

**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
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December 8, 2021

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

www.axiomenv.com

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 November 10, 2021, by AXIOM Senior Industrial Hygienist, David Rooney and consisted of collection and analysis of representative air samples in the basement for volatile organic compounds (VOCs) following the EPA¹ Method TO-15 using SUMMA Canisters. This method is recognized as a way to determine if vapor intrusion from soils surrounding the building basement is occurring.

The air sampling was performed in the basement for volatile organic compounds (VOCs) following the EPA Method TO-15. TO-15 was developed for the sampling and the analysis of VOCs in ambient air. Samples were collected in a certified passive steel canister that is placed under a vacuum and draws air through a critical orifice at a known rate for 6-8 hours. The stainless-steel sampling vessel, known as a SUMMA Canister, was cleaned and placed under vacuum in the laboratory. The SUMMA canister was then set out and the samples were collected. The following table contains sample information for the SUMMA canisters:

Sample Number	Sample Location	Start Time	Stop Time
HD1413	Office G48	0748	1524
HD1465	Room G27	0752	1515
HD1478	Snack Bar	0756	1520
HD2097	Mechanical Room G42	0804	1530
HD2098	Hall by G39	0833	1527

TO-15 samples were submitted to EMSL Analytical Inc. (EMSL) located in Cinnaminson, New Jersey for analysis. EMSL is accredited for TO-15 analysis under the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology (NIST). Sample analysis followed the EPA Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)", January 1999, (EPA/625/R-96/010b).

¹ US Environmental Protection Agency



Tables 1A through 1E provide summaries of VOCs that were identified above the reporting limit (RL) of the analytical instruments. In addition, the tables include a comparison of the sample results, to applicable Occupational Exposure Limits (OELs), highlighted in light green.

TABLE 1A
SUMMARY OF TO-15 VOCs AIR TESTING RESULTS
SAMPLE HD1413 - OFFICE G48

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
Chloromethane	74-87-3	0.52	1.1		0.00052	100	50
n-Butane	106-97-8	3.3	7.9		0.0033	None ²	1,000 (C)
Ethanol	64-17-5	130	250		0.130	1,000	1,000 (C)
Isopropyl Alcohol (2-Propanol)	67-63-0	12	29		0.012	400	200
Acetone	67-64-1	6.7	16		0.0067	500	250
n-Hexane	110-54-3	1.1	3.8		0.0011	500	50
2-Butanone (MEK)	78-93-3	0.54	1.6		0.00054	200	200
Ethyl Acetate	141-78-6	1.9	6.9		0.0019	400	50
Toluene	108-88-3	1.6	6.1		0.0016	200	20

ppbv = parts per billion (volume); ppm = parts per million; ug/m3 = micrograms per cubic meter
OSHA PEL = Occupational Safety and Health Administration Permissible Exposure Limit (in parts per million)
ACGIH TLV = American Conference of Governmental Industrial Hygienists Threshold Limit Value (in parts per million)
(C) = Ceiling/Short Term Exposure Limit

TABLE 1B
SUMMARY OF TO-15 VOCs AIR TESTING RESULTS
SAMPLE HD1465 – ROOM G27

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
Chloromethane	74-87-3	0.53	1.1		0.00053	100	50
n-Butane	106-97-8	2.2	5.1		0.0022	None ⁴	1,000 (C)
Ethanol	64-17-5	140	270		0.140	1,000	1,000 (C)
Isopropyl Alcohol	67-63-0	16	40		0.016	400	200
Acetone	67-64-1	4.3	10		0.0043	500	250
Ethyl Acetate	141-78-6	1.4	4.9		0.0014	400	50
Methyl Methacrylate	80-62-6	2.1	8.7		0.0021	100	50
Toluene	108-88-3	0.72	2.7		0.00072	200	20

TABLE 1C
SUMMARY OF TO-15 VOCs AIR TESTING RESULTS
SAMPLE HD1478 – SNACK BAR

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
Chloromethane	74-87-3	0.56	1.2		0.00056	100	50
n-Butane	106-97-8	2.4	5.7		0.0024	None ⁴	1,000 (C)
Ethanol	64-17-5	640	1200		0.640	1,000	1,000 (C)
Isopropyl Alcohol	67-63-0	15	37		0.015	400	200
Acetone	67-64-1	4.6	11		0.0046	500	250

² OSHA has not promulgated occupational exposure limits for n-Butane

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
Ethyl Acetate	141-78-6	2.3	8.2		0.0023	400	50
Toluene	108-88-3	0.69	2.6		0.00069	200	20

TABLE 1D
SUMMARY OF TO-15 VOCs AIR TESTING RESULTS
SAMPLE HD2097 - MECHANICAL ROOM G42

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
n-Butane	106-97-8	3.0	7.0		0.003	None ³	1,000 (C)
Ethanol	64-17-5	190	360		0.190	1,000	1,000 (C)
Isopropyl Alcohol	67-63-0	19	47		0.017	400	200
Acetone	67-64-1	5.8	14		0.0058	500	250
2-Butanone (MEK)	78-93-3	0.57	1.7		0.00057	200	200
Ethyl Acetate	141-78-6	1.7	6.1		0.0017	400	50
Toluene	108-88-3	1.3	4.8		0.0013	200	20

TABLE 1E
SUMMARY OF TO-15 VOCs AIR TESTING RESULTS
SAMPLE HD2098 – HALLWAY BY G39

Target Compound	CAS#	Result (ppbv)	Result (ug/m3)		Result ppm	OSHA PEL ppm	ACGIH TLV ppm
n-Butane	106-97-8	1.6	3.9		0.0016	None ⁵	1,000 (C)
Ethanol	64-17-5	200	380		0.2	1,000	1,000 (C)
Isopropyl Alcohol	67-63-0	34	85		0.034	400	200
Acetone	67-64-1	6.9	16		0.0069	500	250
2-Butanone(MEK)	78-93-3	0.53	1.6		0.00053	200	200
Ethyl Acetate	141-78-6	1.9	6.9		0.0019	400	50
Toluene	108-88-3	0.69	2.6		0.0026	200	20

Based on the results of the SUMMA Cannister testing described herein, measurable VOCs concentrations were well below the applicable Occupational Exposure Limits (OELs). A full listing of compounds screened for can be found in the laboratory report in Attachment 3. Highlighted fields within the laboratory report indicate a detection of the listed constituents.

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, TO-15 VOC testing report
A2, Sample location floor plans

³ OSHA has not promulgated occupational exposure limits for n-Butane

ATTACHMENT 1

**EMSL TO-15 VOC SAMPLING
LABORATORY REPORT**

**EMSL ANALYTICAL, INC.**

200 Route 130 North
Cinnaminson, NJ 08077
Telephone: (856)858-4800 FAX: (856)858-4571
to15lab@EMSL.com | <http://www.EMSL.com>

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 07:48
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Laboratory Report- Sample Summary

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
492100677-0001	Office G48	11/10/2021	7:48 AM
492100677-0002	Room G27	11/10/2021	7:52 AM
492100677-0003	Snack Bar	11/10/2021	7:56 AM
492100677-0004	Mech G42	11/10/2021	8:04 AM
492100677-0005	Hall by G39	11/10/2021	8:33 AM

If "Preliminary Report" is displayed in the signature box; this indicates that there are samples that have not yet been analyzed, that are in a preliminary state, or that analysis is in progress but not completed at the time of report issue.

Report Date	Report Revision	Revision Comments
11/18/2021	R0	Initial Report

Owen McKenna, National Organics Manager
or other approved signatory

**Test results meet all NELAP requirements unless
otherwise specified. NJDEP Certification #: 03036**

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.

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Case Narrative

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

Column

Restek RTX-502.2, 60m, 0.25mm ID, 1.4um

Concentrator Traps:

Entech Dual Cold Traps: (1) 1/8" No Packing, (2) 1/8" Tenax.

Gas Standards:

Certified Gas standards were used for all analyses.

Sample Volumes:

Sample volume aliquots for this procedure are 250cc for indoor/ ambient air and 25cc for soil gas. Other volumes for sample dilutions are reflected on each result page.

Holding Times:

Standard holding times of 30 days were met for all samples.

Sampling Pressures:

All samples were received at acceptable pressure/vacuum unless listed below.

Sample Dilutions:

Dilutions reported are designated by the sample # with a "DL" suffix resulting from initial analysis having compounds exceeding calibration as reported with an "E" qualifier. Ethanol and Isopropanol are not diluted for and may be reported with an "E" qualifier on the final result.

QA/QC criteria outside method specifications are listed below (if applicable).

Initial Calibration

All Initial Calibration criteria met method specification.

Initial Calibration Verification Standard (ICVS)- Second Source

ICVS met method specification with 70-130% recovery for 100% of compounds.

Laboratory Control Sample (LCS)

LCS met method specification with 70-130% recovery for 100% of compounds. (If the LCS does not meet criteria but any compounds which have recoveries >130% are not found in the samples, samples may be reported)

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Case Narrative

Continuing Calibration Verification Standard (CCVS)

CCVS met method specification with all compounds within 30% deviation.

Ending Calibration Verification Standard (ECVS)

ECVS met method specification with all compounds within 30% deviation.

Method Blanks (MB)

Method Blank met method specification.

Reporting Limit Laboratory Control Samples (RLLCS)

RLLCS met method specification with 90% of compounds within the 60-140% recovery range. Individual compounds outside of the recovery range may be listed below.

Manual Integration: -Listed below if applicable. Before and after documentation provided in extended deliverable packages.

The following data qualifiers that may have been reported with the data.

ND- Non Detect. This notation would be used in the results column in lieu of a "U" qualifier.

U- Compound was analyzed for but not detected at a listed and appropriately adjusted reporting level.

J (Target)- Concentration estimated between Reporting Limit and MDL.

J- Estimated value reported below adjusted reporting limit for target compounds or estimating a concentration for TICs where a 1:1 response is assumed

B- Compound found in associated method blank as well as in the sample.

E- Estimated value exceeding upper calibration range of instrument. Ethanol and isopropyl alcohol are not specifically targeted to dilute within calibration range.

D- Compound reported from additional diluted analysis.

N- indicates presumptive evidence of a compound based on library search match.

EMSL Analytical, Inc. certifies that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer –readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

Owen McKenna, National Organics Manager
or other approved signatory

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EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0001
CUSTOMER SAMPLE ID: Office G48

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Collected: 11/10/2021 07:48
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Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05123.D	HD1413	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.52	0.50		1.1	1.0	
n-Butane	106-97-8	58.12	3.3	0.50		7.9	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	130	0.50	E	250	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	12	0.50		29	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	6.7	0.50		16	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	1.1	0.50		3.8	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	0.54	0.50		1.6	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	1.9	0.50		6.9	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0001
CUSTOMER SAMPLE ID: Office G48

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 07:48
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05123.D	HD1413	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	1.6	0.50		6.1	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			160	ppbv		320	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.4

Spike

10

Recovery

94%

Qualifier Definitions**ND = Non Detect**

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

J= Concentration estimated between Reporting Limit and MDL.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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EMSL ORDER ID: 492100677

EMSL CUSTOMER ID: AXIO80

EMSL SAMPLE ID: 492100677-0001

CUSTOMER SAMPLE ID: Office G48

Attention: David A. Rooney
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Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05123.D	HD1413	250 cc	1

Tentatively Identified Compound Results Summary

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv	Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	1.7	JN	3.1	5.301	
Isobutane	000075-28-5	58	2.1	JN	5.0	5.78	
Pentane	000109-66-0	72	5.4	JN	16	8.73	
D-Limonene	005989-27-5	136	1.3	JN	7.1	28.94	
Total TIC Concentrations:			11	ppbv	31	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

**EMSL ANALYTICAL, INC.**

200 Route 130 North
Cinnaminson, NJ 08077
Telephone: (856)858-4800 FAX: (856)858-4571
to15lab@EMSL.com | <http://www.EMSL.com>

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0001
CUSTOMER SAMPLE ID: Office G48

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 07:48
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05123.D	HD1413	250 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Chloromethane	74-87-3	50.49	0.52	0.50		1.1	1.0	
n-Butane	106-97-8	58.12	3.3	0.50		7.9	1.2	
Ethanol	64-17-5	46.07	130	0.50	E	250	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	12	0.50		29	1.2	
Acetone	67-64-1	58.08	6.7	0.50		16	1.2	
n-Hexane	110-54-3	86.18	1.1	0.50		3.8	1.8	
2-Butanone(MEK)	78-93-3	72.11	0.54	0.50		1.6	1.5	
Ethyl acetate	141-78-6	88.11	1.9	0.50		6.9	1.8	
Toluene	108-88-3	92.14	1.6	0.50		6.1	1.9	
Total Target Compound Concentrations:			160	ppbv		320	ug/m3	

Qualifier Definitions

B = Compound also found in method blank.
E = Estimated concentration exceeding upper calibration range.
D = Result reported from diluted analysis.
J = Concentration estimated between Reporting Limit and MDL.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	1.7		JN	3.1	5.301	
Isobutane	000075-28-5	58	2.1		JN	5.0	5.784	
Pentane	000109-66-0	72	5.4		JN	16	8.727	
D-Limonene	005989-27-5	136	1.3		JN	7.1	28.939	
Total TIC Concentrations:			11	ppbv		31	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.
B = Compound also found in method blank.
J = Estimated value based on a 1:1 response to internal standard.
N = Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): 170 ppbv 350 ug/m3

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EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0002
CUSTOMER SAMPLE ID: Room G27

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: dorooney@axiomenv.com

Collected: 11/10/2021 07:52
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05124.D	HD1465	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.53	0.50		1.1	1.0	
n-Butane	106-97-8	58.12	2.2	0.50		5.1	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	140	0.50	E	270	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	16	0.50		40	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	4.3	0.50		10	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	1.4	0.50		4.9	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	2.1	0.50		8.7	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Phone: 781-213-9198
Email: drooney@axiomenv.com

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0002
CUSTOMER SAMPLE ID: Room G27

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 07:52
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05124.D	HD1465	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	0.72	0.50		2.7	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			170	ppbv		340	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.3

Spike

10

Recovery

93%

Qualifier Definitions**ND = Non Detect**

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

J= Concentration estimated between Reporting Limit and MDL.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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EMSL ORDER ID: 492100677

EMSL CUSTOMER ID: AXIO80

EMSL SAMPLE ID: 492100677-0002

CUSTOMER SAMPLE ID: Room G27

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 07:52
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05124.D	HD1465	250 cc	1

Tentatively Identified Compound Results Summary

[illegible]

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

**EMSL ANALYTICAL, INC.**

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Phone: 781-213-9198
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EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0002
CUSTOMER SAMPLE ID: Room G27

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 07:52
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05124.D	HD1465	250 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Chloromethane	74-87-3	50.49	0.53	0.50		1.1	1.0	
n-Butane	106-97-8	58.12	2.2	0.50		5.1	1.2	
Ethanol	64-17-5	46.07	140	0.50	E	270	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	16	0.50		40	1.2	
Acetone	67-64-1	58.08	4.3	0.50		10	1.2	
Ethyl acetate	141-78-6	88.11	1.4	0.50		4.9	1.8	
Methyl Methacrylate	80-62-6	100.1	2.1	0.50		8.7	2.0	
Toluene	108-88-3	92.14	0.72	0.50		2.7	1.9	
Total Target Compound Concentrations:			170	ppbv		340	ug/m3	

Qualifier Definitions

B = Compound also found in method blank.
E= Estimated concentration exceeding upper calibration range.
D= Result reported from diluted analysis.
J= Concentration estimated between Reporting Limit and MDL.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Isobutane	000075-28-5	58	3.4		JN	8.0	5.784	
Pentane	000109-66-0	72	5.2		JN	15	8.732	
Total TIC Concentrations:			8.6	ppbv		23	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.
B = Compound also found in method blank.
J= Estimated value based on a 1:1 response to internal standard.
N= Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): 180 ppbv 360 ug/m3

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EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0003
CUSTOMER SAMPLE ID: Snack Bar

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 07:56
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05125.D	HD1478	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.56	0.50		1.2	1.0	
n-Butane	106-97-8	58.12	2.4	0.50		5.7	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	640	0.50	E	1200	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	15	0.50		37	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	4.6	0.50		11	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	2.3	0.50		8.2	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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**EMSL ANALYTICAL, INC.**

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Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Phone: 781-213-9198
Email: drooney@axiomenv.com

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0003
CUSTOMER SAMPLE ID: Snack Bar

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 07:56
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05125.D	HD1478	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	0.69	0.50		2.6	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			670	ppbv		1300	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.4

Spike

10

Recovery

94%

Qualifier Definitions**ND = Non Detect**

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

J= Concentration estimated between Reporting Limit and MDL.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

EMSL ANALYTICAL, INC.

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EMSL ORDER ID: 492100677

EMSL CUSTOMER ID: AXIO80

EMSL SAMPLE ID: 492100677-0003

CUSTOMER SAMPLE ID: Snack Bar

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 07:56
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05125.D	HD1478	250 cc	1

Tentatively Identified Compound Results Summary

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv	Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	3.6	JN	6.5	5.311	
Isobutane	000075-28-5	58	30	JN	71	5.78	
Pentane	000109-66-0	72	5.9	JN	17	8.73	
Total TIC Concentrations:			40	ppbv	95	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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EMSL ORDER ID: 492100677
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CUSTOMER SAMPLE ID: Snack Bar

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 07:56
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05125.D	HD1478	250 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Chloromethane	74-87-3	50.49	0.56	0.50		1.2	1.0	
n-Butane	106-97-8	58.12	2.4	0.50		5.7	1.2	
Ethanol	64-17-5	46.07	640	0.50	E	1200	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	15	0.50		37	1.2	
Acetone	67-64-1	58.08	4.6	0.50		11	1.2	
Ethyl acetate	141-78-6	88.11	2.3	0.50		8.2	1.8	
Toluene	108-88-3	92.14	0.69	0.50		2.6	1.9	
Total Target Compound Concentrations:			670	ppbv		1300	ug/m3	

Qualifier Definitions

B = Compound also found in method blank.
E = Estimated concentration exceeding upper calibration range.
D = Result reported from diluted analysis.
J = Concentration estimated between Reporting Limit and MDL.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	3.6		JN	6.5	5.311	
Isobutane	000075-28-5	58	30		JN	71	5.784	
Pentane	000109-66-0	72	5.9		JN	17	8.732	
Total TIC Concentrations:			40	ppbv		95	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.
B = Compound also found in method blank.
J = Estimated value based on a 1:1 response to internal standard.
N = Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): 710 ppbv 1400 ug/m3

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EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0004
CUSTOMER SAMPLE ID: Mech G42

Attention: David A. Rooney
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50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 08:04
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05126.D	HD2097	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	3.0	0.50		7.0	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	190	0.50	E	360	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	19	0.50		47	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	5.8	0.50		14	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	0.57	0.50		1.7	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	1.7	0.50		6.1	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

16 of 24

**EMSL ANALYTICAL, INC.**

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Phone: 781-213-9198
Email: drooney@axiomenv.com

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0004
CUSTOMER SAMPLE ID: Mech G42

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 08:04
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05126.D	HD2097	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	1.3	0.50		4.8	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			220	ppbv		440	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.2

Spike

10

Recovery

92%

Qualifier Definitions**ND = Non Detect**

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

J= Concentration estimated between Reporting Limit and MDL.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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EMSL ORDER ID: 492100677

EMSL CUSTOMER ID: AXIO80

EMSL SAMPLE ID: 492100677-0004

CUSTOMER SAMPLE ID: Mech G42

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Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 08:04
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05126.D	HD2097	250 cc	1

Tentatively Identified Compound Results Summary

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv	Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	1.7	JN	3.1	5.301	
Isobutane	000075-28-5	58	6.9	JN	16	5.78	
Butane, 2-methyl-	000078-78-4	72	1.1	JN	3.2	7.82	
Pentane	000109-66-0	72	5.1	JN	15	8.73	
D-Limonene	005989-27-5	136	1.2	JN	6.7	28.94	
Total TIC Concentrations:			16	ppbv	44	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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Collected: 11/10/2021 08:04
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05126.D	HD2097	250 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
n-Butane	106-97-8	58.12	3.0	0.50		7.0	1.2	
Ethanol	64-17-5	46.07	190	0.50	E	360	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	19	0.50		47	1.2	
Acetone	67-64-1	58.08	5.8	0.50		14	1.2	
2-Butanone(MEK)	78-93-3	72.11	0.57	0.50		1.7	1.5	
Ethyl acetate	141-78-6	88.11	1.7	0.50		6.1	1.8	
Toluene	108-88-3	92.14	1.3	0.50		4.8	1.9	
Total Target Compound Concentrations:			220	ppbv		440	ug/m3	

Qualifier Definitions

B = Compound also found in method blank.
E = Estimated concentration exceeding upper calibration range.
D = Result reported from diluted analysis.
J = Concentration estimated between Reporting Limit and MDL.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	1.7		JN	3.1	5.301	
Isobutane	000075-28-5	58	6.9		JN	16	5.784	
Butane, 2-methyl-	000078-78-4	72	1.1		JN	3.2	7.818	
Pentane	000109-66-0	72	5.1		JN	15	8.732	
D-Limonene	005989-27-5	136	1.2		JN	6.7	28.939	
Total TIC Concentrations:			16	ppbv		44	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.
B = Compound also found in method blank.
J = Estimated value based on a 1:1 response to internal standard.
N = Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): 240 ppbv 480 ug/m3

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EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0005
CUSTOMER SAMPLE ID: Hall by G39

Attention: David A. Rooney
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50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Phone: 781-213-9198
Email: drooney@axiomenv.com

Collected: 11/10/2021 08:33
Received: 11/11/2021 10:00
Analyzed: See Results
Reported: 11/18/2021

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05127.D	HD2098	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	1.6	0.50		3.9	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	200	0.50	E	380	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	34	0.50		85	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	6.9	0.50		16	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	0.53	0.50		1.6	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	1.9	0.50		6.9	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

20 of 24

**EMSL ANALYTICAL, INC.**

200 Route 130 North
 Cinnaminson, NJ 08077
 Telephone: (856)858-4800 FAX: (856)858-4571
to15lab@EMSL.com | <http://www.EMSL.com>

Attention: David A. Rooney
 Axiom Partners, Inc.
 50B Salem Street, Suite 103
 Lynnfield, MA 01940

Phone: 781-213-9198
Email: drooney@axiomenv.com

EMSL ORDER ID: 492100677
EMSL CUSTOMER ID: AXIO80
EMSL SAMPLE ID: 492100677-0005
CUSTOMER SAMPLE ID: Hall by G39

Customer PO: 01275
EMSL Project ID:
Project Name: SHOJ 50 State St. Springfield MA

Collected: 11/10/2021 08:33
Received: 11/11/2021 10:00
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Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05127.D	HD2098	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	0.69	0.50		2.6	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			250	ppbv		500	ug/m3	

Surrogate

4-Bromofluorobenzene

Result

9.2

Spike

10

Recovery

92%

Qualifier Definitions**ND = Non Detect**

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

J= Concentration estimated between Reporting Limit and MDL.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

EMSL ANALYTICAL, INC.

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EMSL ORDER ID: 492100677

EMSL CUSTOMER ID: AXIO80

EMSL SAMPLE ID: 492100677-0005

CUSTOMER SAMPLE ID: Hall by G39

Attention: David A. Rooney
Axiom Partners, Inc.
50B Salem Street, Suite 103
Lynnfield, MA 01940

Customer PO: 01275
EMSL Project ID:
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Phone: 781-213-9198
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Collected: 11/10/2021 08:33
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Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05127.D	HD2098	250 cc	1

Tentatively Identified Compound Results Summary

[illegible]

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
	11/16/2021	KW	y05127.D	HD2098	250 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
n-Butane	106-97-8	58.12	1.6	0.50		3.9	1.2	
Ethanol	64-17-5	46.07	200	0.50	E	380	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	34	0.50		85	1.2	
Acetone	67-64-1	58.08	6.9	0.50		16	1.2	
2-Butanone(MEK)	78-93-3	72.11	0.53	0.50		1.6	1.5	
Ethyl acetate	141-78-6	88.11	1.9	0.50		6.9	1.8	
Toluene	108-88-3	92.14	0.69	0.50		2.6	1.9	
Total Target Compound Concentrations:			250	ppbv		500	ug/m3	

Qualifier Definitions

B = Compound also found in method blank.
E = Estimated concentration exceeding upper calibration range.
D = Result reported from diluted analysis.
J = Concentration estimated between Reporting Limit and MDL.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Propane	000074-98-6	44	1.3		JN	2.2	5.306	
Isobutane	000075-28-5	58	6.9		JN	16	5.779	
Pentane	000109-66-0	72	6.7		JN	20	8.732	
Total TIC Concentrations:			15	ppbv		38	ug/m3	

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.
B = Compound also found in method blank.
J = Estimated value based on a 1:1 response to internal standard.
N = Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): 270 ppbv 540 ug/m3



EMSL ANALYTICAL, INC.
LABORATORY SERVICES • PRODUCTS • TRAINING

USEPA TO-15

External Chain of Custody/ Field Test Data Sheet

EMSL Order Number (Lab Use Only):

992100677

Report To Contact Name:	David A. Rooney	Bill To Company:	Axiom Partners Inc.	Sampled By (Sign):	
Company Name:	Axiom Partners Inc.	Attention To:	Axiom Accounting	Sampled By (Name):	David A. Rooney
Address 1:	50 B Salem St, Suite 103	Address 1:	50 B Salem St, Suite 103	Total # of Samples:	
Address 2:	Lynnfield MA 01940	Address 2:	Lynnfield MA 01940	Date Shipped:	
Phone No.:	603 505 5877	Phone No.:	781 213 9198	Sample Collection Zip Code:	01130
Fax:		Fax:		Purchase Order:	01275.007
Email Results To:	drooney@axiomenv.com	Project Name:	SHOJ 50 State St Springfield MA		

Turnaround Time (in Business Days): ☐ 5 Day ☐ 10 Day Standard ☐ 3 Day ☐ Other

Reporting Format: ☐ Results Only (Standard Lab Report)
☐ Full Deliverables (Surcharge may apply)
☐ Other

Field Use - All Information Required!

Client Field Sample Identification	Sampling Start Information				Sampling Stop Information				Canister Information	Flow Controller		Other:					
	Barometric Pres. ("Hg):				Barometric Pres. ("Hg):					Canister ID	Size (L)		Can Cert Batch ID	Outgoing Pressure ("Hg)	Incoming Pressure ("Hg)	Reg. ID	Cal Flow (g/min)
	Start Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Stop Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)									
019A CE 548	11-10-21	0748	28	72.2	11-10-21	1524	0.5	71.6	101413	1.4	140619	-30.0	-1.0	3514	2.4	Other:	
019B Room 687	"	0750	29	71.8	"	1515	2	71.7	11465	"	"	"	-1.0	3529	"	Soil Gas/Sub	
019C SACK BAR	"	0756	29	72.8	"	1520	0.5	71.6	1478	"	"	"	-1.0	3655	"	Indoor/ Ambie	
019D MECH 642	"	0801	29	72.2	"	1530	0.5	71.6	2097	"	"	"	-1.0	3669	"	Other:	
019E WBY 639	"	0833	30	73.1	"	1527	1.5	72.1	2098	"	"	"	-2.0	3697	"	NIOSH 3900	
									2100	"	"	"	-30.0	3715	"	TO-3: METHANE / C	
									2109	"	"	"	-30.0	3716	"	ASTM-6504:H2S / S	
									2122	"	"	"	-30.0	5957	"	LIBRARY SE	
									2124	"	"	"	-30.0	5992	"	NJDEP LLTO	
									2135	"	"	"	-30.0	6799	"	USEPA TO-1	

RECEIVED
EMSL
CHINNAMINSON, N

21 NOV 11 AM 12:12

CLIMA 11 NOV 12

Comments:

Check Box if Seal Intact

Lab Canister Certification Analyst Signature (TO-15):

Relinquished by:	Date/ Time	Received by:	Date/ Time	Seal # / Intact	Reason for Exchange (circle appropriate)
Can by letter	11/18/21 1500	Chalun FXGD	11/14/21 1000	273-274	Shipping
DAVID ROONEY	11-10-21 1600	Chalun FXGD	11/14/21 1000	275	Shipping
Chalun-FXGD	11/11/21 1000	Chalun-FXGD	11/14/21 1230		Shipping
					Shipping
					Shipping
					Shipping
					Shipping

2859 6569 1865

25

ATTACHMENT 2

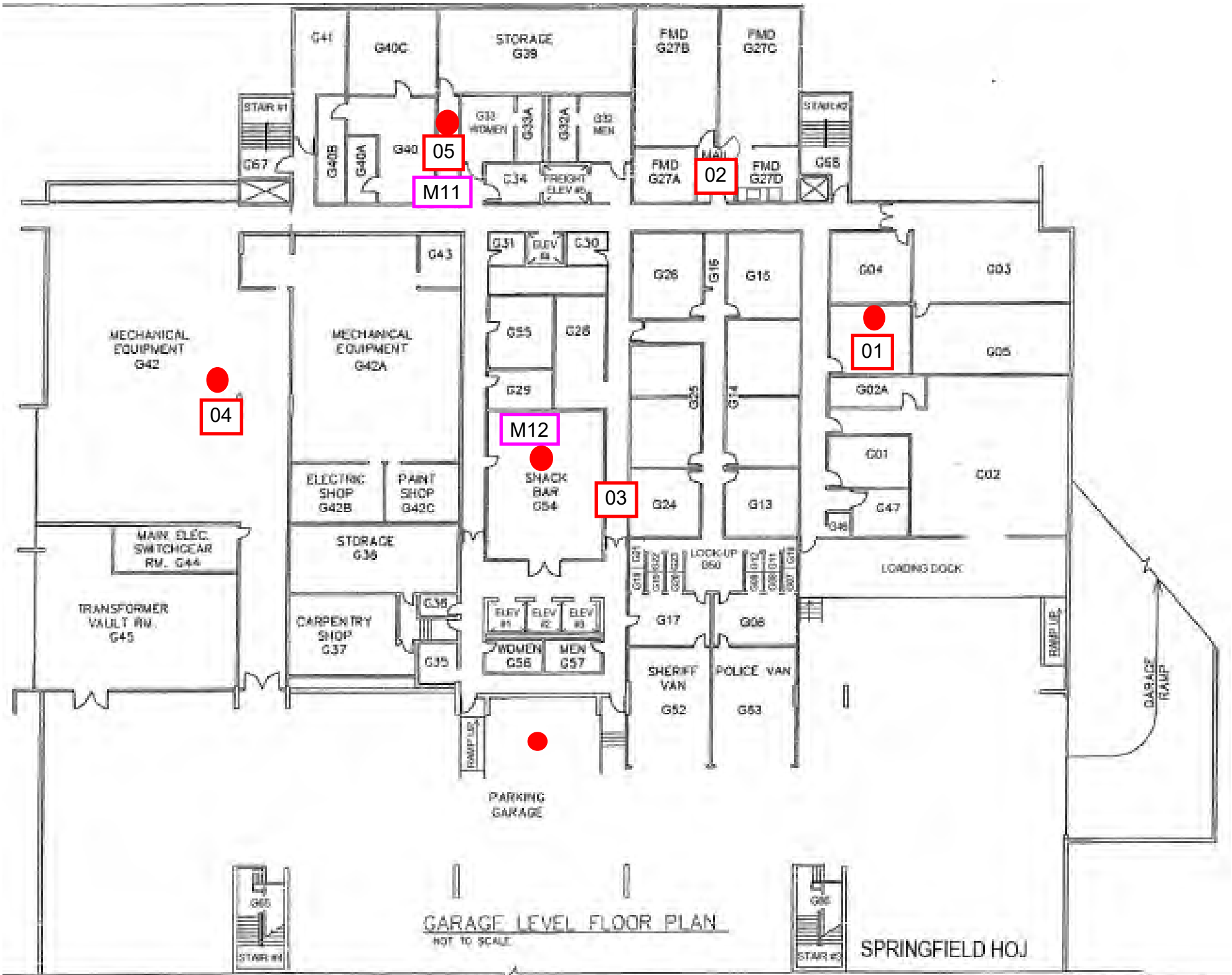
SAMPLE LOCATION FLOOR PLANS

LEGEND

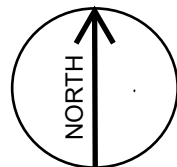
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- 12 SUMA Cannister Location
- Mold Sample Location

Bi-Weekly IAQ Survey
Round 1 of 6
November 10, 2021

1 SPRINGFIELD HOJ
BASEMENT PLAN



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

Springfield HOJ
Basement Plan

SHOJ IAQ Survey
50 State St, Springfield MA

DATE
11/10/21
PROJECT NO.
01275.007

DRAWING NO.
IAQ 1
DWG. 1 OF 5

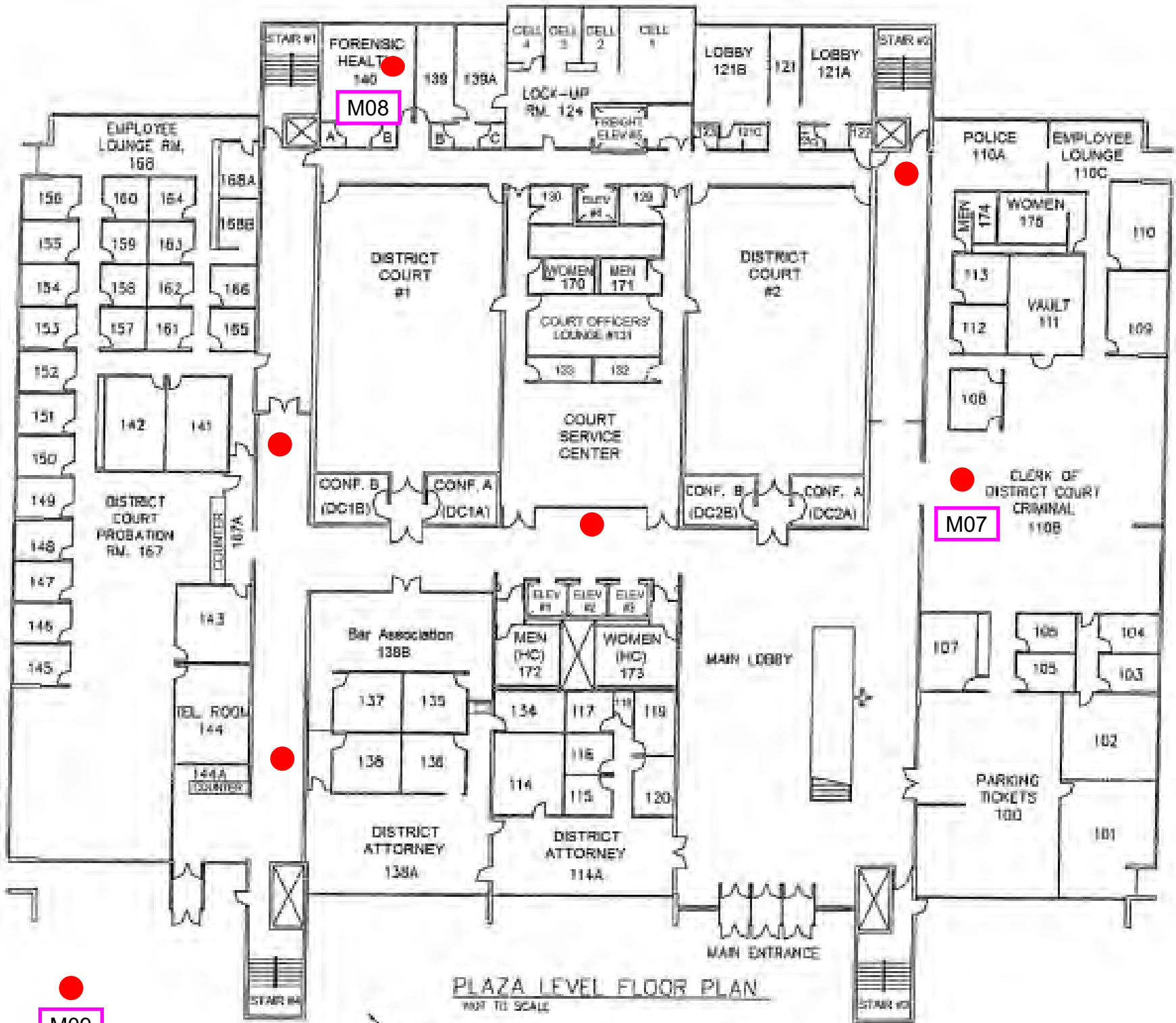


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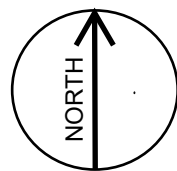
- IAQ Sample Location
- SUMA Cannister Location
- Mold Sample Location

Bi-Weekly IAQ Survey
Round 1 of 6
November 10, 2021

2 SPRINGFIELD HOJ
FIRST FLOOR PLAN



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
11/10/21
PROJECT NO.
01275.007

DRAWING NO.
IAQ 2
DWG. 2 OF 5

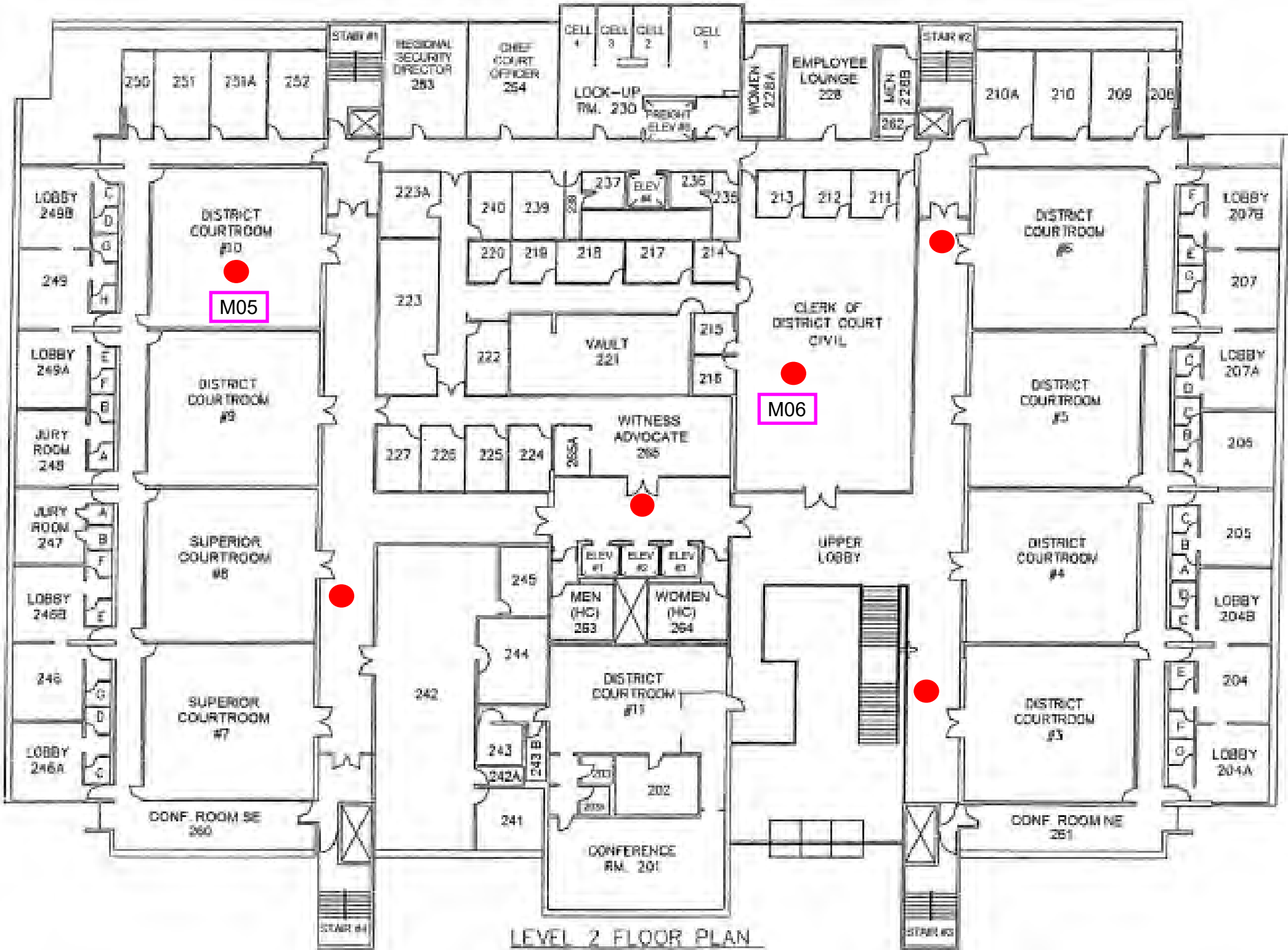


LEGEND

- IAQ Sample Location
- 12 SUMA Cannister Location
- M05 Mold Sample Location

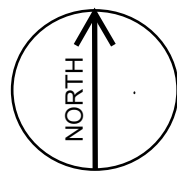
Bi-Weekly IAQ Survey
Round 1 of 6
November 10, 2021

3 SPRINGFIELD HOJ
SECOND FLOOR PLAN



LEVEL 2 FLOOR PLAN

PLAN NOT FOR
CONSTRUCTION



50 State Street, Springfield MA

AXIOM PARTNERS, INC.
50 B Salem St., Suite 103
Lynnfield, MA 01940
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DRAWING TITLE
Springfield HOJ
Second Floor Plan

PROJECT TITLE
SHOJ IAQ Survey
50 State St, Springfield MA

DATE
11/10/21
PROJECT NO.
01275.007

DRAWING NO.
IAQ 3
DWG. 3 OF 5

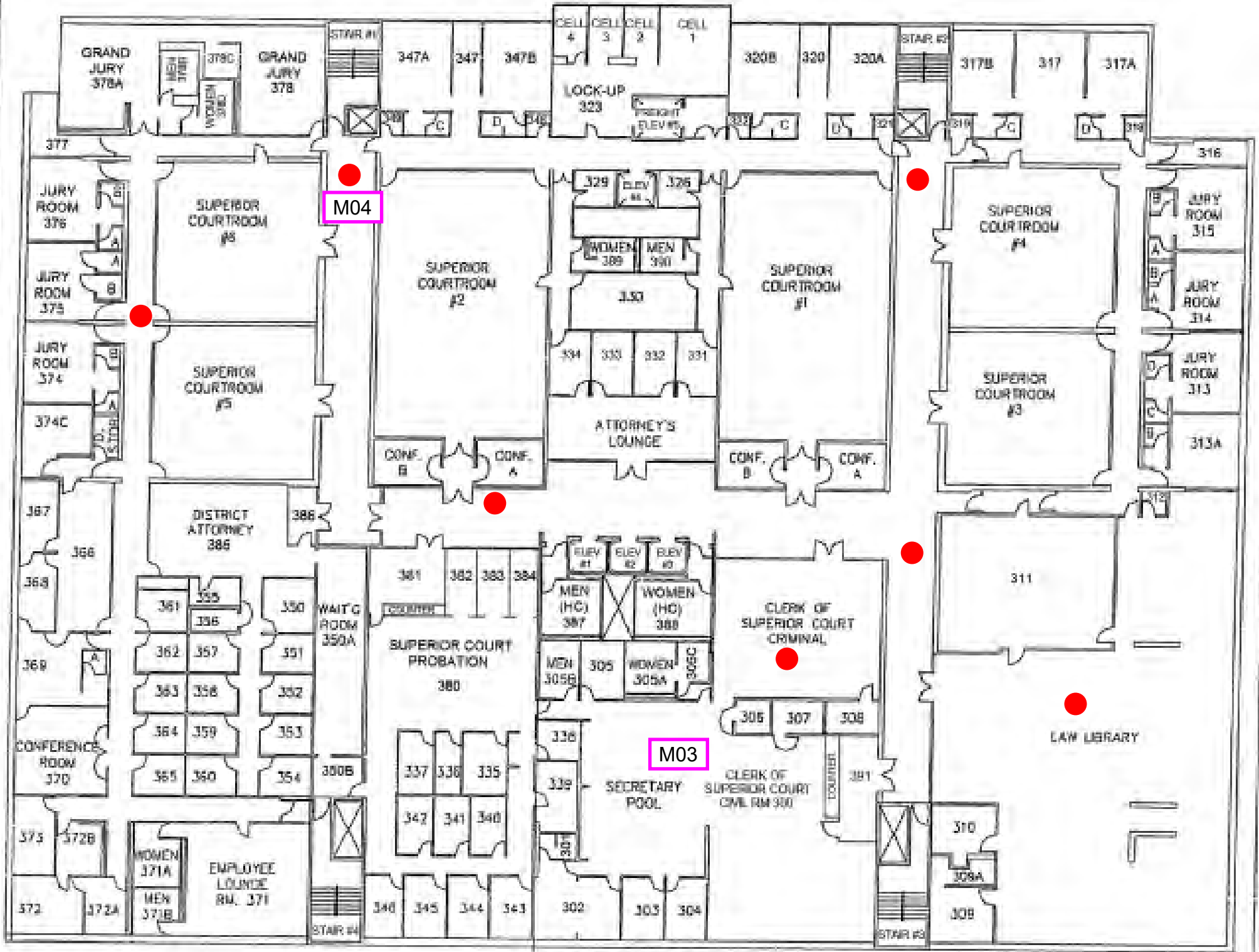


LEGEND

- IAQ Sample Location
- 12 SUMA Cannister Location
- M03 Mold Sample Location

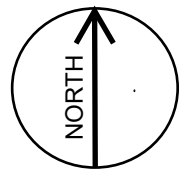
Bi-Weekly IAQ Survey
Round 1 of 6
November 10, 2021

4 SPRINGFIELD HOJ
THIRD FLOOR PLAN



LEVEL 3 FLOOR PLAN

PLAN NOT FOR
CONSTRUCTION



50 State Street, Springfield MA

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50 B Salem St., Suite 103
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DRAWING TITLE
Springfield HOJ
Third Floor Plan

PROJECT TITLE
SHOJ IAQ Survey
50 State St, Springfield MA

DATE
11/10/21
PROJECT NO.
01275.007

DRAWING NO.
IAQ 4
DWG. 4 OF 5



