	0	None Detected
4449735	Superior Courtroom 5	40	Myxomycetes
4509181	Jury Room 248	0	None Detected
4509192	2 nd Floor Clerk of District Court, Civil	0	None Detected
4509136	1 st Floor Court Service Center	80	Cladosporium, Myxomycetes
4509097	Forensic Health Office 140	40	Myxomycetes
4449730	Mechanical Room G42	0	None Detected
4509144	Office G37	290	Basidiospores, Cladosporium
4509095	Building Exterior by Main Entrance	80	Basidiospores
4509098	Building Exterior - State St. Sidewalk	40	Basidiospores

¹S/m³ = spore counts per cubic meter of air

Airborne fungi below 250 S/m³ are normally not a concern for indoor environments². Airborne levels outdoors are normally between 500 and 1,000 S/m³ but can easily exceed 10,000 S/m³ during the spring and summer months. Indoor airborne levels between 250 and 1,000 S/m³ are typically considered to be moderate and levels that exceed 1,000 S/m³ are often considered elevated³ 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.

III. CONCLUSIONS

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.

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

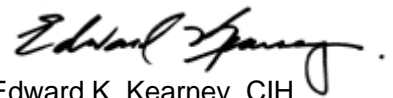
Sincerely,



Evan MacArthur
Project Manager/Sr.
Industrial Hygienist



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: 01/12/22
 Project No.: 01275.007
 Industrial Hygienist(s): Michael Keady

Location: 50 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)
0732	4 th Floor, Elevator Lobby	64.4	13.3	582	0	0	0.007
0745	4 th Floor, Hall by Probate Court #2	68.4	11.1	531	0.1	0	0.007
0759	4 th Floor, Jury Pool	70.1	10.5	522	0.1	0	0.003
0812	4 th Floor, Probate Courtroom 2	71.3	9.6	490	0.1	1	0.007
0824	4 th Floor, Judges Lobby 428A	72.6	10.6	556	0	4	0.003
0838	4 th Floor, Registry of Probate	70.0	10.7	532	0	3	0.006
0851	4 th Floor, Registry of Deeds	70.6	11.1	523	0	5	0.004
0900	4 th Floor, Land Registration	70.3	10.9	520	0	5	0.01
0912	3 rd Floor, Room 320A	71.0	10.4	520	0.1	5	0.007
0924	3 rd Floor, Superior Courtroom 4	71.3	10.2	530	0	7	0.012
0936	3 rd Floor, Clerk of Superior Court, Civil	71.6	10.5	561	0	10	0.015
0948	3 rd Floor, Superior Court Probation Office 380	73.4	10.4	592	0.1	20	0.01
1000	3 rd Floor, District Attorneys Office 385	74.8	10.3	676	0.1	17	0.012
1015	3 rd Floor, Hall by District Attorneys Office 385	74.3	10.3	621	0.1	18	0.014
1027	3 rd Floor, Superior Courtroom 5	73.3	10.6	607	0.1	15	0.003
1038	3 rd Floor, Attorneys Lounge	74.2	10.5	659	0.1	21	0.013
1052	2 nd Floor, Superior Courtroom 8	73.6	10.7	599	0	16	0.004
1107	2 nd Floor, Jury Room 248	76.5	10.5	639	0.1	20	0.005
1117	2 nd Floor, Chief Court Officer Room 254	75.3	11.0	650	0.1	20	0.003
1131	2 nd Floor, Clerk of District Court, Civil	76.3	10.9	607	0.1	24	0.006
1146	2 nd Floor, Upper Lobby, Outside District Court 11	72.2	10.9	555	0.1	19	0.009
1200	2 nd Floor, District Courtroom 5	73.0	11.0	541	0	14	0.007
1215	2 nd Floor, Witness Advocate 265	75.0	10.6	572	0	16	0.003
1230	1 st Floor, Court Service Center	73.3	11.1	563	0	12	0.011

°F = degrees Fahrenheit; % = percent; ppm = parts per million, mg/m³ = milligrams per cubic meter

IAQ READINGS

Date: 01/12/22
 Project No.: 01275.007
 Industrial Hygienist(s): Michael Keady

Location: 50 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)
1242	1 st Floor, Probation Room 167	74.8	11.3	574	0	19	0.007
1251	1 st Floor, Hall by Room 159	75.1	11.5	572	0	14	0.006
1303	1 st Floor, Forensic Health Office	74.5	11.2	530	0	13	0.002
1316	1 st Floor, Bar Association	71.9	12.1	581	0	13	0.005
1330	1 st Floor, Hall by Men's Room 174	75.8	11.2	569	0	11	0.005
1343	1 st Floor, Clerk of District Court, Criminal	77.1	10.7	570	0	21	0.006
1356	1 st Floor, Main Lobby, Next to Stairs	67.1	13.6	522	0	8	0.016
1408	Ground Level, G42 Mechanical Room	72.7	12.3	529	0	6	0.011
1420	Ground Level, Hall by G45	71.6	11.8	494	0	5	0.011
1438	Ground Level, Office G37	74.1	12.5	572	0	7	0.01
1450	Ground Level, Snack Bar G52	70.6	12.8	506	0	5	0.025
1505	Ground Level, Hall by G57	64.4	15.9	610	0	0	0.011

°F = degrees Fahrenheit; % = percent; ppm = parts per million, mg/m³ = milligrams per cubic meter

ATTACHMENT 2

SIDEPAK PARTICULATE REPORT, GM460 SUMMARY REPORT & GRAPH



UNDERSTANDING, ACCELERATED

1/12/22 Report

Name: 1/12/22

Description: Aerosol Data

Location: 50 State St

Instrument Name: SidePak Aerosol Monitor

Device Model Number: AM520

Device Serial Number: 5201834010

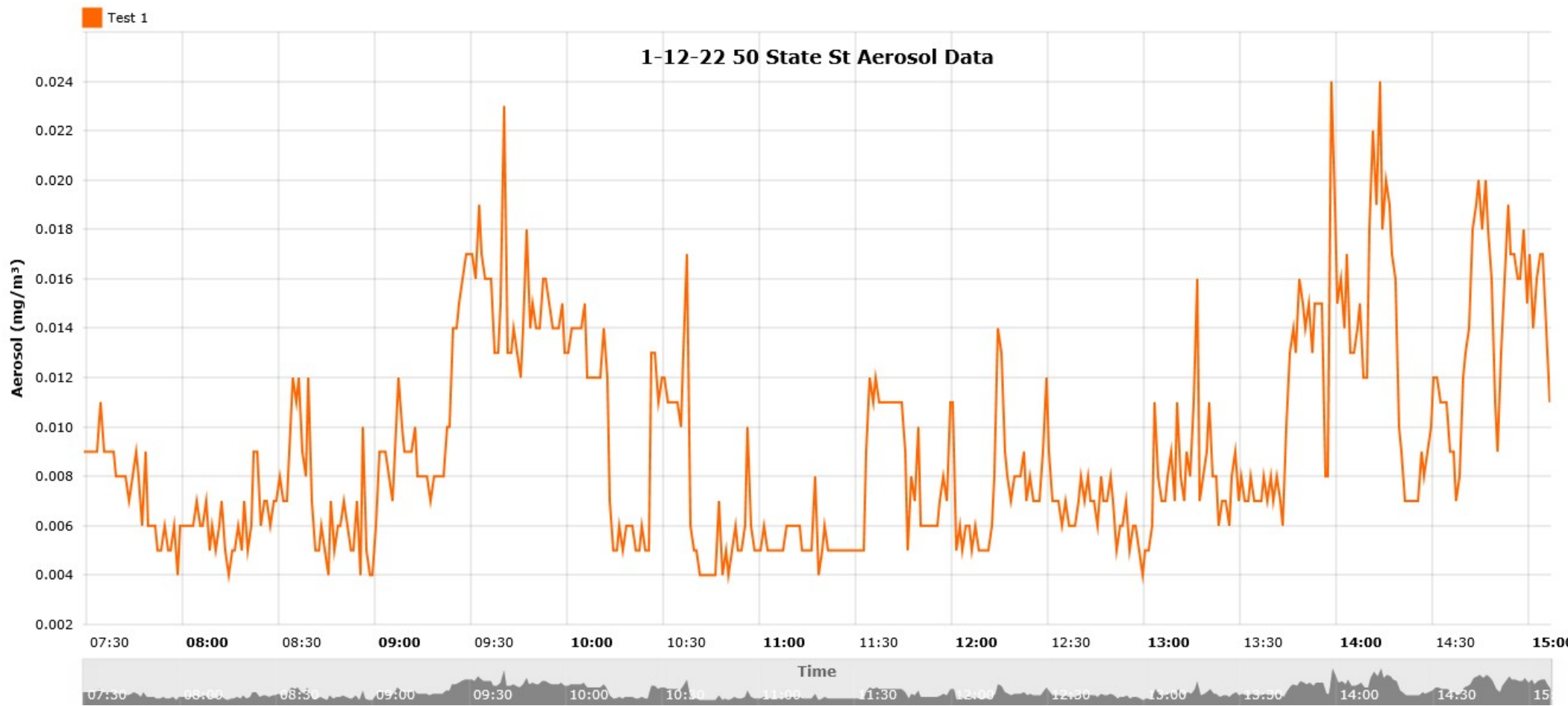
Firmware Version: A.08

Last Factory Calibration: 3/12/2021

Data Properties	
Start Date	1/12/2022
Start Time	7:28 AM
End Date	1/12/2022
End Time	3:06 PM
Test Length	00:07:38:00
Logging Interval	60 second(s)
Number of Data Points	458

Additional Information
There is no metadata related to this test

Test Statistics					
Channel	Average	Minimum	Maximum	Cal Factor	TWA
Aerosol (mg/m ³)	0.009	0.004 01/12/2022 12:59:42	0.024 01/12/2022 02:13:42	1 Factory 12/30/2021	0.009



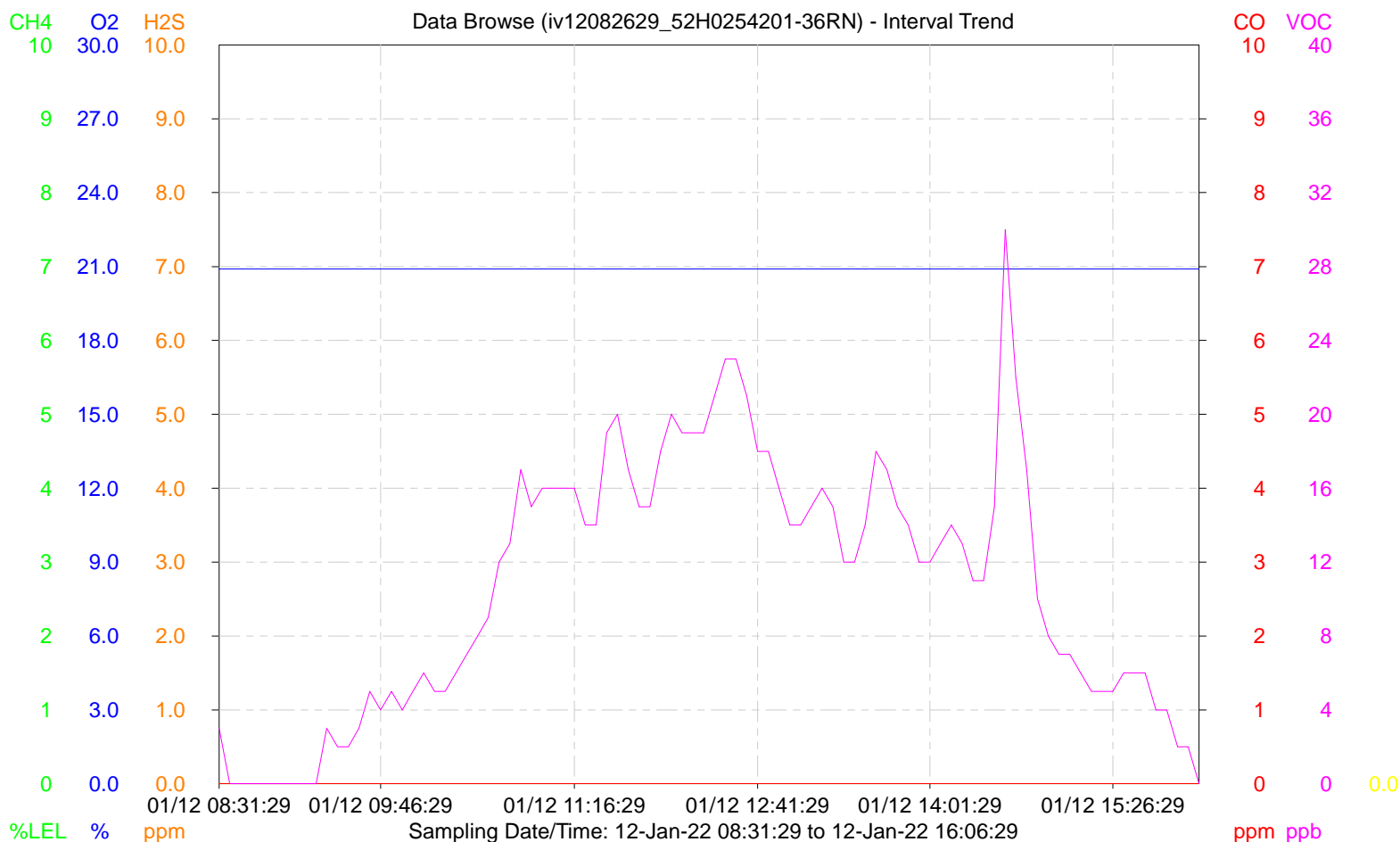
GM460 Data Logger (Interval Trend)

1/13/2022 8:08:19 PM

Property Value

Name iv12082629_52H0254201-36RN
 Sampling Date/Time 1/12/2022 8:26:29 AM to 1/12/2022 4:06:33 PM
 Serial No. 52H0254201-36RN
 Station ID STATION_ID_001
 User ID USER_ID_001
 Data Count 92
 Interval Time (sec) 300

Gas(FullScale)	CH4(100%LEL)	O2(40.0%)	H2S(100.0ppm)	CO(500ppm)	VOC(50000ppb)	----(---)
Avg	0 %LEL	20.9 %	0.0 ppm	0 ppm	10 ppb	----
Max	0 %LEL	20.9 %	0.0 ppm	0 ppm	161 ppb	----
Max Date/Time	01/12 08:26:29	01/12 08:26:29	01/12 08:26:29	01/12 08:26:29	01/12 08:26:29	----
Min	*****	20.9 %	*****	*****	*****	----
Min Date/Time	*****	01/12 08:26:29	*****	*****	*****	----
Warning	10 %LEL	19.5 %	5.0 ppm	25 ppm	5000 ppb	----
Alarm	50 %LEL	23.5 %	30.0 ppm	50 ppm	10000 ppb	----
STEL	*****	*****	5.0 ppm	200 ppm	*****	----
TWA	*****	*****	1.0 ppm	25 ppm	*****	----



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: 132200378
Customer ID: AXIO80
Customer PO:
Project ID:

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

Phone: (781) 213-9198
Fax: (781) 213-6992
Collected Date: 01/12/2022
Received Date: 01/14/2022
Analyzed Date: 01/21/2022

Project: 50 State Street

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	132200378-0001 4509188 75 Jury Pool			132200378-0002 4509170 75 Registry of Deeds			132200378-0003 4509109 75 Superior Court 4		
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++	2	90	100	1	40	100	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	2	90	100	1	40	100	-	None Detected	-
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

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. 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: 01/21/2022 09:08 AM

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



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Received Date: 01/14/2022
Analyzed Date: 01/21/2022

Project: 50 State Street

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

Lab Sample Number:	132200378-0004			132200378-0005			132200378-0006		
Client Sample ID:	4449735			4509181			4509192		
Volume (L):	75			75			75		
Sample Location:	Superior Court 5			Jury Room 248			Clerk of District Court, Civil		
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	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	1	40	100	-	None Detected	-	-	None Detected	-
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	-	-	-	-
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

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Lab Sample Number:	132200378-0007			132200378-0008			132200378-0009		
Client Sample ID:	4509136			4509097			4449730		
Volume (L):	75			75			75		
Sample Location:	Court Service Center			Forensic Health Office			G42 Mechanical Room		
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	1	40	50	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	40	50	1	40	100	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	2	80	100	1	40	100	-	None Detected	-
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

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. 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: 01/21/2022 09:08 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: 132200378

Customer ID: AXIO80

Customer PO:

Project ID:

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

Phone: (781) 213-9198

Fax: (781) 213-6992

Collected Date: 01/12/2022

Received Date: 01/14/2022

Analyzed Date: 01/21/2022

Project: 50 State Street

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	132200378-0010 4509144 75 G37 Office			132200378-0011 4509095 75 Building Exterior, Main Entrance			132200378-0012 4509098 75 Building Extreior, State St Sidewalk		
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	31	1	40	50	1	40	100
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	69	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	1	40	50	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	6	290	100	2	80	100	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	-	-	-	-
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.

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

Initial report from: 01/21/2022 09:08 AM

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

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Microbiology Chain of Custody Form

EMSL Order Number / Lab Use Only

132200378

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: <i>Axiom Partners</i>	Company Name:
	Contact Name: <i>Michael Keady</i>	Billing Contact:
	Street Address: <i>506 Salem St</i>	Street Address:
	City, State, Zip: <i>Lynnfield, MA, 01940</i> Country: <i>USA</i>	City, State, Zip: Country:
	Phone: <i>781-690-4044</i>	Phone:
Email(s) for Report: <i>MKeady@axiomenv.com and emacarthur@axiomenv.com</i>		Email(s) for Invoice:

Project Information

Project Name/No: <i>01275.007 - 50 State St</i>	Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)	State of Connecticut (CT) must select project location:
State Samples Collected:	Zip Code Samples Collected:
Sampled By Name: <i>Michael Keady</i>	Sampled By Signature: <i>[Signature]</i>
No. of Samples in Shipment: <i>12</i>	
Sterile, Sodium Thiosulfate Preserved Bottle Used: <input type="checkbox"/> Biocide Used In Source (specify)	
Public Water Supply Samples: <input type="checkbox"/> Note: All results may automatically be reported to DOH if required by State.	
Turn-Around-Time (TAT) Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only, samples must be submitted by 11:30am.	
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 32 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week	

MICROBIOLOGY TEST CODES

M001 Air-O-Cell	M174 MoldSnap	M012 Pseudomonas aeruginosa (PIA***)	M115 Sewage Screen - Water (PIA***)
M030 Mold Snap	M032 Allergenco-D	M024 Pseudomonas aeruginosa (MFT*)	M116 Sewage Screen - Water (MPN**)
M041 Fungal Direct Examination		M015 Heterotrophic Plate Count	M117 Sewage Screen - Swab (PIA***)
M169 Pollen ID & Enumeration		M017 Total Coliform & E. Coli (Colilert PIA***)	M013 Sewage Screen - Swab (MFT*)
M280 Dust Characterization Level-1		M018 Total Coliform & E. Coli (MFT*)	M730 Methicillin-resistant Staph. aureus (MRSA)
M281 Dust Characterization Level-2		M114 Total Coliform & E. Coli Enumeration (Colilert MPN**)	M031 Rapid-growing non-TB Mycobacteria Detection & Enumeration
M005 Viable Fungi-Air Samples (Genus ID & Count)		M019 Fecal Coliform (MFT*)	M014 Endotoxin Analysis
M006 Viable Fungi-Air Samples (Includes Penicillium, Aspergillus, Cladosporium, Stachybotrys Species ID & Count)		M020 Fecal Streptococcus (MFT*)	M044 Group Allergen (Cat, Dog, Cockroach, Dust Mite)
M007 Culturable Fungi-Surface Samples (Genus ID & Count)		M029 Enterococci (MFT*)	M095 Bacteroides
M008 Culturable Fungi-Surface Samples (Includes Penicillium, Aspergillus, Cladosporium, Stachybotrys Species ID & Count)		M129 Enterococci (Enterolert PIA***)	Other - See Analytical Price Guide for Test Code
M009 Bacteria Culture Gram Stain & Count		M180 Real Time qPCR-ERMI 36 Panel	Legionella Analysis Please use EMSL Legionella COC
M010 Bacteria Count & ID - 3 Most Prominent		M025 Sewage Screen - Water (MFT*)	
M011 Bacteria Count & ID - 5 Most Prominent		*MFT = Membrane Filtration Technique	
		**MPN = Most Probable Number	
		***PIA = Presence/Absence	

Sample #	Sample Location/Description	Sample Type (Matrix)	Potable / Non-Potable (Only for Water)	Test Code	Volume/Area	Date / Time Collected	Temperature (Lab Use Only)
Example: Sample 1	Kitchen	Water	Potable	M017	1,000 ml	1/1/2021 3:30pm	
4509188	Jury Pool	Air		M032	75 L	1/12/2021 07:30	
4509170	Registry of Deeds					08:45	
4509109	Superior Court 4					09:20	
4449735	Superior Court 5					10:25	
4509181	Jury Room 248					11:02	
4509192	Clerk of District Court, Civil					11:25	

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

REC'D *SP4 0830*
JAN 14 2022

Method of Shipment:	Sample Condition Upon Receipt: <i>Unopened</i>
Relinquished by: <i>Michael Keady</i>	Date/Time: <i>1-14-22/8:00</i>
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:

Controlled Document - COC-34 Micro R11 1/26/2021

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



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Microbiology Chain of Custody Form

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675

EMAIL: CinnMicroLab@emsl.com

EMSI Order Number / Lab Use Only

132200378

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

[illegible]

Method of Shipment:

	Sample Condition Upon Receipt
--	-------------------------------

Relinquished by:

Date/Time:

Received by:

Date/Time

Relinquished by:

Date/Time:

Received by:

Date/Time	
07/08/2019 16:00	1.00
07/08/2019 16:05	1.00
07/08/2019 16:10	1.00
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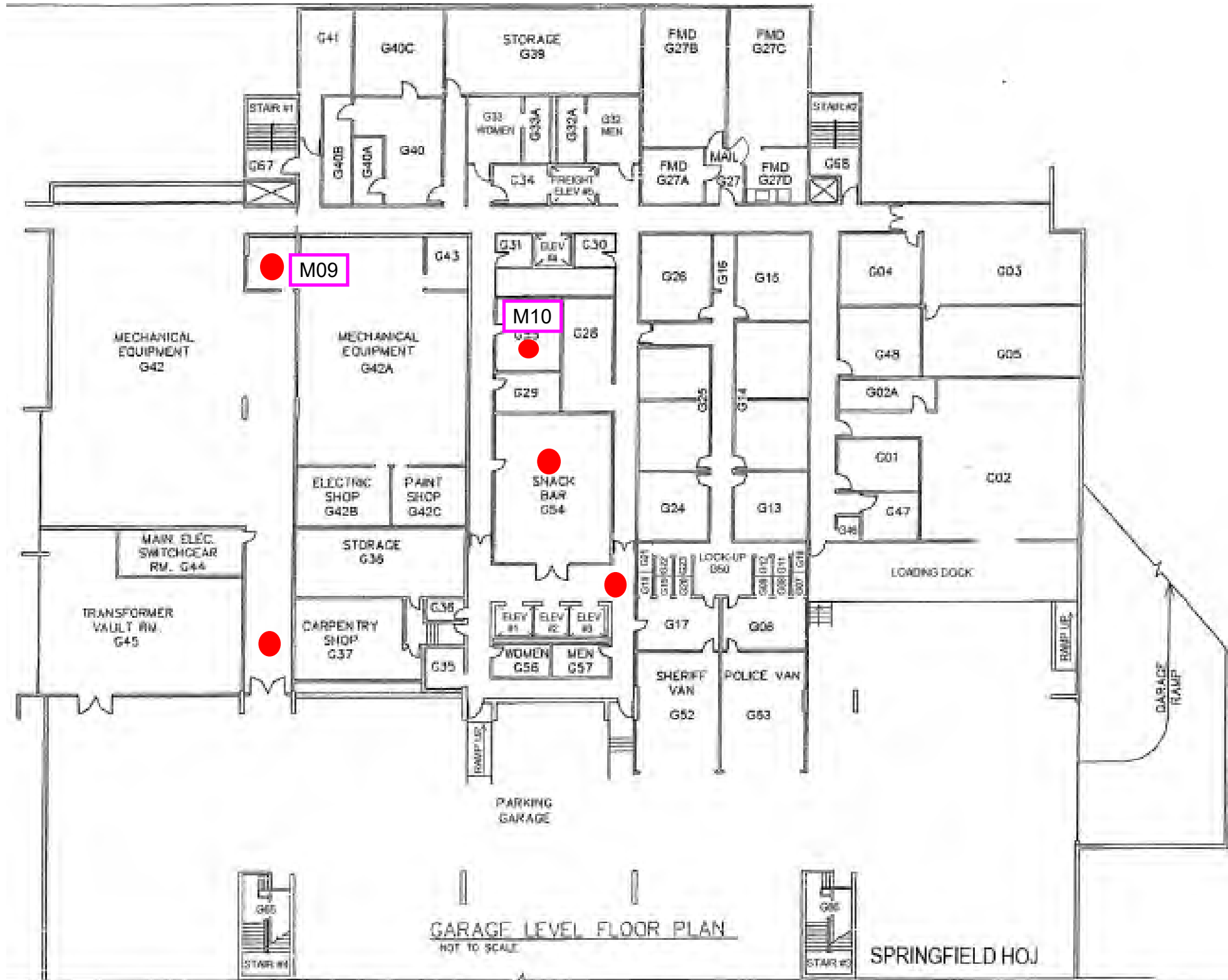
Controlled Document - COC-34 Micro R13 3/02/2021

AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

ATTACHMENT 4

SAMPLE LOCATION FLOOR PLANS



LEGEND

● IAQ Sample Location

M10 Mold Sample Location

Bi-Weekly IAQ Survey
Round 6 of 6
January 12th, 2022

1 **SPRINGFIELD HOJ BASEMENT PLAN**

REVISIONS	DATE		50 State Street, Springfield MA	AXIOM PARTNERS, INC. 50 B Salem St., Suite 103 LynnField, MA 01940 (781) 213-9198 www.axiomenv.com	DRAWING TITLE	PROJECT TITLE	DATE		
					Springfield HOJ Basement Plan	SHOJ IAQ Survey 50 State St, Springfield MA	01/12/22		
					APPROVED:	BUILDING NUMBER	CHECKED	DRAWN	PROJECT NO. 01275.007
					APPROVED:	LOCATION			DRAWING NO. IAQ 1
									DWG. 1 OF 5

LEGEND

● IAQ Sample Location

M07 Mold Sample Location

Bi-Weekly IAQ Survey
Round 6 of 6
January 12th, 2022

2 SPRINGFIELD HOJ
FIRST FLOOR PLAN

M12

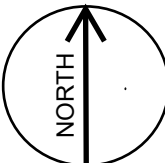
M08

M07

M11

PLAZA LEVEL FLOOR PLAN
NOT TO SCALE

PLAN NOT FOR
CONSTRUCTION



50 State Street, Springfield MA

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

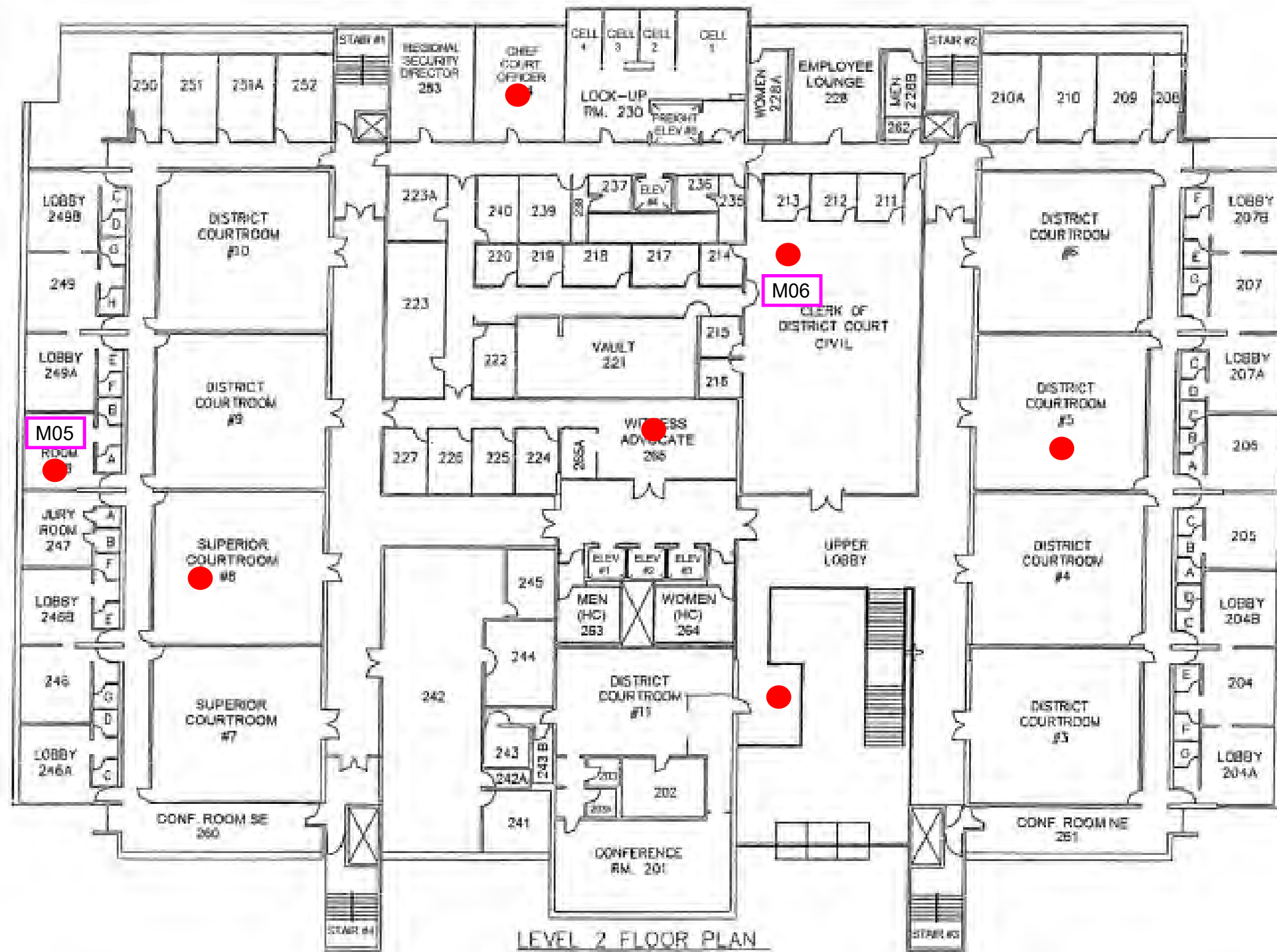
DRAWING TITLE
Springfield HOJ
First Floor Plan

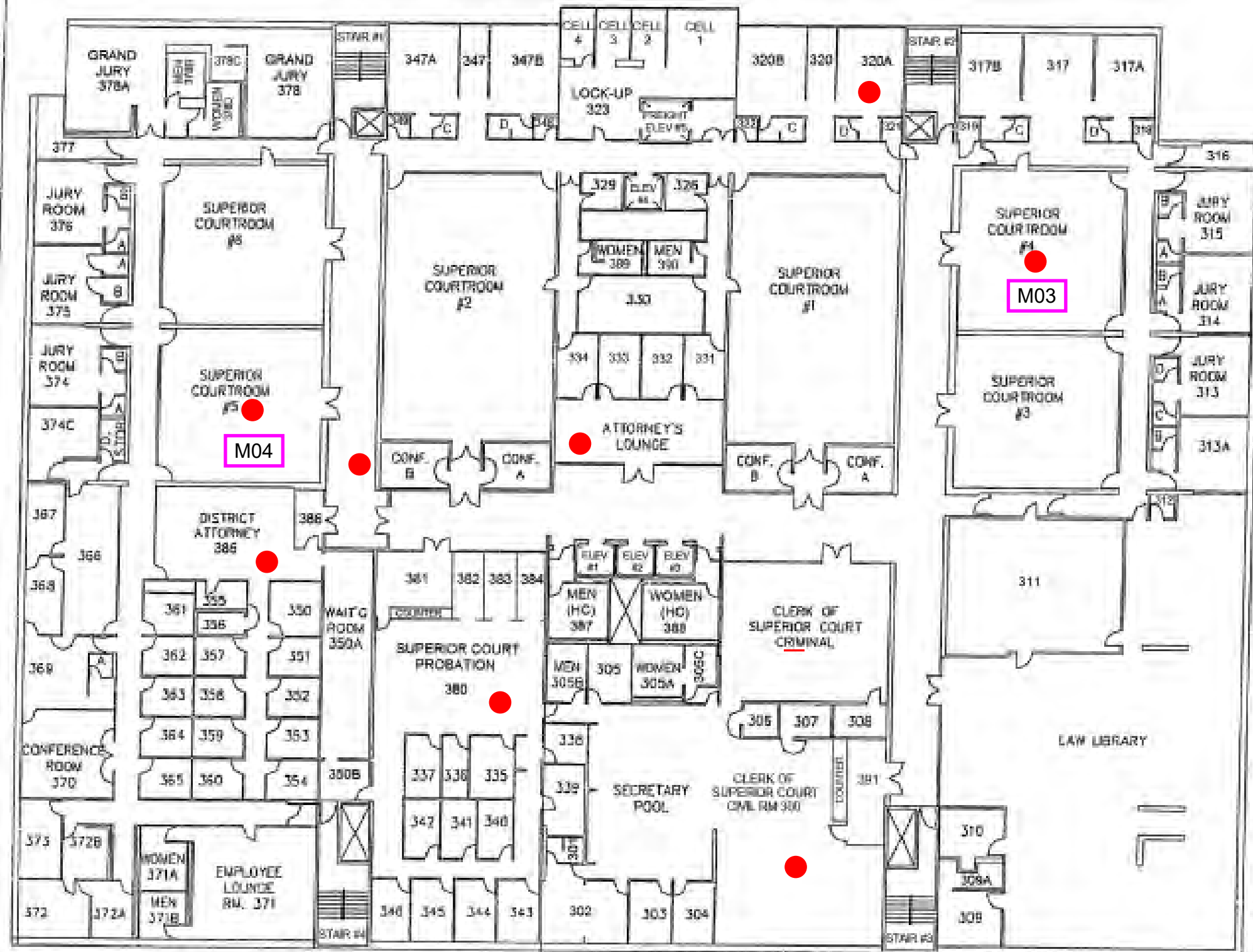
PROJECT TITLE
SHOJ IAQ Survey
50 State St, Springfield MA

DATE
01/12/22
PROJECT NO.
01275.007

DRAWING NO.
IAQ 2
DWG. 2 OF 5







LEVEL 3 FLOOR PLAN

LEGEND

● IAQ Sample Location

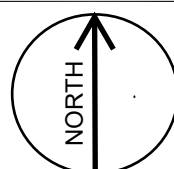
M04 Mold Sample Location

Bi-Weekly IAQ Survey

Round 6 of 6
January 12th, 2022

4 SPRINGFIELD HOJ
THIRD FLOOR PLAN

PLAN NOT FOR
CONSTRUCTION



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50 B Salem St., Suite 103
Lynnfield, MA 01940
(781) 213-9198
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DRAWING TITLE
Springfield HOJ
Third Floor Plan

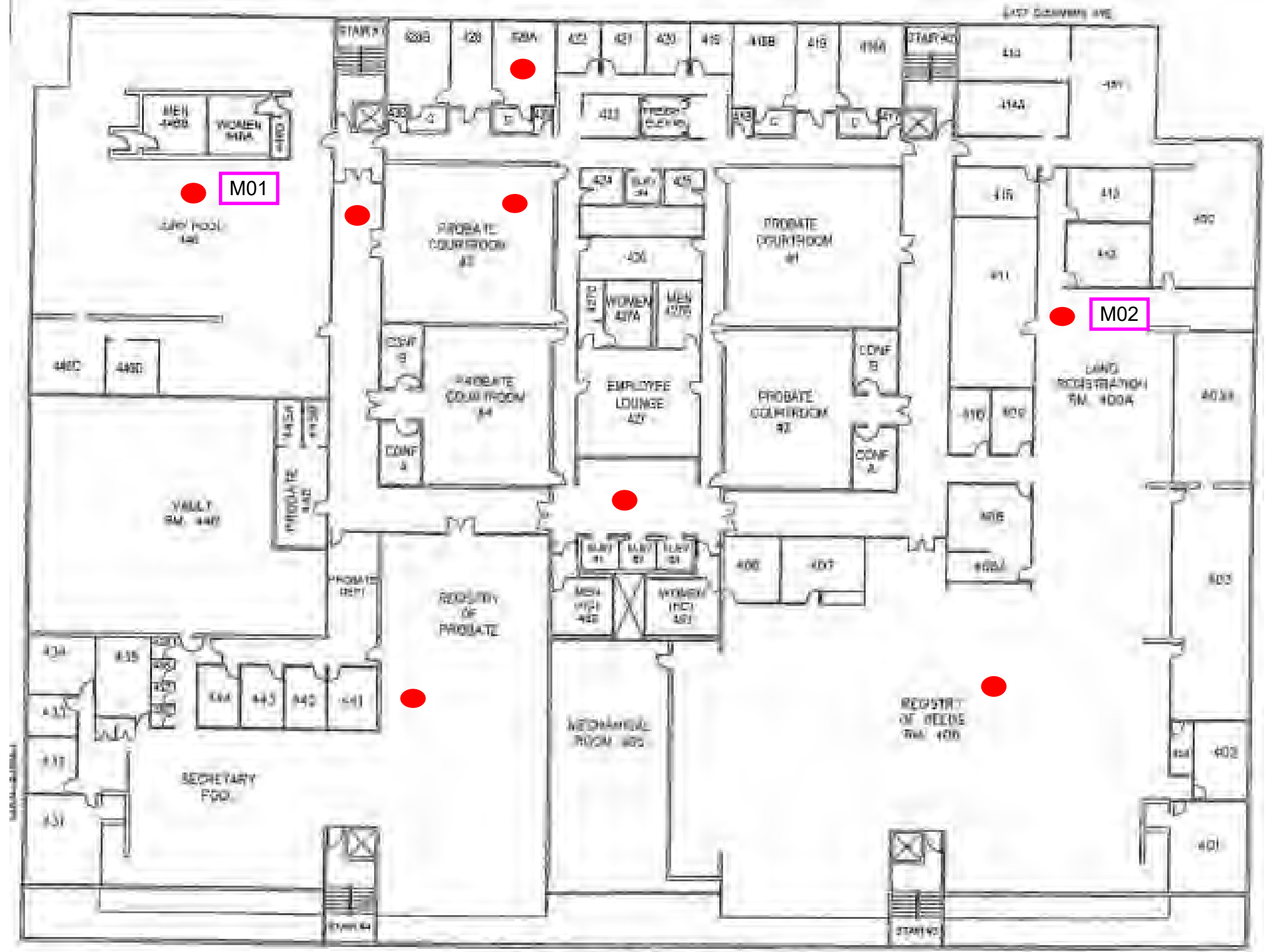
APPROVED:
APPROVED:

PROJECT TITLE
SHOJ IAQ Survey
50 State St, Springfield MA

BUILDING NUMBER
LOCATION

DATE
01/12/22
PROJECT NO.
01275.007
DRAWING NO.
IAQ 4
DWG. 4 OF 5





LEGEND

● IAQ Sample Location

M02 Mold Sample Location

Bi-Weekly IAQ Survey
Round 6 of 6
January 12th, 2022

5 SPRINGFIELD HOJ
FOURTH FLOOR PLAN

PLAN NOT FOR CONSTRUCTION

REVISIONS
DATE

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DRAWING TITLE
Springfield HOJ
Fourth Floor Plan

APPROVED:
APPROVED:

PROJECT TITLE
SHOJ IAQ Survey
50 State St, Springfield MA

BUILDING NUMBER
LOCATION

DATE
01/12/22
PROJECT NO.
01275.007
DRAWING NO.
IAQ 5
DWG. 5 OF 5

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