Ångstrom Analytical, Inc.

5001 Cedar Lake Road S.
St. Louis Park, MN 55416
Office: (952) 252-0405
Fax: (952) 252-0407

Minnesota State Capitol Building

Additional Indoor Air Quality Testing – Phase 4

St. Paul, MN.

Contract # 59638. RECS # 02CB0015

4/9/15

Report Prepared For:

State of Minnesota
Department of Administration
C/O Steve Terman - CPMI
Real Estate & Construction Services
309 Administration Building
50 Sherburne Avenue
St. Paul, MN 55155

Presented By:

Ångstrom Analytical

RECEIVED
APR 14 2015
CPMI

Angstrom Analytical, Inc.

5001 Cedar Lake Road S.
St. Louis Park, MN 55416
Office: (952) 252-0405
Fax: (952) 252-0407

State of MN, Dept. of Admin, RECS
C/O Mr. Steve Terman, CPMI
3265 Northwood Circle, Suite 170
Eagan, MN 55121

April 9th, 2015

Re:- Additional Indoor Air Quality Testing – Phase 4
Minnesota State Capitol Building

Dear Steve:

OBJECTIVE

The Department of Administration, Real Estate and Construction Services retained Angstrom Analytical, Inc. to conduct indoor air sampling and subsequent analysis, within the Minnesota State Capitol. Specifically Angstrom Analytical, Inc. tested for:

- Asbestos fibers via NIOSH 7400 and EPA 600/M4-82-020 or EPA 600/R-93/116
- Lead Dust via NIOSH 7082 and / or X-Ray Flourescence
- Respirable Nuisance Dust via NIOSH 0600
- Respirable Silica via NIOSH 7500 and X-Ray Diffraction
- Total Hydrocarbons (products of combustion) via Modified NIOSH 1550
- Volatile Organic Compounds via USEPA TO-15 using gas chromatography and mass spectroscopy.

All of the above contaminants could reasonably be expected to be produced as a result of the ongoing hazardous material abatement, demolition and construction related activities.

On March 13th, 2015, testing of all of the above analytes were performed in the following 5 locations:

In the Rathskeller café in the basement, corridors of the North Wing on the Ground and First Floor, the corridor outside the House Chambers on the Second Floor and the corridor outside of the balcony of the House Chambers on the Third Floor. For precise sampling locations and the type of test performed, please refer to the floor plans referenced in Appendix 1.

RESULTS

All of the air samples collected throughout the Capitol Building during Phase 3 are below current OSHA and / or MN Dept. of Health PELs or Threshold Limit Values.

Asbestos: The Minnesota Department of Health's Indoor Clean Air Standard is set at 0.01 fibers per cubic centimeter of air (f/cc). All sampling locations within the Capitol Building rendered readings of or below 0.003 f/cc. Reference Appendix 2.

Lead Dust: OSHA's Permissible Exposure Level (PEL) for airborne lead dust is 50 micrograms per cubic meter of air ($\mu g/m^3$). All sampling locations within the Capitol Building rendered readings below 4.2 $\mu g/m^3$. Reference Appendix 2.

Respirable Nuisance Dust: OSHA's Permissible Exposure Level (PEL) for respirable nuisance dust (exclusive of silica) is 30 milligrams per cubic meter of air (mg/m^3). All sampling locations within the Capitol Building rendered readings below 0.30 mg/m^3.

Respirable Crystalline Silica: OSHA's Permissible Exposure Level (PEL) for respirable crystalline silica is 15 milligrams per cubic meter of air (mg/m^3). All sampling locations within the Capitol Building rendered readings below 0.008 mg/m^3. Reference Appendix 3.

Total Hydrocarbon Analyses: NIOSH's Reporting Limit for total hydrocarbons is 10 milligrams per cubic meter of air (mg/m^3). All sampling locations in the Capitol Building rendered readings below 0.80 mg/m^3. Reference Appendix 4.

Volatile Organic Compound Scan: Of the 74 VOCs scanned, no compound reached any level of concern.

It is our intent to repeat these tests on a two to four week schedule in order to monitor the contaminants for fluctuation. If you have any questions, please do not hesitate to call.

Sincerely,

Charles Tye
Angstrom Analytical, Inc.

CT/file.

Appendix 1

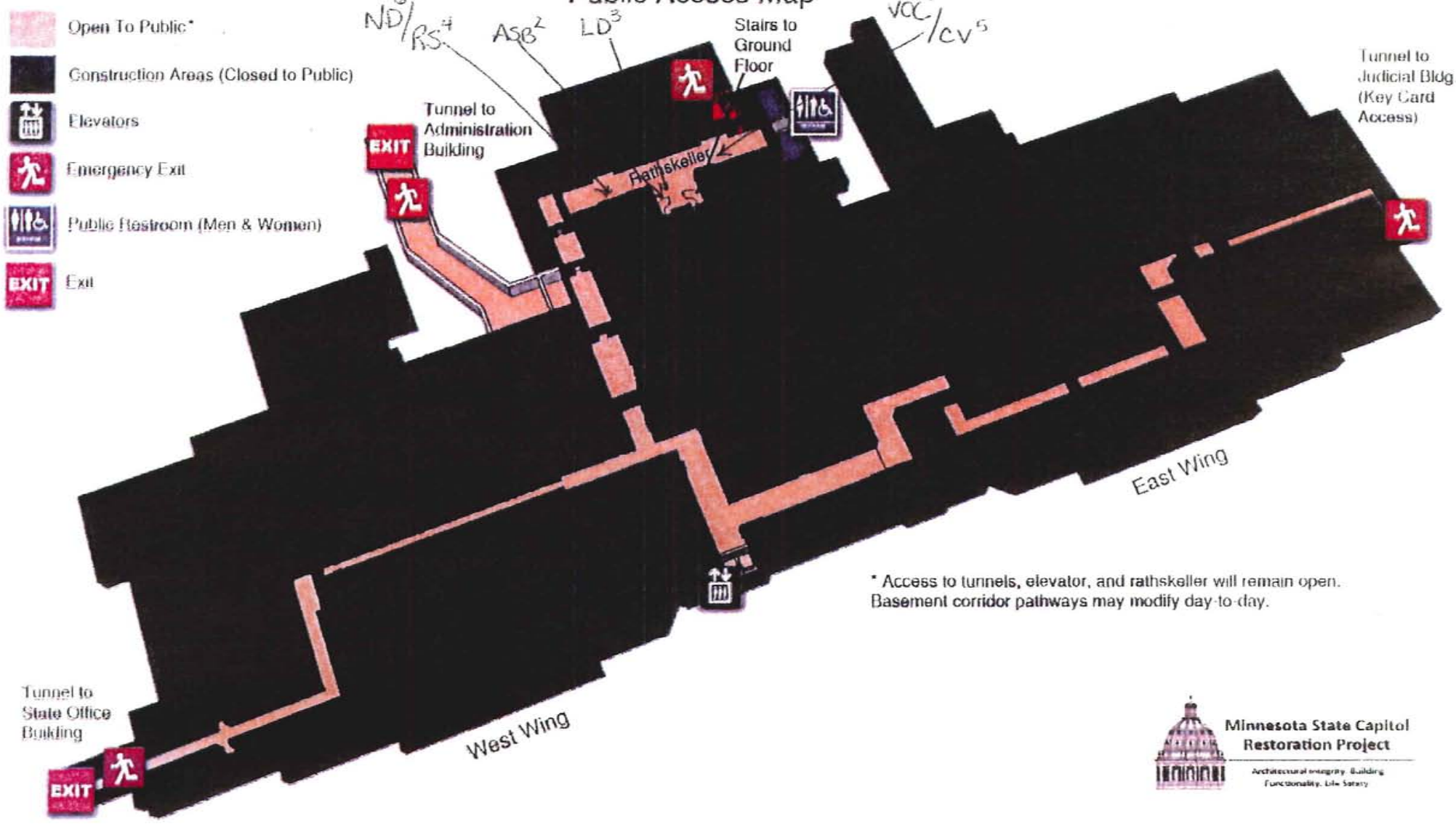
Sampling Locations / Floor Plans

Rathskeller

1. Voc can
2. Asbestos
3. Lead
4. RS
5. CV
6. ND

Basement/Tunnel Floor

Minnesota State Capitol Restoration Project
Public Access Map



* Access to tunnels, elevator, and rathskeller will remain open. Basement corridor pathways may modify day-to-day.

Minnesota State Capitol Restoration Project

Architectural Integrity. Building Functionality. Life Safety

Ground floor west wing

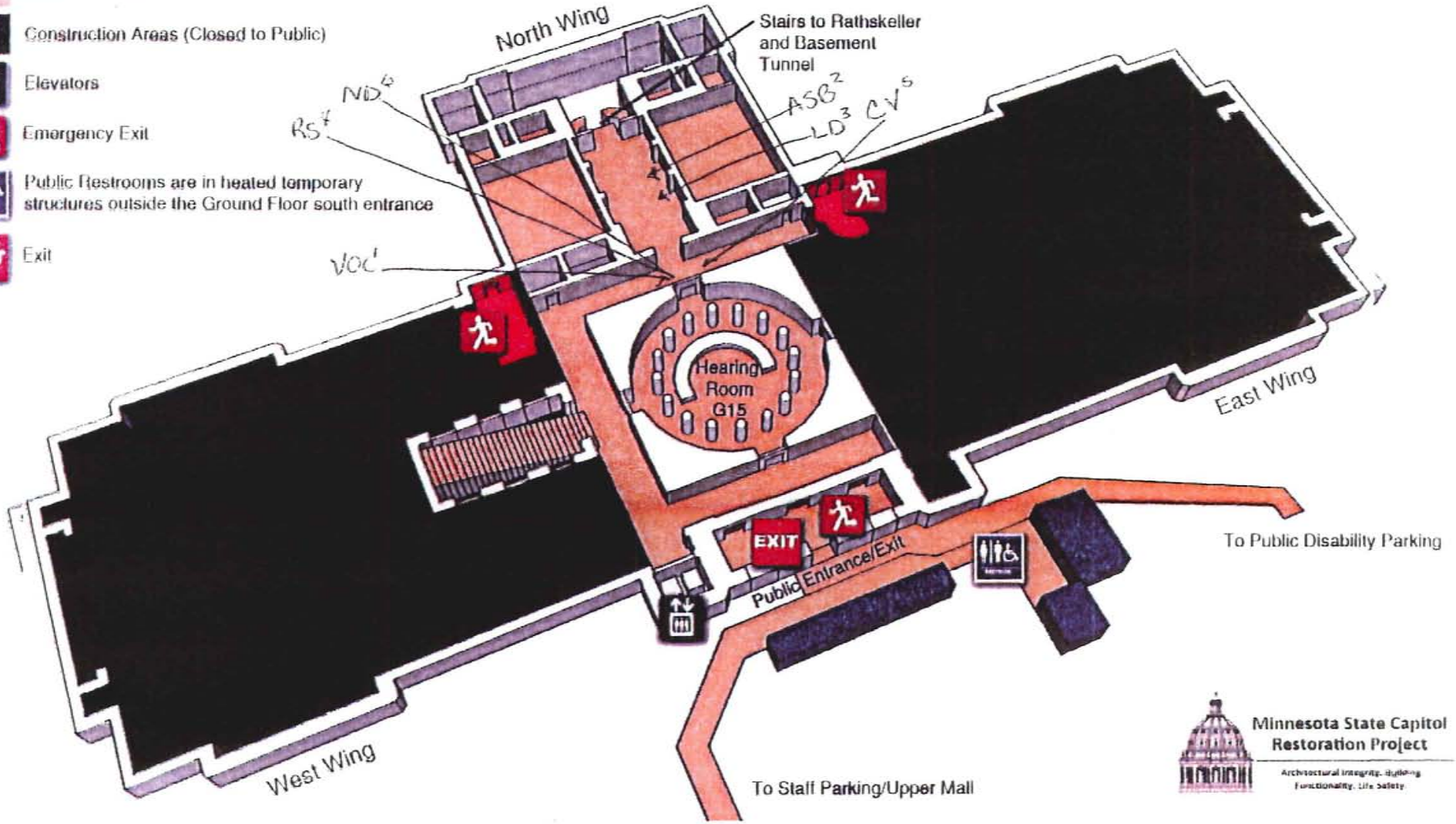
1. Voc can
2. Asbestos
3. Lead
4. RS
5. CV
6. ND

Ground Floor

Minnesota State Capitol Restoration Project
Public Access Map

Legend

- Open To Public
- Construction Areas (Closed to Public)
- Elevators
- Emergency Exit
- Public Restrooms are in heated temporary structures outside the Ground Floor south entrance
- EXIT Exit



Minnesota State Capitol Restoration Project

Architectural Integrity, Building Functionality, Life Safety

1st floor west wing

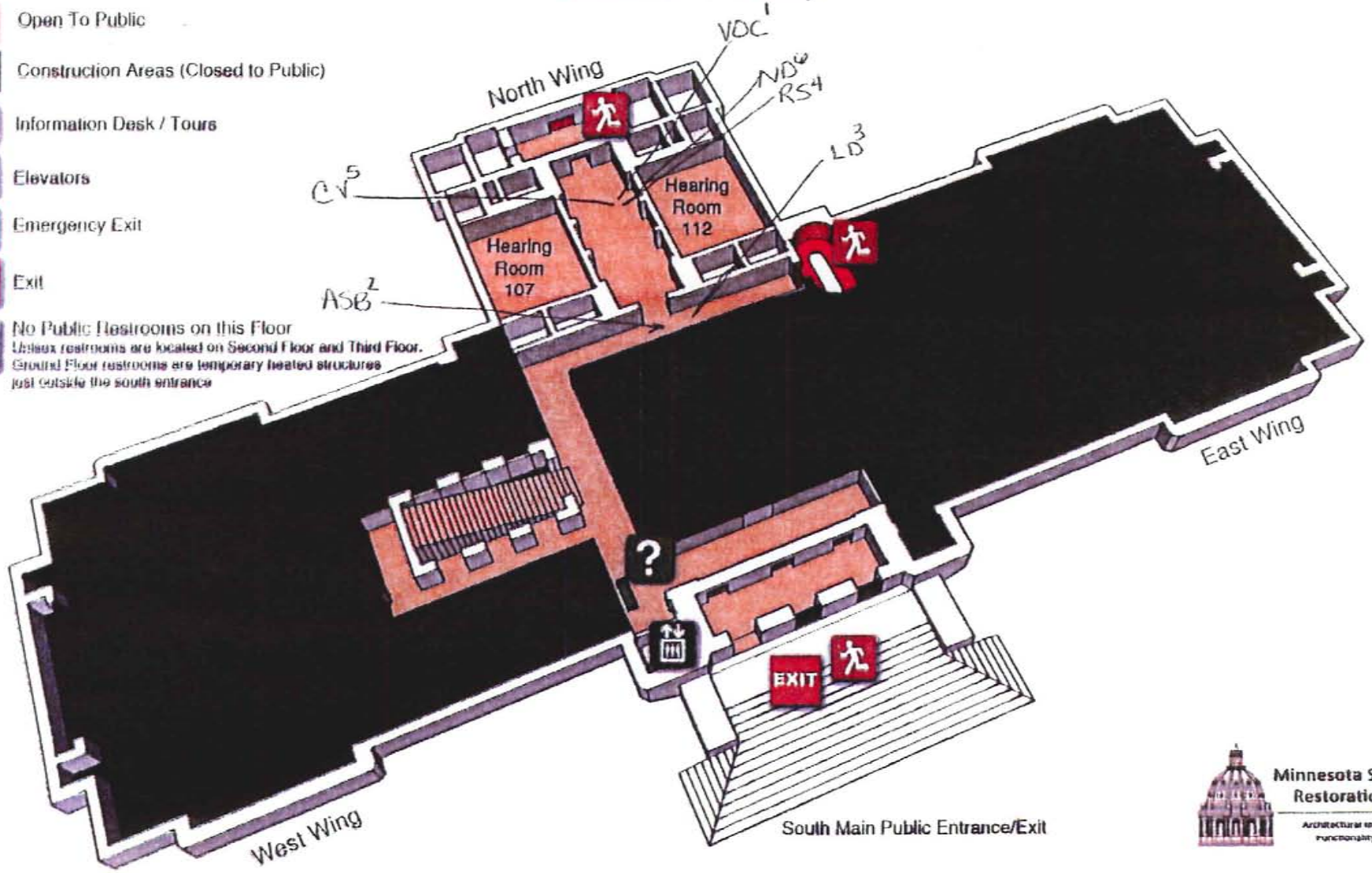
1. Voc can
2. Asbestos
3. Lead
4. RS
5. CV
6. ND

First Floor

Minnesota State Capitol Restoration Project
Public Access Map

Legend

- Open To Public
- Construction Areas (Closed to Public)
- Information Desk / Tours
- Elevators
- Emergency Exit
- Exit
- No Public Restrooms on this Floor
  Unisex restrooms are located on Second Floor and Third Floor.
  Ground Floor restrooms are temporary heated structures just outside the south entrance



Minnesota State Capitol Restoration Project
Architectural Integrity Building Functionality Life Safety

2nd floor west wing

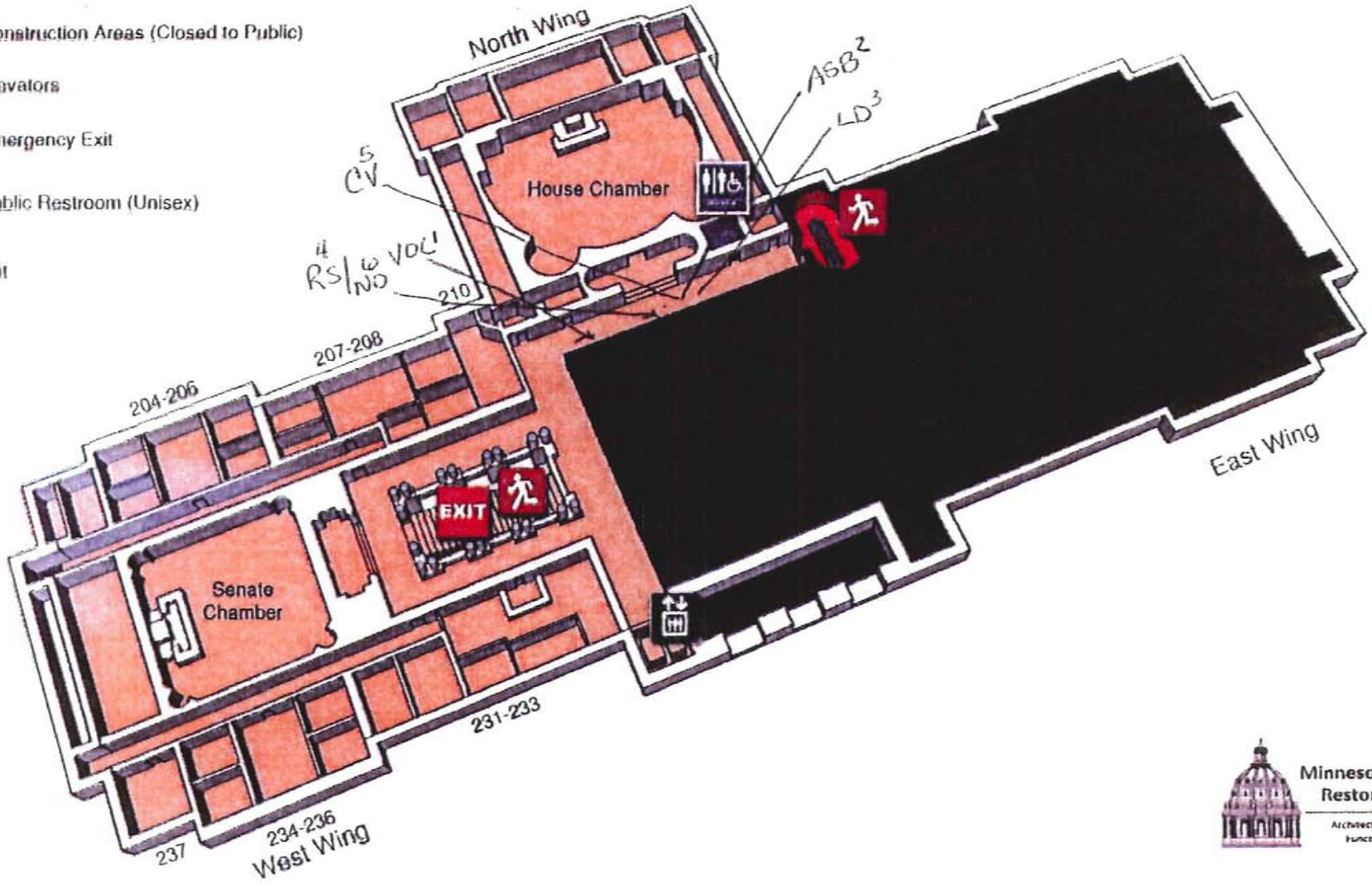
1. Voc can
2. Asbestos
3. Lead
4. RS
5. CV
6. ND

Second Floor

Minnesota State Capitol Restoration Project
Public Access Map

Legend

- Open To Public
- Construction Areas (Closed to Public)
- Elevators
- Emergency Exit
- Public Restroom (Unisex)
- Exit



Minnesota State Capitol Restoration Project

Architectural Integrity. Building Functionality. Life Safety

3rd floor west wing

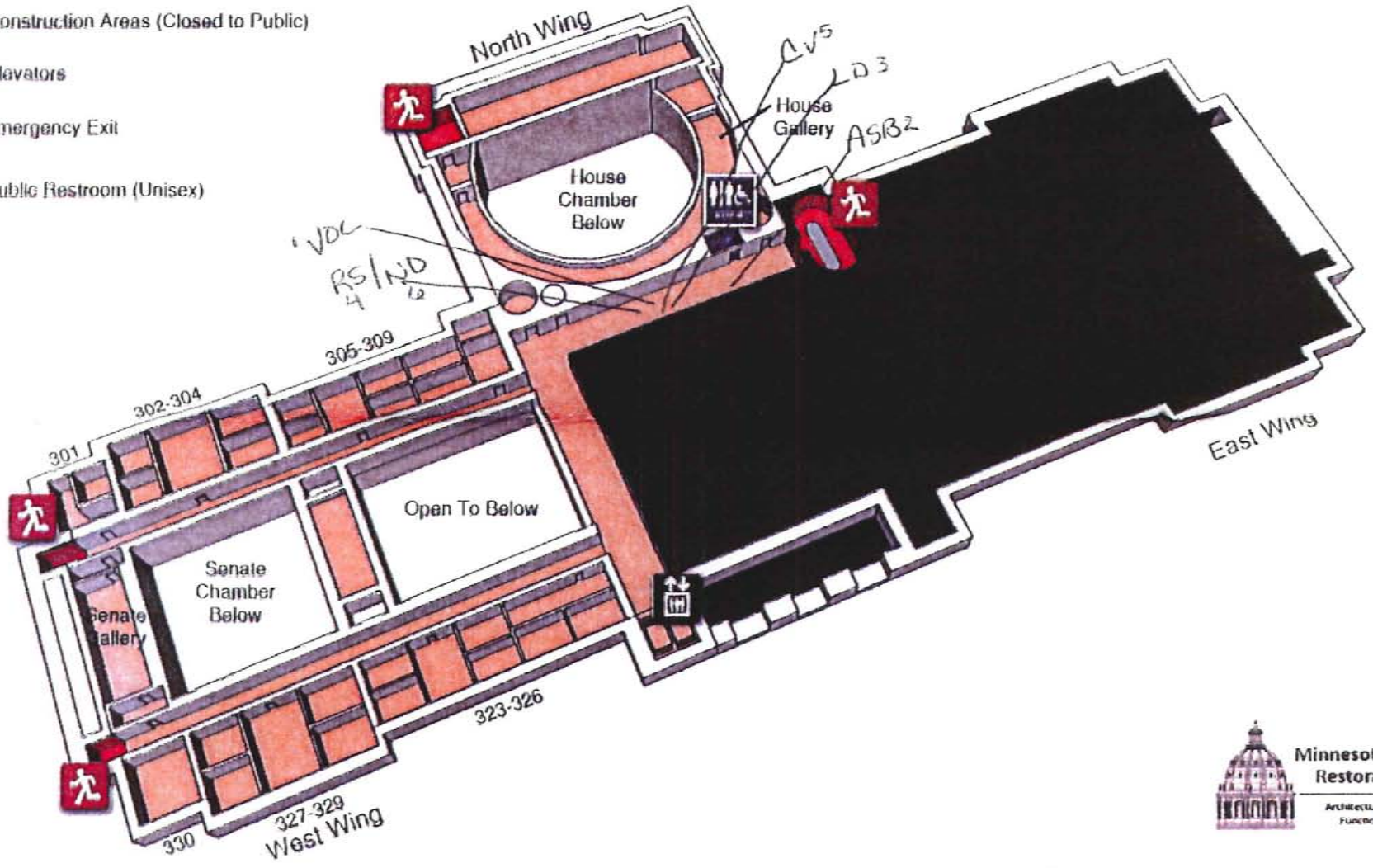
1. Voc can
2. Asbestos
3. Lead
4. RS
5. CV
6. ND

Third Floor

Minnesota State Capitol Restoration Project
Public Access Map

Legend

- Open To Public
- Construction Areas (Closed to Public)
- Elevators
- Emergency Exit
- Public Restroom (Unisex)

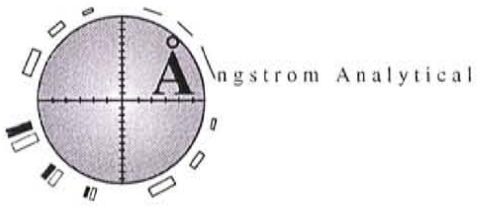


Minnesota State Capitol Restoration Project

Architectural Integrity, Building Functionality, Life Safety

Appendix 2

Asbestos Fiber and Lead Dust Results



Angstrom Analytical &
Environmental Services

5001 Cedar Lake Road * St. Louis Park, MN 55416
952-252-0405 Office / 952-252-0407 Fax

ANALYSIS OF AIR FILTER SAMPLES USING PHASE CONTRAST MICROSCOPY (PCM) ACCORDING TO NIOSH 7400 METHODOLOGY

Prepared for:	**State of Minnesota Capitol Building** 75 Rev. Dr. Martin Luther King Blvd. St. Paul, MN 55155
Client Job or reference:	**Air Quality Check throughout the State Capitol Building**
Number of samples:	**6**

State of Minnesota/CPMI hereafter referred to as the client, contracted us to collect air samples at the above referenced property, during a remodel project. The client requested air samples be taken to determine if there was an issue regarding the air quality. Five air samples were and a field blank were collected on 3/13/15. The first sample was collected in the Rathskeller, the second sample was collected in the north wing by G-15 on the 1st floor, the third sample was collected in the north wing corridor on the 1st floor, the fourth sample was collected in north wing corridor of the 2nd floor and the fifth sample was collected in the north wing corridor by house chambers of the 3rd floor. The scope of our services was limited to the collection, preparation and analysis of air samples. The results of our analysis indicate that the air quality, at the time of our sample collection, did not exceed the below listed indoor air standard. State regulations for "clean air" is set at **0.01 fibers per cubic centimeter (f/cc)** of air. Each air fiber analysis was conducted utilizing Phase Contrast Microscopy (PCM) and NIOSH 7400 methodology. The samples analyzed were of the 25 mm diameter, high volume type. We analyzed all samples and representative samples were subject to our quality control program. The results are printed on the enclosed air sampling summary sheets along with all necessary calculations. If there are any questions concerning these analyses please call us at the number listed above.

Thank you for letting Angstrom Analytical serve your needs.

Sincerely yours,

Kevin Hagen
Angstrom Analytical, Inc.

Angstrom Analytical

Angstrom Analytical
5001 Cedar Lake Road
St. Louis Park, Mn 55416

ASBESTOS AIR SAMPLING RECORD AND WORKSHEET

LAB USE ONLY
Approved By
Project # 9s
Analyst KH
Data Rec'd 3/13/15
Analyzed 3/16/15
Date Mailed
Phoned

CLIENT: State of Minnesota
Location: State Capitol
Job/Project #: 9s
Process Description/Employee Activities: Air Quality Check Phase IV
Calibration Method: Rotometer

Sample # / Pump #	Date	Sample Location	Time On	Time Off	Total Min.	Flow Rate	Air Volume	Average # Fibers Per Field	Field Count	F/CC
1	3/13	Rathskeller	600	805	125	16 lpm	2000 l	-	100	0.003
2	|	NORTH Wing by G-15	601	806	125	16 lpm	2000 l	-	100	<0.002
3	|	1st Floor North Wing Corridor	605	810	125	16 lpm	2000 l	-	100	<0.002
4	|	2nd FL. By North Wing	608	813	125	16 lpm	2000 l	-	100	<0.002
5	|	3rd Floor by House Chambers	700	905	125	16 lpm	2000 l	-	100	<0.002
FB	-	Field Blank	-	-	30 sec	-	-	-	100	NFD

Signed _____

Angstrom Analytical &
Environmental Services

5001 Cedar Lake Road * St. Louis Park, MN 55416
952-252-0405 Office / 952-252-0407 Fax

ANALYSIS OF AIR FILTER SAMPLES USING X-RAY FLUORESCENCE (XRF)

Prepared for:	**State of Minnesota Capitol Building** 75 Rev. Dr. Martin Luther King Blvd. St. Paul, MN 55155
Client Job or reference:	**Air Quality (Lead Pb)**
Number of samples:	**5**

State of Minnesota/CPMI hereafter referred to as the client, contracted us to collect air samples at the above referenced property, during a remodel project. The client requested air samples be taken to determine if there was an issue regarding the air quality. Five air samples were collected on 3/13/15. The first sample was collected in the Rathskeller, the second sample was collected in the north wing by G-15, the third sample was collected in the north wing corridor on the 1st floor, the fourth sample was collected in the north wing corridor on 2nd floor and the fifth sample was collected in the north wing corridor by the house chambers on the 3rd floor. The scope of our services was limited to the preparation and analysis of air samples. Each analysis was conducted utilizing a portable X-ray Fluorescence (XRF) instrument. The samples analyzed were of the 37 mm diameter, high volume type. We analyzed all samples and representative samples were subject to our quality control program. The results are printed on the enclosed air sampling summary sheets along with all necessary calculations. If there are any questions concerning these analyses please call us at the number listed above.

Sincerely yours,

Kevin Hagen
Angstrom Analytical, Inc.

Angstrom Analytical

Angstrom Analytical
5001 Cedar Lake Road
St. Louis Park, Mn 55416

LEAD AIR SAMPLING RECORD AND WORKSHEET

LAB USE ONLY Approved By
Project # 05 Analyst KH
Data Rec'd 3/13/15 Analyzed 3/16/15
Date Mailed _____ Phoned _____

CLIENT	Location	Job/Project #
State of Minnesota	State Capitol	05

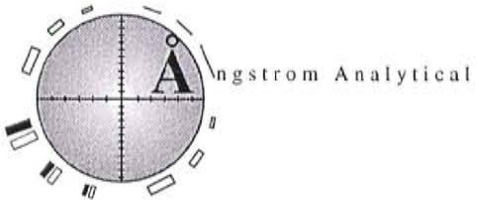
Process Description/Employee Activities	Calibration Method
Air Quality Check Phase IV	Rotometer

Sample # / Pump #	Date	Sample Location	Time On	Time Off	Total Min.	Flow Rate	Air Volume		µg/m³ Pb	Note
1	3/13	Rathskeller	545	750	125	10Lpm	1250L	—	4.13	
2	"	NORTH Side by G-15	547	802	125	10Lpm	1250L	—	1.26	
3	"	1ST Floor North Wing Corridor	550	755	125	10Lpm	1250L	—	2.41	
4	"	2nd Floor by north wing	600	805	125	10Lpm	1250L	—	1.93	
5	"	3rd Floor by House Chambers	602	802	125	10Lpm	1250L	—	<LOD	

Signed _____

Appendix 3

Respirable Nuisance Dust and Respirable Silica (Quartz) Results



EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	041507888
Customer ID:	ANGS50
Customer PO:	
Project ID:	

Attn: Steve Wallinga
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: (952) 252-0405
Fax: (952) 252-0407
Collected: 03/13/2015
Received: 03/19/2015
Analyzed: 04/02/2015

Proj:

Test Report: Respirable Silica, Crystalline Analysis of Air Samples Performed by X-Ray Diffraction and Respirable Dust Analysis (Gravimetric) of Air Samples NIOSH 0600, Issue 3, 1/15/98 Via NIOSH Method 7500 (Modified), Issue 4, 3/15/2003

Sample ID	Collected	Location / Description	Volume (L)	Respirable Dust (mg)	Respirable Dust (mg/m³)	Silica	Analytical Sensitivty (mg/m³)	Weight (mg)	Conc. (mg/m³)	% Silica
1 **041507888-0001** **Comment: Customer**	3/13/2015	Rathskeller	600	<0.050	<0.083	α-Quartz	0.008	<0.005	<0.008	N/A
2 **041507888-0002** **Comment: Customer**	3/13/2015	Ground Fl. North Side of G15	600	<0.050	<0.083	α-Quartz	0.008	<0.005	<0.008	N/A
3 **041507888-0003** **Comment: Customer**	3/13/2015	1st Fl. North Wing Corridor	600	0.106	0.177	α-Quartz	0.008	<0.005	<0.008	N/A
4 **041507888-0004** **Comment: Customer**	3/13/2015	2nd Fl. North Side of Rotunda	600	0.146	0.243	α-Quartz	0.008	<0.005	<0.008	N/A
5 **041507888-0005** **Comment: Customer**	3/13/2015	3rd Fl. North Side of Rotunda	600	0.116	0.193	α-Quartz	0.008	<0.005	<0.008	N/A

Analyst(s)

Andrew Pale

Stephen Siegel, CIH, Laboratory Manager
or Other Approved Signatory

Any questions please contact Steve Siegel.

The laboratory can only verify the concentration of silica on the filter and not the final concentration due to data obtained by non-laboratory personnel. This report only relate to the samples submitted. The laboratory can only verify the concentration of silica on the filter and not the final concentration due to data obtained by non-Laboratory Personnel. "<" means less than the stated value. The lowest reportable value is equivalent to the Analytical Sensitivity that is calculated from the lowest reproducible amount of specific mineral detectable by the instrument. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC–IHLAP Lab 100194, PA ID# 68-00367

Initial report from: 04/02/2015 16:14:45

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order ID:	041507888
Customer ID:	ANGS50
Customer PO:	
Project ID:	

Attn: Steve Wallinga
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Proj:

Phone:	(952) 252-0405
Fax:	(952) 252-0407
Collected:	03/13/2015
Received:	03/19/2015
Analyzed:	04/02/2015

Test Report: Respirable Silica, Crystalline Analysis of Air Samples Performed by X-Ray Diffraction and Respirable Dust Analysis (Gravimetric) of Air Samples NIOSH 0600, Issue 3, 1/15/98 Via NIOSH Method 7500 (Modified), Issue 4, 3/15/2003

QC Batch ID: 04Q150402-004

	Collected	Location / Description	Volume (L)	Respirable Dust (mg)	Respirable Dust (mg/m³)	Silica	Analytical Sensitivty (mg/m³)	Weight (mg)	Conc. (mg/m³)	% Silica
Method Blank				<0.050	N/A	α-Quartz	N/A	<0.005		N/A

Reference Standards	Analytical Sensitivity (mg/m³)	Weight (mg)	Conc. (mg/m³)	% Silica
α-Quartz (0.250 mg)	N/A	0.273		N/A
α-Quartz (0.005 mg)	N/A	0.006		N/A

In the absence of a bulk dust sample, neither the specific forms of crystalline silica nor the interfering species can be fully determined. Hence, the amount for each phase, if anticipated, will be analyzed based on primary, secondary, and/or tertiary peak data with comparison to calibration curves of known standards. It should be noted that air samples are meant for only quantifying silica (or a mineral phase) which must first be identified from a bulk dust sample.

Analyst(s)

Andrew Pale

Stephen Siegel, CIH, Laboratory Manager
or Other Approved Signatory

Any questions please contact Steve Siegel.

The laboratory can only verify the concentration of silica on the filter and not the final concentration due to data obtained by non-laboratory personnel. This report only relate to the samples submitted. The laboratory can only verify the concentration of silica on the filter and not the final concentration due to data obtained by non-Laboratory Personnel. "<" means less than the stated value. The lowest reportable value is equivalent to the Analytical Sensitivity that is calculated from the lowest reproducible amount of specific mineral detectable by the instrument. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC--IHLAP Lab 100194, PA ID# 68-00367

Initial report from: 04/02/2015 16:14:45

OrderID: 041507888

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Chain of Custody

EMSL Order Number (*Lab Use Only*): 041507888

Company: Angstrom Analytical, Inc.	**EMSL-Bill to:** ✓ Same ☐ Different If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party
Street: 5001 Cedar Lake Rd	
City: St. Louis Park **State/Province:** MN	**Zip/Postal Code:** 55416 **Country:** United States
Report To (Name): Steve Wallinga	**Telephone #:** 952-252-0405
Email Address: steve@angstromanalytical.com	**Fax #:** 952-252-0407 **Purchase Order:**
Project Name/Number:	**Please Provide Results:** ☐ FAX ✓ E-mail ☐ Mail
U.S. State Samples Taken: MN	**Connecticut Samples:** Commercial Residential

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☑ 2 Week

**For RUSH TAT's Please Call Ahead to Confirm Lab Hours and Availability. Not all TAT options are valid for every test. Materials Science and IAQ TATs are in Business Days rather than Hours (i.e. 24 Hour = End of Next Business Day)*

Asbestos

PCM - Air
☐ NIOSH 7400
☐ w/ 8hr. TWA

TEM– Air ☐ 4-4.5hr TAT(AHERA ONLY)
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Water
Fibers ≥10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

PLM - Bulk
☐ PLM EPA 600/R-93/116
☐ PLM EPA NOB (<1%)
☐ NYS 198.1 (friable-NY)
☐ NYS 198.6 (non-friable-NY)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
Point Count w/ Gravimetric
☐ 400 (<0.25%) ☐ 1000 (<0.1%)

TEM - Dust
☐ Microvac – ASTM D 5755
☐ Wipe-ASTM D6480

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP

Soil/Rock/Vermiculite
☐ PLM CARB 435 – A (0.25% sensitivity)
☐ PLM CARB 435 – B (0.1% sensitivity)
☐ TEM CARB 435 – B (0.1% sensitivity)
☐ EPA Reg. 1 Screening Protocol (Qualitative)

Other:

Lead (Pb)

Flame Atomic Absorption
☐ Chips SW846-7000B or AOAC 974.02
☐ Soil SW846-7000B/7420
☐ Air NIOSH 7082
☐ Wastewater SM3111B or SW846-7000B/7420
☐ ASTM Wipe SW846-7000B/7420
☐ non ASTM Wipe SW846-7000B/7420
☐ TCLP SW846-1311/7420/SM 3111B

ICP
☐ Air NIOSH 7300 Modified
☐ non ASTM Wipe SW846-6010B or C
☐ ASTM Wipe SW846-6010B or C
☐ Soil SW846-6010 B or C
☐ Waste Water SW846-6010B or C
☐ TCLP SW846-6010B or C

Graphite Furnace Atomic Absorption
☐ Soil SW846-7421 ☐ Wastewater EPA 200.9
☐ Air NIOSH 7105 ☐ Drinking Water EPA 200.9

Other: ☐

Materials Science

☐ Common Particle ID (large particles)
☐ Full Particle ID (environmental dust)
☐ Basic Material ID (solids)
☐ Advanced Material ID
☐ Physical Testing (Tensile, Compression)
☐ Combustion-by-products (soot, char, etc.)
☐ X-Ray Fluorescence (elem. analysis)
☐ X-Ray Diffraction (Crystalline, Part.)
☐ MMVF's (Fibrous glass, RCF's)
☐ Particle Size (sieve/microscopy/laser)
☐ Combustible Dust
☐ Petrographic Examination
Other: ☐

Microbiology

Wipe and Bulk Samples
☐ Mold & Fungi – Direct Examination
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi Culture (Genus & Species)
☐ Bacterial Count & ID (Up to Three Types)
☐ Bacterial Count & ID (Up to Five Types)
☐ MRSA
☐ *Pseudomonas aeruginosa*

Water Samples
☐ Total Coliform & E.coli (P/A)
☐ Fecal Coliform (SM 9222D)
☐ Sewage Screen
☐ Heterotrophic Plate Count (SM 9215)

Air Samples
☐ Mold & Fungi (Spore Trap)
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi (Genus & Species)
☐ Bacterial Culture & ID (Up to Three Types)
☐ Bacterial Culture & ID (Up to Five Types)
☐ Endotoxin Testing

Real Time Q-PCR (See Analytical Guide for Code)
Code:

Legionella
☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4

Other: ☐

IAQ

Nuisance Dust NIOSH ☐ 0500 ☐ 0600
Airborne Dust ☐ PM10 ☐ TSP
Silica Analysis: ☐ All Species
Silica Analysis – Single Species
☑ Alpha Quartz ☐ Cristobalite ☐ Tridymite
☐ HVAC Efficiency
☐ Carbon Black
☐ Airborne Oil Mist
Radon Testing: Call for Kit and COC
Other: ☐

****Comments/Special Instructions:**

Client Sample #'s	1 - 5	**Total # of Samples:**	5
Relinquished (Client): Angstrom	**Date:** 3/16/15	**Time:** 3:30 pm	
Received (Lab): CC	**Date:** 3/19/15	**Time:** 8:15 AM	

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

FXG

X5

OrderID: 041507888

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Chain of Custody

EMSL Order Number *(Lab Use Only)*:

041507888

EMSL Analytical, Inc.
200 Route 130 North

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1	Rathskeller	600 l	3/13/15 1038 AM
2	Ground FL. North side of G15	600 l	3/13/15 1036 AM
3	1st FL. North Wing Corridor	600 l	3/13/15 1040 AM
4	2nd FL. North Side of Rotunda	600 l	3/13/15 1041 AM
5	3rd FL. North Side of Rotunda	600 l	3/13/15 1042 AM

RECEIVED
EMSL
CINNAMINSON, NJ
15 MAR 19 PM 2:35

*Comments/Special Instructions:

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

Appendix 4

Total Hydrocarbon Analyses and Volatile Organic Compound Scan (GC/MS via USEPA TO-15) Results

Ångstrom Analytical

EMSL Analytical, Inc. 200 Route 130 North, Cinnaminson, NJ 08052

Order ID: 2815006311

Attn:	Steve Wallinga Angstrom Analytical Inc. 5001 Cedar Lake Road St. Louis Park, MN 55416	Customer ID: Customer PO: Date Received:	ANGS50 3/19/15
Phone:	(952) 252-0407	EMSL Order:	2815300631
Project:	State Capitol	EMSL Project ID:	
Report Date:	4/1/15	Date Analyzed:	3/25/15

Test Report – Total Hydrocarbon Analysis as VM&P Naphtha by GC/FID of Solid Sorbent Tubes via Modified NIOSH1550, Issue 2, 8/15/94

Sample ID	Client Sample ID/Location	Volume (L)	Sample Weight (mg)	Sample Conc. (mg/m^3)	Reporting Limit (mg/m^3)
281500631-0001	1 Rathskeller	10	<0.0074	<0.74	0.74
281500631-0002	2 Ground Fl. By G-15	10	<0.0074	<0.74	0.74
281500631-0003	3 1st Fl. North Wing Corridor	10	<0.0074	<0.74	0.74
281500631-0004	4 2nd Fl. By Rotunda	10	<0.0074	<0.74	0.74
281500631-0005	5 3rd Fl. By Rotunda	10	<0.0074	<0.74	0.74
Desorption Blank		0	<0.0074	N/A	N/A

Notes:
1. Samples were received in acceptable condition unless otherwise noted.
2. These results relate only to the samples tested.
3. Sample results are blank corrected unless otherwise noted.
4. Discernable field blank(s) not submitted with samples.

SV
Analyst

Scott VanEtten, CIH- Lab Manager
Or other approved signatory

EMSL ANALYTICAL, INC.
LABORATORY-PRODUCTS-TRAINING

Industrial Hygiene
Chain of Custody

EMSL Order Number (Lab Use Only): 281500631

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

OrderID: 281500631

Report To Contact Name: Steve Wallinga	Bill To Company: Angstrom Analytical, Inc.
Company Name: Angstrom Analytical, Inc.	Attention To: Steve Wallinga
Street: 5001 Cedar Lake Rd	Street: 5001 Cedar Lake Rd
City: St. Louis Park State/Province: MN Zip Code: 55416	City: St. Louis Park State/Province: MN Zip Code: 55416
Phone: 952-252-0405 Fax: 952-252-0407	Phone: 952-252-0405 Fax: 952-252-0407
Project Name: State Capitol Phase IV	U.S. State where Samples Collected: MN
Number of Samples In Shipment: Date of Shipment:	Purchase Order: Sampled By (Signature):
Please Provide results: ☐ FAX ☑ E-mail ☐ Mail	Email Results To: steve@angstromanalytical.com

Turnaround Time – Please Check: Please Note Standard TAT is 2 Week.							Media Type:
2 Week	1 Week	4 Day	3 Day	2 Day	1 Day	Other (Call Lab)	Manufacturer/Part #:
☑	☐	☐	☐	☐	☐	☐	Lot #:

Sample ID	Media	Analyte/Method	Volume	Sample Date/Time	Location	Comments
1	Sorbent tube	1550	10 l	3/13/15 AM	Rathskeller	
2	Sorbent tube	1550	10 l	3/13/15	Ground FL by G-15	
3	Sorbent tube	1550	10 l	3/13/15	1st FL. North Wing Corridor	
4	Sorbent tube	1550	10 l	3/13/15	2nd FL. by Rotunda	
5	Sorbent tube	1550	10 l	3/13/15	3rd FL. by Rotunda	

RECEIVED EMSL CINNAMINSON, NJ 15 MAR 19 PM 2:31

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By	Date	Received By	Date
[signature]	3/16/15	CC	3/19/15 2:15 pm FX 6

Comments: 5 JP

Page ____ of ____ pages

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #: **491500273**
Customer ID: **ANGS50**
Customer PO: **Not Available**

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**

Project: **Capitol Bldg. Phase IV**

Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Laboratory Report- Sample Summary

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
491500273-0001	by G15	3/13/2015	6:00 AM
491500273-0002	Rathskeller	3/13/2015	5:51 AM
491500273-0003	2nd Fl.	3/13/2015	6:05 AM
491500273-0004	3rd Fl.	3/13/2015	6:08 AM
491500273-0005	1st Fl. N. Cornd	3/13/2015	6:02 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,

Report Date:	Report Revision	Revision Comments
03/27/2015	R0	Initial Report

Marjorie Howley

Marjorie Howley, Laboratory Manager
or other approved signatory

Test results meet all NELAP requirements unless otherwise specified.

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: 952-252-0405
Fax: 952-252-0407
Date Collected: 03/13/2015
Date Received: 03/19/2015

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

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-Dichlortetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.64	0.50		1.3	1.0	
n-Butane	106-97-8	58.12	10	0.50		25	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	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	210	2.5	DE	400	4.7	*Reported Dilution #1*
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	60.10	7.0	0.50		17	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	67	2.5	D	160	5.9	*Reported Dilution #1*
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	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	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	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	86.17	1.4	0.50		4.8	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	12	0.50		34	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	0.87	0.50		3.1	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	22	0.50		65	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	5.8	0.50		20	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	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
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	

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Toluene	108-88-3	92.14	20	0.50		76	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	100.1	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	187.8	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	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	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	126.0	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	181.5	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	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			360	ppbv		810	ug/m3	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	11	10	110%

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.

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).

NJDEP Certification #: 03036

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #: **491500273**
EMSL Sample #: **491500273-2**
Customer ID: **ANGS50**
Customer PO: **Not Available**

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **Rathskeller**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

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	0.62	0.50		1.3	1.0	
n-Butane	106-97-8	58.12	8.0	0.50		19	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	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	120	2.5	D	230	4.7	*Reported Dilution #1*
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	60.10	14	0.50		34	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	46	2.5	D	110	5.9	*Reported Dilution #1*
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	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	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	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	86.17	1.0	0.50		3.6	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	9.0	0.50		26	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	0.67	0.50		2.4	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	17	0.50		50	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	2.8	0.50		10	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	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
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	

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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **Rathskeller**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Toluene	108-88-3	92.14	13	0.50		48	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	100.1	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	187.8	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	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	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	126.0	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	181.5	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	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			230	ppbv		530	ug/m3	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	11	10	110%

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.

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).

NJDEP Certification #: 03036

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #: 491500273
EMSL Sample #: 491500273-3
Customer ID: ANGS50
Customer PO: Not Available

Attn: Kevin Hagen
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: 952-252-0405
Fax: 952-252-0407
Date Collected: 03/13/2015
Date Received: 03/19/2015

Project: Capitol Bldg. Phase IV
Sample ID: 2nd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil Factor
Initial	03/25/2015	KW	K2709.D	E0477	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	4.2	0.50		10	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	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	83	0.50	E	160	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	60.10	4.5	0.50		11	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	36	0.50		85	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	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	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	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	86.17	0.92	0.50		3.2	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	6.7	0.50		20	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	0.82	0.50		3.0	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	12	0.50		35	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	0.50	0.50		1.7	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	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
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	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-3
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **2nd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Toluene	108-88-3	92.14	8.5	0.50		32	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	100.1	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	187.8	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	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	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	126.0	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	181.5	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	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			160	ppbv		360	ug/m3	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	11	10	110%

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.

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).

NJDEP Certification #: 03036

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone:	952-252-0405
Fax:	952-252-0407
Date Collected:	03/13/2015
Date Received:	03/19/2015

Project: **Capitol Bldg. Phase IV**

Sample ID: **3rd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

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	0.64	0.50		1.3	1.0	
n-Butane	106-97-8	58.12	6.6	0.50		16	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	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	73	2.5	D	140	4.7	*Reported Dilution #1*
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	60.10	4.8	0.50		12	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	46	2.5	D	110	5.9	*Reported Dilution #1*
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	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	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	0.76	0.50		2.6	1.7	
Acrylonitrile	107-13-1	53.00	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	86.17	1.6	0.50		5.5	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	7.9	0.50		23	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	0.61	0.50		2.2	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	15	0.50		46	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	1.3	0.50		4.3	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	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
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	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **3rd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Toluene	108-88-3	92.14	14	0.50		53	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	100.1	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	187.8	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	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	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	126.0	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	181.5	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	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			170	ppbv		420	ug/m3	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	11	10	110%

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.

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).

NJDEP Certification #: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	1st Fl. N.Corrid

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

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	0.62	0.50		1.3	1.0	
n-Butane	106-97-8	58.12	7.7	0.50		18	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	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	59	2.5	D	110	4.7	*Reported Dilution #1*
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	60.10	3.9	0.50		10	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	74	2.5	D	170	5.9	*Reported Dilution #1*
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	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	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	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	86.17	1.8	0.50		6.4	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	16	0.50		47	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	0.77	0.50		2.8	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	27	0.50		79	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	2.5	0.50		8.5	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	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
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	

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone:	952-252-0405
Fax:	952-252-0407
Date Collected:	03/13/2015
Date Received:	03/19/2015

Project: **Capitol Bldg. Phase IV**

Sample ID: **1st Fl. N. Cornd**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Toluene	108-88-3	92.14	24	0.50		92	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	100.1	ND	0.50		ND	2.0	
Tetrachlorcethene	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	187.8	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	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	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	126.0	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	181.5	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	128.17	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			220	ppbv		550	ug/m3	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	11	10	110%

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.

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).

NJDEP Certification #: 03036

USEPA TO-15
External Chain of Custody/ Field Test Data Sheet

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Ph. (800) 220-3675
Fax (856) 786-0327

EMSL ANALYTICAL, INC. LABORATORY · PRODUCTS · TRAINING

EMSL Order Number (Lab Use Only): 491500273

Report To Contact Name: Kevin Hagen	Bill To Company: Same	Sampled By (Sign):
Company Name: 5001 Cedar Lake Rd. S	Attention To:	Sampled By (Name): Kevin Hagen
Address 1: St. Louis Park, MN 55416	Address 1:	Total # of Samples: 5
Address 2:	Address 2:	Date Shipped: 3/6/15
Phone No. ~~612-865-2020~~	Fax: 952-252-0407	Phone No.: Fax:	Sample Collection Zip Code: 55101
Email Results To: Ghyeang@Aol.com.	Project Name: Capitol Bldg. Phase IV	Purchase Order:

Turnaround Time (in Business Days): ☒ 10 Day Standard ☐ 5 Day ☐ 4 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ Other

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

Field Use - All Information Required! | **Lab Use Only**

EMSL Sample Identifier	Client Field Sample Identification	Sampling Start Information: Barometric Pres. ("Hg): Start Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Sampling Stop Information: Barometric Pres. ("Hg): Stop Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Canister Information: Canister ID	Size (L)	Can Cert Batch ID	Outgoing Pressure ("Hg)	Incoming Pressure ("Hg)	Flow Contoller: Reg. ID	Cal Flow (ml/min)
	by G-15	3/13/15	0600	-30	72°	3/13	1430	-5.0	75	E0320	6	C3050	-29.8	-6.2	3575	10.7
	Rathskeller	3/13/15	0551	-30	72°	3/13	1431	-5.0	72	E0281	↓	↓	↓	-5.6	7282383	10.5
	2nd Fl.	3/13/15	0605	-29	68°	3/13	1430	0.0	72	E0477				-2.4	7296061	10.7
	3rd Fl.	3/13/15	0608	-26	72°	3/13	1429	0.0	76	E15321				-6.0	7288474	10.4
	1st Fl N. Corrd	3/13/15	0602	-30	72°	3/13	1430	-4.0	75	E0640				-5.4	7296101	10.6
							/									

Analysis: USEPA TO-15 ✓ | NJDEP LLTO-15 | LIBRARY SEARCH (1st Map) | Other (Specify): TO-15 SIM (HOSNIH) | Matrix: Indoor/ Ambient Air ✓ | Soil Gas | Landfill/ Vent

Comments:

Lab Canister Certification
Analyst Signature (TO-15):

Relinquished by:	Date/ Time	Received by:	Date/ Time	Affixed Seal #	Reason for Exchange (circle appropriate)
	3/6/15 1500			347, 348	Shipping Courier Receiving Sampling Other:
			3/9/15 300pm		Shipping Courier Receiving Sampling Other:
	3/13/15 0600				Shipping Courier Receiving Sampling Other:
	3/16/15 0530		3/19/15 2:13 pm	349, 350	Shipping Courier Receiving Sampling Other:
	3/19/15		3/24/15 1205		Shipping Courier Receiving Sampling Other: AN

EXG

491500273

TO-15 Sample Information

Please fill out this worksheet in addition to the Chain of Custody form. This information helps us to best analyze your samples and achieve requested TAT

Company:	ANGSTROM ANALYTICAL, INC.

Contact Person:

Name:	CHARLES TYE / KEVIN HAGEN.
E-mail:	CTyeAng@aol.com Kevin@AngstromAnalytical.com
Additional E-mails:	Steve@AngstromAnalytical.com
Telephone #:	612 865 2020 Fax #: 952 252 0405

Do you want your results emailed? [✓] YES [ ] NO

Library Search requested: [ ] YES [✓] NO

A library search will identify up to 20 of the largest, non-target peaks that are not part of the standard TO-15 list of 74 compounds. If you are performing an Indoor Air Quality or odor investigation, the library search is recommended. If you will need help interpreting your report, the library search is REQUIRED.

Sample Type:

[✓] Indoor Air Quality (Home/Office) [ ] Vent Gas [ ] Soil Gas
[ ] IAQ (Industrial) [ ] Other: _____

15 MAR 19 2:31

Description of sample (Important for the lab to achieve your requested turnaround time):

AMBIENT INDOOR AIR SAMPLE FROM MN STATE CAPITOL ~~AREA~~
APPROX 8hr SAMPLE DURATION

Are there any special detection limits, specific set of compounds, or any other specifics you need in your report?

[✓] OSHA/NIOSH RELS			[✓] Possible Sources of Contaminants
[✓] EPA PELS - Circle one:	(Residential)	Industrial	[ ] TVOC (Library Search Required for this format)
[ ] NJ DEP - Circle one:	Indoor Air	Soil Gas	[ ] Ohio - Circle one: Residential Commercial
[ ] NC DNER - Circle one:	Indoor Air	Soil Gas	[ ] Indiana Dept Env Mgmt Screeening Levels
[ ] PA DEP - Circle one:	Indoor Air	Soil Gas	[ ] Other (Please list or attach separate sheet)

Do you need any additional analysis on the canister sample? Indicate below (additional charges will apply)

Draeger CMS Analyzer:

[ ] CO ; [ ] CO_2 ; [ ] SO_2 ; [ ] EtO ; [ ] NH_3 ; [ ] Cl_2 ; [ ] H_2S; [ ] NO2 [ ] NO_2 ; [ ] NOx ; [ ] O_2 ;
[ ] Petroleum hydrocarbons ; [ ] Phosgene ; [ ] Phosphene

US EPA TO-3 (choose one below):
[ ] C_1-C_6 hydrocarbons
[ ] Methane only

ASTM-D5504 (choose one below):
[ ] Sulfur Scan (H_2S, COS, MeSH, EtSH, DMS)
[ ] H_2S only

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure that your project scope is fully addressed. Cans may be retained for a longer period of time but arrangements to hold your cans must be made through your customer account representative quickly. Thank you.

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	by G15

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		310	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	N.E.		10.0	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	N.E.		N.E.	
Chloromethane	74-87-3	50.49	0.64		1.3	N.E.		9.40	
n-Butane	106-97-8	58.12	10		25	N.E.		N.E.	
Vinyl chloride	75-01-4	62.50	ND		ND	0.160		10.0	
1,3-Butadiene	106-99-0	54.09	ND		ND	0.0810		0.210	
Bromomethane	74-83-9	94.94	ND		ND	N.E.		0.520	
Chloroethane	75-00-3	64.52	ND		ND	N.E.		1000	
Ethanol	64-17-5	46.07	210	DE	400	N.E.		N.E.	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	0.0760		0.310	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	N.E.		73.0	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	7.0		17	N.E.		730	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	N.E.		3100	
Acetone	67-64-1	58.08	67	D	160	N.E.		3200	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	N.E.		21.0	
Acetonitrile	75-05-8	41.00	ND		ND	N.E.		6.30	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	N.E.		N.E.	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	N.E.		N.E.	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	0.410		0.100	
Carbon disulfide	75-15-0	76.14	ND		ND	N.E.		73.0	
Methylene chloride	75-09-2	84.94	ND		ND	96.0		63.0	
Acrylonitrile	107-13-1	53.00	ND		ND	0.0360		0.210	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	9.40		310	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	N.E.		6.30	
n-Hexane	110-54-3	86.17	1.4		4.8	N.E.		73.0	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	1.50		N.E.	
Vinyl acetate	108-05-4	86.00	ND		ND	N.E.		21.0	
2-Butanone(MEK)	78-93-3	72.10	12		34	N.E.		520	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	N.E.		N.E.	
Ethyl acetate	141-78-6	88.10	0.87		3.1	N.E.		N.E.	
Chloroform	67-66-3	119.40	ND		ND	0.110		10.0	
Tetrahydrofuran	109-99-9	72.11	22		65	N.E.		210	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	N.E.		520	
Cyclohexane	110-82-7	84.16	5.8		20	N.E.		630	
2,2,4-Trimethylpentane(Iscoctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	0.410		10.0	
n-Heptane	142-82-5	100.20	ND		ND	N.E.		N.E.	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	0.0940		0.730	
Benzene	71-43-2	78.11	ND		ND	0.310		3.10	
Trichloroethene	79-01-6	131.40	ND		ND	0.430		0.210	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	0.240		0.420	
Methyl Methacrylate	80-62-6	100.12	ND		ND	N.E.		73.0	
Bromodichloromethane	75-27-4	163.80	ND		ND	0.0660		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	0.320		11.0	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	N.E.		310	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	0.610		2.10	

EMSL Analytical
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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Toluene	108-88-3	92.14	20		76	N.E.		520	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	0.610		2.10	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	0.150		0.0210	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	N.E.		3.10	
Tetrachloroethene	127-18-4	165.80	ND		ND	9.40		4.20	
Dibromochloromethane	124-48-1	208.30	ND		ND	0.0900		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	0.00410		0.940	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		5.20	
Ethylbenzene	100-41-4	106.20	ND		ND	0.970		100	
Xylene (p,m)	1330-20-7	106.20	ND		ND	N.E.		10.0	
Xylene (Ortho)	95-47-6	106.20	ND		ND	N.E.		10.0	
Styrene	100-42-5	104.10	ND		ND	N.E.		100	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	N.E.		42.0	
Bromoform	75-25-2	252.80	ND		ND	2.20		N.E.	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	0.0420		N.E.	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	N.E.		N.E.	
2-Chlorotoluene	95-49-8	126.60	ND		ND	N.E.		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	N.E.		0.730	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	0.220		83.0	
Benzyl chloride	100-44-7	126.00	ND		ND	0.0500		0.100	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	N.E.		21.0	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	N.E.		0.210	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	0.110		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	0.0720		0.310	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
RBC= Risk Based Concentration

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
EPA III= USEPA Region 3, Mid-Atlantic

Reference
EPA Region III Risk-Based Concentration (RBC) Table, Nov 2012.

Carcinogenic Exceedence
Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected. Thus is a theoretical risk and not an actual epidemiological one.

NonCarcinogenic Exceedence
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deliterious health effects. Thus is a theoretical risk and not an actual epidemiological one.

NJDEP Certification #: 03036

EMSL Analytical
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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	7000000		7000000	
Chloromethane	74-87-3	50.49	0.64		1.3	LFC		210000	
n-Butane	106-97-8	58.12	10		25	1900000		1900000	
Vinyl chloride	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	75-00-3	64.52	ND		ND	LFC		2600000	
Ethanol	64-17-5	46.07	210	DE	400	1900000		1900000	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	7.0		17	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	7700000		7700000	
Acetone	67-64-1	58.08	67	D	160	590000		2400000	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	790000		790000	
Acetonitrile	75-05-8	41.00	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	3100		3100	
Carbon disulfide	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	75-09-2	84.94	ND		ND	LFC		87000	
Acrylonitrile	107-13-1	53.00	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	N.E.		N.E.	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	790000		790000	
n-Hexane	110-54-3	86.17	1.4		4.8	180000		1800000	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	400000,		400000	
Vinyl acetate	108-05-4	86.00	ND		ND	14000		N.E.	
2-Butanone(MEK)	78-93-3	72.10	12		34	590000		590000	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	141-78-6	88.10	0.87		3.1	1400000		1400000	
Chloroform	67-66-3	119.40	ND		ND	9800		240000	
Tetrahydrofuran	109-99-9	72.11	22		65	590000		590000	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	1900000		1900000	
Cyclohexane	110-82-7	84.16	5.8		20	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	13000		63000	
n-Heptane	142-82-5	100.20	ND		ND	350000		2000000	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	4000		200000	
Benzene	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	79-01-6	131.40	ND		ND	130000		540000	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	LFC		350000	
Methyl Methacrylate	80-62-6	100.12	ND		ND	410000		410000	
Bromodichloromethane	75-27-4	163.80	ND		ND	N.E.		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	4500		N.E.	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	108-88-3	92.14	20		76	380000		750000	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	55000		55000	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	4100		410000	
Tetrachloroethene	127-18-4	165.80	ND		ND	LFC		680000	
Dibromochloromethane	124-48-1	208.30	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	350		150000	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		350000	
Ethylbenzene	100-41-4	106.20	ND		ND	430000		430000	
Xylene (p,m)	1330-20-7	106.20	ND		ND	430000		430000	
Xylene (Ortho)	95-47-6	106.20	ND		ND	430000		430000	
Styrene	100-42-5	104.10	ND		ND	210000		430000	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	250000		250000	
Bromoform	75-25-2	252.80	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	6900		34000	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	120000		120000	
2-Chlorotoluene	95-49-8	126.60	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	120000		120000	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	LFC		450000	
Benzyl chloride	100-44-7	126.00	ND		ND	5200		5200	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	210		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	52000		52000	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
REL= Recommended Exposure Limit, PEL= Permissable Exposure Limit

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
NIOSH= The National Institute for Occupational Safety

Reference
Occupational Safety and Health Administration (OSHA) General Industry Air Contaminants Standard (29 CFR 1910.1000)

NJDEP Certification #: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
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Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources
Chloromethane	74-87-3	0.64		1.3	Most (99%) of the chloromethane in the environment comes from natural sources. Because chloromethane is made in the oceans by natural processes, it is present in air all over the world. In most areas, the outside air contains less than 1 part of chloromethane in a billion parts of air (ppb). In cities, human activities, mostly combustion and manufacturing, add to the chloromethane in the air, resulting in somewhat higher levels, up to 1 ppb. Cigarette smoke, polystyrene insulation, and aerosol propellants; home burning of wood, coal, or certain plastics; and chlorinated swimming pools.[4]
n-Butane	106-97-8	10		25	Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides.[2]
Ethanol	64-17-5	210	DE	400	Hand sanitizers, disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Isopropyl alcohol(2-Propanol)	67-63-0	7.0		17	Eye Glass Cleaners. Disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Acetone	67-64-1	67	D	160	Rubber cement, cleaning fluids, scented candles and nail polish remover.[1]
n-Hexane	110-54-3	1.4		4.8	Gasoline, rubber cement, typing correction fluid and aerosols in perfumes.[1]
2-Butanone(MEK)	78-93-3	12		34	2-Butanone is produced in large quantities. Nearly half of its use is in paints and other coatings because it will quickly evaporate into the air and it dissolves many substances.[4] Can occur from automobile exhaust, printing inks, fragrance/flavoring agent in candy and perfume, paint, glue, cleaning agents and cigarette smoke.[1]
Ethyl acetate	141-78-6	0.87		3.1	Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Tetrahydrofuran	109-99-9	22		65	PVC cement and primer, various adhesives, contact cement, model cement.[2]
Cyclohexane	110-82-7	5.8		20	Cyclohexane can be added to lacquers and resins, paint and varnish removers, and fungicides. It is also used as a fuel for camp stoves. Exposure can also occur when people use products that contain cyclohexane or when they smoke cigarettes.[4]
Toluene	108-88-3	20		76	Toluene is produced in the process of making gasoline and other fuels from crude oil and making coke from coal. Will occur in gasoline exhaust. Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.[4]

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.

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EMSL Order #:	491500273
EMSL Sample #:	491500273-1
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
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Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **by G15**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2707.D	E0320	250 cc	1
Dilution1	03/26/2015	KW	K2719.D	E0320	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources

Sources References

(1) NJDEP "Common Household Sources of Background Indoor Air Contamination". June 26,2012
(2) NYSDOH "Volatile Organic Compounds (VOCs) in Commonly Used Products", 2007
(3) EPA, Air & Radiation, TTN Web - Technology Transfer NetworkAir Toxics Web site, various years.
(4) Agency for Toxic Substances and Disease Registry (ATSDR). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
(5) OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, August 1994, EPA 749-F-94-012a
(6) U.S. Environmental Protection Agency. Office of Research and Development, Cincinnati, OH. 1985.
(7) World Health Organization,
(8) Product Safety Assessment, Revised: November 19, 2010 The Dow Chemical Company
(9) California Office of Environmental Health Hazard Assessment, PROPOSED ACTION LEVEL FOR 2-CHLOROTOLUENE
(10) Delaware Health and Social Services, Division of Public Health, Revised: 01/2010
(11) USEPA, Envirofacts Master Chemical Integrator (EMCI), Scorecard, 4/10/2009

NJDEP Certification #: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
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Phone: **952-252-0405**
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Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **Rathskeller**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		310	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	N.E.		10.0	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	N.E.		N.E.	
Chloromethane	74-87-3	50.49	0.62		1.3	N.E.		9.40	
n-Butane	106-97-8	58.12	8.0		19	N.E.		N.E.	
Vinyl chloride	75-01-4	62.50	ND		ND	0.160		10.0	
1,3-Butadiene	106-99-0	54.09	ND		ND	0.0810		0.210	
Bromomethane	74-83-9	94.94	ND		ND	N.E.		0.520	
Chloroethane	75-00-3	64.52	ND		ND	N.E.		1000	
Ethanol	64-17-5	46.07	120	D	230	N.E.		N.E.	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	0.0760		0.310	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	N.E.		73.0	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	14		34	N.E.		730	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	N.E.		3100	
Acetone	67-64-1	58.08	46	D	110	N.E.		3200	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	N.E.		21.0	
Acetonitrile	75-05-8	41.00	ND		ND	N.E.		6.30	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	N.E.		N.E.	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	N.E.		N.E.	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	0.410		0.100	
Carbon disulfide	75-15-0	76.14	ND		ND	N.E.		73.0	
Methylene chloride	75-09-2	84.94	ND		ND	96.0		63.0	
Acrylonitrile	107-13-1	53.00	ND		ND	0.0360		0.210	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	9.40		310	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	N.E.		6.30	
n-Hexane	110-54-3	86.17	1.0		3.6	N.E.		73.0	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	1.50		N.E.	
Vinyl acetate	108-05-4	86.00	ND		ND	N.E.		21.0	
2-Butanone(MEK)	78-93-3	72.10	9.0		26	N.E.		520	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	N.E.		N.E.	
Ethyl acetate	141-78-6	88.10	0.67		2.4	N.E.		N.E.	
Chloroform	67-66-3	119.40	ND		ND	0.110		10.0	
Tetrahydrofuran	109-99-9	72.11	17		50	N.E.		210	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	N.E.		520	
Cyclohexane	110-82-7	84.16	2.8		10	N.E.		630	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	0.410		10.0	
n-Heptane	142-82-5	100.20	ND		ND	N.E.		N.E.	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	0.0940		0.730	
Benzene	71-43-2	78.11	ND		ND	0.310		3.10	
Trichloroethene	79-01-6	131.40	ND		ND	0.430		0.210	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	0.240		0.420	
Methyl Methacrylate	80-62-6	100.12	ND		ND	N.E.		73.0	
Bromodichloromethane	75-27-4	163.80	ND		ND	0.0660		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	0.320		11.0	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	N.E.		310	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	0.610		2.10	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	Rathskeller

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Toluene	108-88-3	92.14	13		48	N.E.		520	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	0.610		2.10	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	0.150		0.0210	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	N.E.		3.10	
Tetrachloroethene	127-18-4	165.80	ND		ND	9.40		4.20	
Dibromochloromethane	124-48-1	208.30	ND		ND	0.0900		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	0.00410		0.940	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		5.20	
Ethylbenzene	100-41-4	106.20	ND		ND	0.970		100	
Xylene (p,m)	1330-20-7	106.20	ND		ND	N.E.		10.0	
Xylene (Ortho)	95-47-6	106.20	ND		ND	N.E.		10.0	
Styrene	100-42-5	104.10	ND		ND	N.E.		100	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	N.E.		42.0	
Bromoform	75-25-2	252.80	ND		ND	2.20		N.E.	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	0.0420		N.E.	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	N.E.		N.E.	
2-Chlorotoluene	95-49-8	126.60	ND		ND	N.E.		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	N.E.		0.730	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	0.220		83.0	
Benzyl chloride	100-44-7	126.00	ND		ND	0.0500		0.100	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	N.E.		21.0	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	N.E.		0.210	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	0.110		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	0.0720		0.310	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
RBC= Risk Based Concentration

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
EPA III= USEPA Region 3, Mid-Atlantic

Reference
EPA Region III Risk-Based Concentration (RBC) Table, Nov 2012.

Carcinogenic Exceedence
Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected. Thus is a theoretical risk and not an actual epidemiological one.

NonCarcinogenic Exceedence
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deliterious health effects. Thus is a theoretical risk and not an actual epidemiological one.

NJDEP Certification #: 03036

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EMSL Order#: 491500273
EMSL Sample #: 491500273-2
Customer ID: ANGS50
Customer PO: Not Available

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Phone: 952-252-0405
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Date Collected: 03/13/2015
Date Received: 03/19/2015

Project: Capitol Bldg. Phase IV

Sample ID: Rathskeller

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	7000000		7000000	
Chloromethane	74-87-3	50.49	0.62		1.3	LFL		210000	
n-Butane	106-97-8	58.12	8.0		19	1900000		1900000	
Vinyl chloride	75-01-4	62.50	ND		ND	LFL		2600	
1,3-Butadiene	106-99-0	54.09	ND		ND	LFL		2200	
Bromomethane	74-83-9	94.94	ND		ND	LFL		78000	
Chloroethane	75-00-3	64.52	ND		ND	LFL		2600000	
Ethanol	64-17-5	46.07	120	D	230	1900000		1900000	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	LFL		N.E.	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	14		34	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	7700000		7700000	
Acetone	67-64-1	58.08	46	D	110	590000		2400000	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	790000		790000	
Acetonitrile	75-05-8	41.00	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	3100		3100	
Carbon disulfide	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	75-09-2	84.94	ND		ND	LFL		87000	
Acrylonitrile	107-13-1	53.00	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	N.E.		N.E.	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	790000		790000	
n-Hexane	110-54-3	86.17	1.0		3.6	1800000		1800000	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	108-05-4	86.00	ND		ND	14000		N.E.	
2-Butanone(MEK)	78-93-3	72.10	9.0		26	590000		590000	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	141-78-6	88.10	0.67		2.4	1400000		1400000	
Chloroform	67-66-3	119.40	ND		ND	9800		240000	
Tetrahydrofuran	109-99-9	72.11	17		50	590000		590000	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	1900000		1900000	
Cyclohexane	110-82-7	84.16	2.8		10	1000000		1000000	
2,2,4-Trimethylpentane(Iscoctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	13000		63000	
n-Heptane	142-82-5	100.20	ND		ND	350000		2000000	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	4000		200000	
Benzene	71-43-2	78.11	ND		ND	3000		3200	
Trichloroethene	79-01-6	131.40	ND		ND	135000		540000	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	LFL		350000	
Methyl Methacrylate	80-62-6	100.12	ND		ND	410000		410000	
Bromodichloromethane	75-27-4	163.80	ND		ND	N.E.		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	4500		N.E.	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	Rathskeller

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	108-88-3	92.14	13		48	380000		750000	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	4500		N.E.	
1,1,2-Trichlorcethane	79-00-5	133.40	ND		ND	55000		55000	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	4100		410000	
Tetrachlorcethene	127-18-4	165.80	ND		ND	LFC		680000	
Dibromochloromethane	124-48-1	208.30	ND		ND	N.E.		N.E.	
1,2-Dibromcethane	106-93-4	187.80	ND		ND	350		150000	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		350000	
Ethylbenzene	100-41-4	106.20	ND		ND	430000		430000	
Xylene (p.m)	1330-20-7	106.20	ND		ND	430000		430000	
Xylene (Ortho)	95-47-6	106.20	ND		ND	430000		430000	
Styrene	100-42-5	104.10	ND		ND	210000		430000	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	250000		250000	
Bromoform	75-25-2	252.80	ND		ND	5200		5200	
1,1,2,2-Tetrachlorcethane	79-34-5	167.90	ND		ND	6900		34000	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	120000		120000	
2-Chlorotoluene	95-49-8	126.60	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	120000		120000	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	LFC		450000	
Benzyl chloride	100-44-7	126.00	ND		ND	5200		5200	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	210		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	52000		52000	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
REL= Recommended Exposure Limit, PEL= Permissable Exposure Limit

Compound Exposure Definitions
NE= No limit Established

Agency Definitions
NIOSH= The National Institute for Occupational Safety

Reference
Occupational Safety and Health Administration (OSHA) General Industry Air Contaminants Standard (29 CFR 1910.1000)

NJDEP Certification #: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	Rathskeller

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources
Chloromethane	74-87-3	0.62		1.3	Most (99%) of the chloromethane in the environment comes from natural sources. Because chloromethane is made in the oceans by natural processes, it is present in air all over the world. In most areas, the outside air contains less than 1 part of chloromethane in a billion parts of air (ppb). In cities, human activities, mostly combustion and manufacturing, add to the chloromethane in the air, resulting in somewhat higher levels, up to 1 ppb. Cigarette smoke, polystyrene insulation, and aerosol propellants; home burning of wood, coal, or certain plastics; and chlorinated swimming pools.[4]
n-Butane	106-97-8	8.0		19	Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides.[2]
Ethanol	64-17-5	120	D	230	Hand sanitizers, disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Iscpropyl alcohol(2-Propanol)	67-63-0	14		34	Eye Glass Cleaners. Disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Acetone	67-64-1	46	D	110	Rubber cement, cleaning fluids, scented candles and nail polish remover.[1]
n-Hexane	110-54-3	1.0		3.6	Gasoline, rubber cement, typing correction fluid and aerosols in perfumes.[1]
2-Butanone(MEK)	78-93-3	9.0		26	2-Butanone is produced in large quantities. Nearly half of its use is in paints and other coatings because it will quickly evaporate into the air and it dissolves many substances.[4] Can occur from automobile exhaust, printing inks, fragrance/flavoring agent in candy and perfume, paint, glue, cleaning agents and cigarette smoke.[1]
Ethyl acetate	141-78-6	0.67		2.4	Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Tetrahydrofuran	109-99-9	17		50	PVC cement and primer, various adhesives, contact cement, model cement.[2]
Cyclohexane	110-82-7	2.8		10	Cyclohexane can be added to lacquers and resins, paint and varnish removers, and fungicides. It is also used as a fuel for camp stoves. Exposure can also occur when people use products that contain cyclohexane or when they smoke cigarettes.[4]
Toluene	108-88-3	13		48	Toluene is produced in the process of making gasoline and other fuels from crude oil and making coke from coal. Will occur in gasoline exhaust. Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.[4]

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.

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EMSL Order #:	491500273
EMSL Sample #:	491500273-2
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	Rathskeller

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2708.D	E0281	250 cc	1
Dilution1	03/26/2015	KW	K2720.D	E0281	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources

Sources References

(1) NJDEP "Common Household Sources of Background Indoor Air Contamination", June 26, 2012
(2) NYSDOH "Volatile Organic Compounds (VOCs) in Commonly Used Products", 2007
(3) EPA, Air & Radiation, TTN Web - Technology Transfer NetworkAir Toxics Web site, various years.
(4) Agency for Toxic Substances and Disease Registry (ATSDR). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
(5) OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, August 1994, EPA 749-F-94-012a
(6) U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH. 1985.
(7) World Health Organization,
(8) Product Safety Assessment, Revised: November 19, 2010 The Dow Chemical Company
(9) California Office of Environmental Health Hazard Assessment, PROPOSED ACTION LEVEL FOR 2-CHLOROTOLUENE
(10) Delaware Health and Social Services, Division of Public Health, Revised: 01/2010
(11) USEPA, Envirofacts Master Chemical Integrator (EMCI), Scorecard, 4/10/2009

NJDEP Certification #: 03036

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EMSL Order #: 491500273
EMSL Sample #: 491500273-3
Customer ID: ANGS50
Customer PO: Not Available

Attn: Kevin Hagen
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St Louis Park, MN 55416

Phone: 952-252-0405
Fax: 952-252-0407
Date Collected: 03/13/2015
Date Received: 03/19/2015

Project: Capitol Bldg. Phase IV

Sample ID: 2nd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	NonCarcin. ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		30	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	N.E.		110	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	N.E.		NE.	
Chloromethane	74-87-3	50.49	**0.56**		**1.2**	N.E.		90	
n-Butane	106-97-8	58.12	**4.2**		**10**	N.E.		NE.	
Vinyl chloride	75-01-4	62.50	ND		ND	0.160		100	
1,3-Butadiene	106-99-0	54.09	ND		ND	0.0810		0.210	
Bromomethane	74-83-9	94.94	ND		ND	N.E.		0.520	
Chloroethane	75-00-3	64.52	ND		ND	N.E.		1000	
Ethanol	64-17-5	46.07	**83**	E	**160**	N.E.		NE.	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	0.0760		0.210	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	N.E.		730	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	**4.5**		**11**	N.E.		700	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	N.E.		3000	
Acetone	67-64-1	58.08	**36**		**85**	N.E.		3200	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	N.E.		210	
Acetonitrile	75-05-8	41.00	ND		ND	N.E.		630	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	N.E.		NE.	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	N.E.		NE.	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	0.410		0.100	
Carbon disulfide	75-15-0	76.14	ND		ND	N.E.		730	
Methylene chloride	75-09-2	84.94	ND		ND	96.0		600	
Acrylonitrile	107-13-1	53.00	ND		ND	0.0360		0.210	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	9.40		300	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	N.E.		6300	
n-Hexane	110-54-3	86.17	**0.92**		**3.2**	N.E.		730	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	1.50		NE.	
Vinyl acetate	108-05-4	86.00	ND		ND	N.E.		210	
2-Butanone(MEK)	78-93-3	72.10	**6.7**		**20**	N.E.		3200	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	N.E.		NE.	
Ethyl acetate	141-78-6	88.10	**0.82**		**3.0**	N.E.		NE.	
Chloroform	67-66-3	119.40	ND		ND	0.110		100	
Tetrahydrofuran	109-99-9	72.11	**12**		**35**	N.E.		210	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	N.E.		3200	
Cyclohexane	110-82-7	84.16	**0.50**		**1.7**	N.E.		3300	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		NE.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	0.410		100	
n-Heptane	142-82-5	100.20	ND		ND	N.E.		NE.	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	0.0940		0.730	
Benzene	71-43-2	78.11	ND		ND	0.310		3.10	
Trichloroethene	79-01-6	131.40	ND		ND	0.430		0.210	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	0.240		0.420	
Methyl Methacrylate	80-62-6	100.12	ND		ND	N.E.		730	
Bromodichloromethane	75-27-4	163.80	ND		ND	0.0660		NE.	
1,4-Dioxane	123-91-1	88.12	ND		ND	0.320		11.0	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	N.E.		310	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	0.810		2.10	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-3
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	2nd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E047	250 cc	1

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Toluene	108-88-3	92.14	8.5		32	N.E.		520	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	0.610		2.10	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	0.150		0.0210	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	N.E.		3.10	
Tetrachloroethene	127-18-4	165.80	ND		ND	9.40		4.20	
Dibromochloromethane	124-48-1	208.30	ND		ND	0.0900		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	0.00410		0.940	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		5.20	
Ethylbenzene	100-41-4	106.20	ND		ND	0.970		100	
Xylene (p,m)	1330-20-7	106.20	ND		ND	N.E.		10.0	
Xylene (Ortho)	95-47-6	106.20	ND		ND	N.E.		10.0	
Styrene	100-42-5	104.10	ND		ND	N.E.		100	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	N.E.		42.0	
Bromoform	75-25-2	252.80	ND		ND	2.20		N.E.	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	0.0420		N.E.	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	N.E.		N.E.	
2-Chlorotoluene	95-49-8	126.60	ND		ND	N.E.		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	N.E.		0.730	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	0.220		83.0	
Benzyl chloride	100-44-7	126.00	ND		ND	0.0500		0.100	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	N.E.		21.0	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	N.E.		0.210	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	0.110		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	0.0720		0.310	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column used to flag exceedences as marked

Exposure Limit Definitions
RBC= Risk Based Concentration

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
EPA III= USEPA Region 3, Mid-Atlantic

Reference
EPA Region III Risk-Based Concentration (RBC) Table, Nov 2012.

Carcinogenic Exceedence
Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected. Thus is a theoretical risk and not an actual epidemiological one.

NonCarcinogenic Exceedence
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deliterious health effects. Thus is a theoretical risk and not an actual epidemiological one.

NJDEP Certification #: 03036

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EMSL Order #: **491500273**
EMSL Sample #: **491500273-3**
Customer ID: **ANGS50**
Customer PO: **Not Available**

Attn: **Kevin Hagen**
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5001 Cedar Lake Road
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Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **2nd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	7000000		7000000	
Chloromethane	74-87-3	50.49	0.56		1.2	LFC		210000	
n-Butane	106-97-8	58.12	4.2		10	1900000		1900000	
Vinyl chloride	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	75-00-3	64.52	ND		ND	LFC		2600000	
Ethanol	64-17-5	46.07	83	E	160	1900000		1900000	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.5		11	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	7700000		7700000	
Acetone	67-64-1	58.08	36		85	590000		2400000	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	790000		790000	
Acetonitrile	75-05-8	41.00	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	3100		3100	
Carbon disulfide	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	75-09-2	84.94	ND		ND	LFC		87000	
Acrylonitrile	107-13-1	53.00	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	N.E.		N.E.	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	790000		790000	
n-Hexane	110-54-3	86.17	0.92		3.2	180000		1800000	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	108-05-4	86.00	ND		ND	14000		N.E.	
2-Butanone(MEK)	78-93-3	72.10	6.7		20	590000		590000	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	141-78-6	88.10	0.82		3.0	1400000		1400000	
Chloroform	67-66-3	119.40	ND		ND	9800		240000	
Tetrahydrofuran	109-99-9	72.11	12		35	590000		590000	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	1900000		1900000	
Cyclohexane	110-82-7	84.16	0.50		1.7	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	13000		63000	
n-Heptane	142-82-5	100.20	ND		ND	350000		2000000	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	4000		200000	
Benzene	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	79-01-6	131.40	ND		ND	130000		540000	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	LFC		350000	
Methyl Methacrylate	80-62-6	100.12	ND		ND	410000		410000	
Bromodichloromethane	75-27-4	163.80	ND		ND	N.E.		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	4500		N.E.	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-3
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **2nd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	108-88-3	92.14	8.5		32	380000		750000	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	55000		55000	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	4100		410000	
Tetrachloroethene	127-18-4	165.80	ND		ND	LFC		680000	
Dibromochloromethane	124-48-1	208.30	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	350		150000	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		350000	
Ethylbenzene	100-41-4	106.20	ND		ND	430000		430000	
Xylene (p,m)	1330-20-7	106.20	ND		ND	430000		430000	
Xylene (Ortho)	95-47-6	106.20	ND		ND	430000		430000	
Styrene	100-42-5	104.10	ND		ND	210000		430000	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	250000		250000	
Bromoform	75-25-2	252.80	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	6900		34000	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	120000		120000	
2-Chlorotoluene	95-49-8	126.60	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	120000		120000	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	LFC		450000	
Benzyl chloride	100-44-7	126.00	ND		ND	5200		5200	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	210		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	52000		52000	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
REL= Recommended Exposure Limit, PEL= Permissable Exposure Limit

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
NIOSH= The National Institute for Occupational Safety

Reference
Occupational Safety and Health Administration (OSHA) General Industry Air Contaminants Standard (29 CFR 1910.1000)

NJDEP Certification #: 03036

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EMSL Order #: 49500273
EMSL Sample #: 49500273-3
Customer ID: ANGS50
Customer PO: Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: 952-252-0405
Fax: 952-252-0407
Date Collected: 03/3/2015
Date Received: 03/9/2015

Project: **Capitol Bldg. Phase IV**

Sample ID: 2nd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources
Chloromethane	74-87-3	0.56		1.2	Most (99%) of the chloromethane in the environment comes from natural sources. Because chloromethane is made in the oceans by natural processes, it is present in air all over the world. In most areas, the outside air contains less than 1 part of chloromethane in a billion parts of air (ppb). In cities, human activities, mostly combustion and manufacturing, add to the chloromethane in the air, resulting in somewhat higher levels, up to 1 ppb. Cigarette smoke, polystyrene insulation, and aerosol propellants; home burning of wood, coal, or certain plastics; and chlorinated swimming pools.[4]
n-Butane	106-97-8	4.2		10	Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides.[2]
Ethanol	64-17-5	83	E	160	Hand sanitizers, disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Isopropyl alcohol(2-Propanol)	67-63-0	4.5		11	Eye Glass Cleaners. Disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Acetone	67-64-1	36		85	Rubber cement, cleaning fluids, scented candles and nail polish remover.[1]
n-Hexane	110-54-3	0.92		3.2	Gasoline, rubber cement, typing correction fluid and aerosols in perfumes.[1]
2-Butanone(MEK)	78-93-3	6.7		20	2-Butanone is produced in large quantities. Nearly half of its use is in paints and other coatings because it will quickly evaporate into the air and it dissolves many substances.[4] Can occur from automobile exhaust, printing inks, fragrance/flavoring agent in candy and perfume, paint, glue, cleaning agents and cigarette smoke.[1]
Ethyl acetate	141-78-6	0.82		3.0	Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Tetrahydrofuran	109-99-9	12		35	PVC cement and primer, various adhesives, contact cement, model cement.[2]
Cyclohexane	110-82-7	0.50		1.7	Cyclohexane can be added to lacquers and resins, paint and varnish removers, and fungicides. It is also used as a fuel for camp stoves. Exposure can also occur when people use products that contain cyclohexane or when they smoke cigarettes.[4]
Toluene	108-88-3	8.5		32	Toluene is produced in the process of making gasoline and other fuels from crude oil and making coke from coal. Will occur in gasoline exhaust. Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.[4]

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.

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EMSL Order #:	491500273
EMSL Sample #:	491500273-3
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
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St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **2nd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2709.D	E0477	250 cc	1

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources

Sources References

(1) NJDEP "Common Household Sources of Background Indoor Air Contamination". June 26, 2012
(2) NYSDOH "Volatile Organic Compounds (VOCs) in Commonly Used Products", 2007
(3) EPA, Air & Radiation, TTN Web - Technology Transfer NetworkAir Toxics Web site, various years.
(4) Agency for Toxic Substances and Disease Registry (ATSDR). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
(5) OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, August 1994, EPA 749-F-94-012a
(6) U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH. 1985.
(7) World Health Organization,
(8) Product Safety Assessment, Revised: November 19, 2010 The Dow Chemical Company
(9) California Office of Environmental Health Hazard Assessment, PROPOSED ACTION LEVEL FOR 2-CHLOROTOLUENE
(10) Delaware Health and Social Services, Division of Public Health, Revised: 01/2010
(11) USEPA, Envirofacts Master Chemical Integrator (EMCI), Scorecard, 4/10/2009

NJDEP Certification #: 03036

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EMSL Order#:	491500273
EMSL Sample#:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
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Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **3rd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		310	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	N.E.		10.0	
Freon 114(1,2-Dichlorotetrafluorcethan	76-14-2	170.90	ND		ND	N.E.		N.E.	
Chloromethane	74-87-3	50.49	0.64		1.3	N.E.		9.40	
n-Butane	106-97-8	58.12	6.6		16	N.E.		N.E.	
Vinyl chloride	75-01-4	62.50	ND		ND	0.160		10.0	
1,3-Butadiene	106-99-0	54.09	ND		ND	0.0810		0.210	
Bromomethane	74-83-9	94.94	ND		ND	N.E.		0.520	
Chloroethane	75-00-3	64.52	ND		ND	N.E.		1000	
Ethanol	64-17-5	46.07	73	D	140	N.E.		N.E.	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	0.0760		0.310	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	N.E.		73.0	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.8		12	N.E.		730	
Freon 113(1,1,2-Trichlorotrifluorcethan	76-13-1	187.40	ND		ND	N.E.		3100	
Acetone	67-64-1	58.08	46	D	110	N.E.		3200	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	N.E.		21.0	
Acetonitrile	75-05-8	41.00	ND		ND	N.E.		6.30	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	N.E.		N.E.	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	N.E.		N.E.	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	0.310		0.100	
Carbon disulfide	75-15-0	76.14	ND		ND	N.E.		73.0	
Methylene chloride	75-09-2	84.94	0.76		2.6	2.60		63.0	
Acrylonitrile	107-13-1	53.00	ND		ND	0.0460		0.210	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	940		310	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	N.E.		6.30	
n-Hexane	110-54-3	86.17	1.6		5.5	N.E.		73.0	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	150		N.E.	
Vinyl acetate	108-05-4	86.00	ND		ND	N.E.		21.0	
2-Butanone(MEK)	78-93-3	72.10	7.9		23	N.E.		520	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	N.E.		N.E.	
Ethyl acetate	141-78-6	88.10	0.61		2.2	N.E.		N.E.	
Chloroform	67-66-3	119.40	ND		ND	0.110		10.0	
Tetrahydrofuran	109-99-9	72.11	15		46	N.E.		210	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	N.E.		520	
Cyclohexane	110-82-7	84.16	1.3		4.3	N.E.		630	
2,2,4-Trimethylpentane(Iscoctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	0.310		10.0	
n-Heptane	142-82-5	100.20	ND		ND	N.E.		N.E.	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	0.0940		0.730	
Benzene	71-43-2	78.11	ND		ND	0.310		3.10	
Trichloroethene	79-01-6	131.40	ND		ND	0.430		0.210	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	0.240		0.420	
Methyl Methacrylate	80-62-6	100.12	ND		ND	N.E.		73.0	
Bromodichloromethane	75-27-4	163.80	ND		ND	0.0660		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	0.320		11.0	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	N.E.		310	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	0.310		2.10	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	3rd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/25/2015	KW	K2721.D	E15321	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	NonCarcin. ug/m3	>
Toluene	108-88-3	92.14	14		53	N.E.		520	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	0.610		2.10	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	0.150		0.0210	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	N.E.		3.10	
Tetrachloroethene	127-18-4	165.80	ND		ND	9.40		4.20	
Dibromochloromethane	124-48-1	208.30	ND		ND	0.0900		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	0.00410		0.340	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		5.20	
Ethylbenzene	100-41-4	106.20	ND		ND	0.970		100	
Xylene (p,m)	1330-20-7	106.20	ND		ND	N.E.		10.0	
Xylene (Ortho)	95-47-6	106.20	ND		ND	N.E.		10.0	
Styrene	100-42-5	104.10	ND		ND	N.E.		100	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	N.E.		42.0	
Bromoform	75-25-2	252.80	ND		ND	2.20		N.E.	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	0.0420		N.E.	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	N.E.		N.E.	
2-Chlorotoluene	95-49-8	126.60	ND		ND	N.E.		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	N.E.		0.730	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	0.220		63.0	
Benzyl chloride	100-44-7	126.00	ND		ND	0.0500		0.100	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	N.E.		21.0	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	N.E.		0.210	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	0.110		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	0.0720		0.310	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
RBC= Risk Based Concentration

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
EPA III= USEPA Region 3, Mid-Atlantic

Reference
EPA Region III Risk-Based Concentration (RBC) Table, Nov 2012.

Carcinogenic Exceedence
Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected. Thus is a theoretical risk and not an actual epidemiological one.

NonCarcinogenic Exceedence
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deliterious health effects. Thus is a theoretical risk and not an actual epidemiological one.

NJDEP Certification #: 03036

EMSL Analytical
200 Route 130 North, Cinnaminson, NJ 08077
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http://www.EMSL.com to15lab@EMSL.com

EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **3rd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	7000000		7000000	
Chloromethane	74-87-3	50.49	0.64		1.3	LFC		210000	
n-Butane	106-97-8	58.12	6.6		16	1900000		1900000	
Vinyl chloride	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	75-00-3	64.52	ND		ND	LFC		2600000	
Ethanol	64-17-5	46.07	73	D	140	1900000		1900000	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.8		12	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	7700000		7700000	
Acetone	67-64-1	58.08	46	D	110	590000		2400000	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	790000		790000	
Acetonitrile	75-05-8	41.00	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	3100		3100	
Carbon disulfide	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	75-09-2	84.94	0.76		2.6	LFC		87000	
Acrylonitrile	107-13-1	53.00	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	N.E.		N.E.	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	790000		790000	
n-Hexane	110-54-3	86.17	1.6		5.5	180000		1800000	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	108-05-4	86.00	ND		ND	14000		N.E.	
2-Butanone(MEK)	78-93-3	72.10	7.9		23	590000		590000	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	141-78-6	88.10	0.61		2.2	1400000		1400000	
Chloroform	67-66-3	119.40	ND		ND	9800		240000	
Tetrahydrofuran	109-99-9	72.11	15		46	590000		590000	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	1900000		1900000	
Cyclohexane	110-82-7	84.16	1.3		4.3	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	13000		63000	
n-Heptane	142-82-5	100.20	ND		ND	350000		2000000	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	4000		200000	
Benzene	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	79-01-6	131.40	ND		ND	130000		540000	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	LFC		350000	
Methyl Methacrylate	80-62-6	100.12	ND		ND	410000		410000	
Bromodichloromethane	75-27-4	163.80	ND		ND	N.E.		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	4500		N.E.	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-8405 952-252-8407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	3rd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	108-88-3	92.14	14		53	380000		750000	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	55000		55000	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	4100		410000	
Tetrachloroethene	127-18-4	165.80	ND		ND	LFC		680000	
Dibromochloromethane	124-48-1	208.30	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	350		150000	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		350000	
Ethylbenzene	100-41-4	106.20	ND		ND	430000		430000	
Xylene (p,m)	1330-20-7	106.20	ND		ND	430000		430000	
Xylene (Ortho)	95-47-6	106.20	ND		ND	430000		430000	
Styrene	100-42-5	104.10	ND		ND	210000		430000	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	250000		250000	
Bromoform	75-25-2	252.80	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	6900		34000	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	120000		120000	
2-Chlorotoluene	95-49-8	126.60	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	120000		120000	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	LFC		450000	
Benzyl chloride	100-44-7	126.00	ND		ND	5200		5200	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	210		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	52000		52000	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
REL= Recommended Exposure Limit, PEL= Permissable Exposure Limit

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
NIOSH= The National Institute for Occupational Safety

Reference
Occupational Safety and Health Administration (OSHA) General Industry Air Contaminants Standard (29 CFR 1910.1000)

NJDEP Certification#: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	3rd Fl.

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources
Chloromethane	74-87-3	0.64		1.3	Most (99%) of the chloromethane in the environment comes from natural sources. Because chloromethane is made in the oceans by natural processes, it is present in air all over the world. In most areas, the outside air contains less than 1 part of chloromethane in a billion parts of air (ppb). In cities, human activities, mostly combustion and manufacturing, add to the chloromethane in the air, resulting in somewhat higher levels, up to 1 ppb. Cigarette smoke, polystyrene insulation, and aerosol propellants; home burning of wood, coal, or certain plastics; and chlorinated swimming pools.[4]
n-Butane	106-97-8	6.6		16	Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides.[2]
Ethanol	64-17-5	73	D	140	Hand sanitizers, disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Isopropyl alcohol(2-Propanol)	67-63-0	4.8		12	Eye Glass Cleaners. Disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Acetone	67-64-1	46	D	110	Rubber cement, cleaning fluids, scented candles and nail polish remover.[1]
Methylene chloride	75-09-2	0.76		2.6	Methylene chloride is used as an industrial solvent and as a paint stripper. It may also be found in some aerosol and pesticide products and is used in the manufacture of photographic film.[4] Hairspray, paint stripper, rug cleaners,
n-Hexane	110-54-3	1.6		5.5	Gasoline, rubber cement, typing correction fluid and aerosols in perfumes.[1]
2-Butanone(MEK)	78-93-3	7.9		23	2-Butanone is produced in large quantities. Nearly half of its use is in paints and other coatings because it will quickly evaporate into the air and it dissolves many substances.[4] Can occur from automobile exhaust, printing inks, fragrance/flavoring agent in candy and perfume, paint, glue, cleaning agents and cigarette smoke.[1]
Ethyl acetate	141-78-6	0.61		2.2	Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Tetrahydrofuran	109-99-9	15		46	PVC cement and primer, various adhesives, contact cement, model cement.[2]
Cyclohexane	110-82-7	1.3		4.3	Cyclohexane can be added to lacquers and resins, paint and varnish removers, and fungicides. It is also used as a fuel for camp stoves. Exposure can also occur when people use products that contain cyclohexane or when they smoke cigarettes.[4]
Toluene	108-88-3	14		53	Toluene is produced in the process of making gasoline and other fuels from crude oil and making coke from coal. Will occur in gasoline exhaust. Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.[4]

Qualifier Definitions
ND = Non Detect

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EMSL Order #:	491500273
EMSL Sample #:	491500273-4
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **3rd Fl.**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2710.D	E15321	250 cc	1
Dilution1	03/26/2015	KW	K2721.D	E15321	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources

B = Compound also found in method blank.
E= Estimated concentration exceeding upper calibration range.
D= Result reported from diluted analysis.

Sources References

(1) NJDEP "Common Household Sources of Background Indoor Air Contamination". June 26, 2012
(2) NYSDOH "Volatile Organic Compounds (VOCs) in Commonly Used Products", 2007
(3) EPA, Air & Radiation, TTN Web - Technology Transfer NetworkAir Toxics Web site, various years.
(4) Agency for Toxic Substances and Disease Registry (ATSDR). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
(5) OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, August 1994, EPA 749-F-94-012a
(6) U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH. 1985.
(7) World Health Organization,
(8) Product Safety Assessment, Revised: November 19, 2010 The Dow Chemical Company
(9) California Office of Environmental Health Hazard Assessment, PROPOSED ACTION LEVEL FOR 2-CHLOROTOLUENE
(10) Delaware Health and Social Services, Division of Public Health, Revised: 01/2010
(11) USEPA, Envirofacts Master Chemical Integrator (EMCI), Scorecard, 4/10/2009

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	1st Fl. N. Cornd

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Non-Carcin. ug/m3	>
Propylene	115-07-1	42.08	ND		[illegible]	N.E.		310	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		[illegible]	N.E.		10.0	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		[illegible]	N.E.		N.E.	
Chloromethane	74-87-3	50.49	0.62		[illegible]	N.E.		9.40	
n-Butane	106-97-8	58.12	7.7		[illegible]	N.E.		N.E.	
Vinyl chloride	75-01-4	62.50	ND		[illegible]	0.160		10.0	
1,3-Butadiene	106-99-0	54.09	ND		[illegible]	0.0810		0.210	
Bromomethane	74-83-9	94.94	ND		[illegible]	N.E.		0.520	
Chloroethane	75-00-3	64.52	ND		[illegible]	N.E.		1000	
Ethanol	64-17-5	46.07	59	D	[illegible]	N.E.		N.E.	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		[illegible]	0.0760		0.310	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		[illegible]	N.E.		73.0	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	3.9		[illegible]	N.E.		730	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		[illegible]	N.E.		3100	
Acetone	67-64-1	58.08	74	D	[illegible]	N.E.		3200	
1,1-Dichloroethene	75-35-4	96.94	ND		[illegible]	N.E.		21.0	
Acetonitrile	75-05-8	41.00	ND		[illegible]	N.E.		6.30	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		[illegible]	N.E.		N.E.	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		[illegible]	N.E.		N.E.	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		[illegible]	0.410		0.100	
Carbon disulfide	75-15-0	76.14	ND		[illegible]	N.E.		73.0	
Methylene chloride	75-09-2	84.94	ND		[illegible]	96.0		63.0	
Acrylonitrile	107-13-1	53.00	ND		[illegible]	0.0360		0.210	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		[illegible]	9.40		310	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		[illegible]	N.E.		6.30	
n-Hexane	110-54-3	86.17	1.8		[illegible]	N.E.		73.0	
1,1-Dichloroethane	75-34-3	98.96	ND		[illegible]	1.50		N.E.	
Vinyl acetate	108-05-4	86.00	ND		[illegible]	N.E.		21.0	
2-Butanone(MEK)	78-93-3	72.10	16		[illegible]	N.E.		520	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		[illegible]	N.E.		N.E.	
Ethyl acetate	141-78-6	88.10	0.77		[illegible]	N.E.		N.E.	
Chloroform	67-66-3	119.40	ND		[illegible]	0.110		10.0	
Tetrahydrofuran	109-99-9	72.11	27		[illegible]	N.E.		210	
1,1,1-Trichloroethane	71-55-6	133.40	ND		[illegible]	N.E.		520	
Cyclohexane	110-82-7	84.16	2.5		[illegible]	N.E.		630	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		[illegible]	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		[illegible]	0.410		10.0	
n-Heptane	142-82-5	100.20	ND		[illegible]	N.E.		N.E.	
1,2-Dichloroethane	107-06-2	98.96	ND		[illegible]	0.0940		0.730	
Benzene	71-43-2	78.11	ND		[illegible]	0.310		3.10	
Trichloroethene	79-01-6	131.40	ND		[illegible]	0.430		0.210	
1,2-Dichloropropane	78-87-5	113.00	ND		[illegible]	0.240		0.420	
Methyl Methacrylate	80-62-6	100.12	ND		[illegible]	N.E.		73.0	
Bromodichloromethane	75-27-4	163.80	ND		[illegible]	0.0660		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		[illegible]	0.320		11.0	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		[illegible]	N.E.		310	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		[illegible]	0.610		2.10	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	1st Fl. N. Corne

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

USEPA Residential Air Generic Screening Level Summary Table

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	Carcinogenic ug/m3	>	Noncarcin. ug/m3	>
Toluene	108-88-3	92.14	24		92	N.E.		5[illegible]	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	0.610		2[illegible]	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	0.150		0.[illegible]0	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	N.E.		3[illegible]	
Tetrachloroethene	127-18-4	165.80	ND		ND	9.40		4[illegible]	
Dibromochloromethane	124-48-1	208.30	ND		ND	0.0900		NE	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	0.00410		0.[illegible]0	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		5[illegible]	
Ethylbenzene	100-41-4	106.20	ND		ND	0.970		1[illegible]	
Xylene (p,m)	1330-20-7	106.20	ND		ND	N.E.		1[illegible]	
Xylene (Ortho)	95-47-6	106.20	ND		ND	N.E.		1[illegible]	
Styrene	100-42-5	104.10	ND		ND	N.E.		1[illegible]	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	N.E.		4[illegible]	
Bromoform	75-25-2	252.80	ND		ND	2.20		NE	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	0.0420		NE	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		NE	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	N.E.		NE	
2-Chlorotoluene	95-49-8	126.60	ND		ND	N.E.		NE	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	N.E.		0.[illegible]0	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		NE	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	0.220		8[illegible]0	
Benzyl chloride	100-44-7	126.00	ND		ND	0.0500		0.[illegible]0	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	N.E.		2[illegible]0	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	N.E.		0.[illegible]0	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	0.110		NE	
Naphthalene	91-20-3	128.17	ND		ND	0.0720		0.[illegible]0	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedences as marked

Exposure Limit Definitions
RBC= Risk Based Concentration

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
EPA III= USEPA Region 3, Mid-Atlantic

Reference
EPA Region III Risk-Based Concentration (RBC) Table, Nov 2012.

Carcinogenic Exceedence
Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected. Thus is a theoretical risk and not an actual epidemiological one.

NonCarcinogenic Exceedence
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deliterious health effects. Thus is a theoretical risk and not an actual epidemiological one.

NJDEP Certification #: 03[illegible]

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EMSL Order #: 491500273
EMSL Sample #: 491500273-5
Customer ID: ANGS50
Customer PO: Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: 952-252-0405
Fax: 952-252-0407
Date Collected: 03/13/2015
Date Received: 03/19/2015

Project: **Capitol Bldg. Phase IV**

Sample ID: 1st Fl. N. Corrid

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.90	ND		ND	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.90	ND		ND	7000000		7000000	
Chloromethane	74-87-3	50.49	0.62		1.3	LFC		210000	
n-Butane	106-97-8	58.12	7.7		18	1900000		1900000	
Vinyl chloride	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	75-00-3	64.52	ND		ND	LFC		2600000	
Ethanol	64-17-5	46.07	59	D	110	1900000		1900000	
Bromoethene(Vinyl bromide)	593-60-2	106.90	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	75-69-4	137.40	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	3.9		10	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.40	ND		ND	7700000		7700000	
Acetone	67-64-1	58.08	74	D	170	590000		2400000	
1,1-Dichloroethene	75-35-4	96.94	ND		ND	790000		790000	
Acetonitrile	75-05-8	41.00	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	74-96-4	108.00	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND		ND	3100		3100	
Carbon disulfide	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	75-09-2	84.94	ND		ND	LFC		87000	
Acrylonitrile	107-13-1	53.00	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND		ND	N.E.		N.E.	
trans-1,2-Dichloroethene	156-60-5	96.94	ND		ND	790000		790000	
n-Hexane	110-54-3	86.17	1.8		6.4	180000		1800000	
1,1-Dichloroethane	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	108-05-4	86.00	ND		ND	14000		N.E.	
2-Butanone(MEK)	78-93-3	72.10	16		47	590000		590000	
cis-1,2-Dichloroethene	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	141-78-6	88.10	0.77		2.8	1400000		1400000	
Chloroform	67-66-3	119.40	ND		ND	9800		240000	
Tetrahydrofuran	109-99-9	72.11	27		79	590000		590000	
1,1,1-Trichloroethane	71-55-6	133.40	ND		ND	1900000		1900000	
Cyclohexane	110-82-7	84.16	2.5		8.5	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.20	ND		ND	N.E.		N.E.	
Carbon tetrachloride	56-23-5	153.80	ND		ND	13000		63000	
n-Heptane	142-82-5	100.20	ND		ND	350000		2000000	
1,2-Dichloroethane	107-06-2	98.96	ND		ND	4000		200000	
Benzene	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	79-01-6	131.40	ND		ND	130000		540000	
1,2-Dichloropropane	78-87-5	113.00	ND		ND	LFC		350000	
Methyl Methacrylate	80-62-6	100.12	ND		ND	410000		410000	
Bromodichloromethane	75-27-4	163.80	ND		ND	N.E.		N.E.	
1,4-Dioxane	123-91-1	88.12	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.20	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	10061-01-5	111.00	ND		ND	4500		N.E.	

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn: **Kevin Hagen**
Angstrom Analytical, Inc.
5001 Cedar Lake Road
St Louis Park, MN 55416

Phone: **952-252-0405**
Fax: **952-252-0407**
Date Collected: **03/13/2015**
Date Received: **03/19/2015**

Project: **Capitol Bldg. Phase IV**

Sample ID: **1st Fl. N. Cornd**

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0[illegible]0	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0[illegible]0	50 cc	5

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	CAS#	MW	Result ppbv		Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	108-88-3	92.14	24		92	380000		750000	
trans-1,3-Dichloropropene**	10061-02-6	111.00	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	79-00-5	133.40	ND		ND	55000		55000	
2-Hexanone(MBK)	591-78-6	100.10	ND		ND	4100		410000	
Tetrachloroethene	127-18-4	165.80	ND		ND	LFC		680000	
Dibromochloromethane	124-48-1	208.30	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	106-93-4	187.80	ND		ND	350		150000	
Chlorobenzene	108-90-7	112.60	ND		ND	N.E.		350000	
Ethylbenzene	100-41-4	106.20	ND		ND	430000		430000	
Xylene (p,m)	1330-20-7	106.20	ND		ND	430000		430000	
Xylene (Ortho)	95-47-6	106.20	ND		ND	430000		430000	
Styrene	100-42-5	104.10	ND		ND	210000		430000	
Isopropylbenzene (cumene)	98-82-8	120.19	ND		ND	250000		250000	
Bromoform	75-25-2	252.80	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	79-34-5	167.90	ND		ND	6900		34000	
4-Ethyltoluene	622-96-8	120.20	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	108-67-8	120.20	ND		ND	120000		120000	
2-Chlorotoluene	95-49-8	126.60	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	95-63-6	120.20	ND		ND	120000		120000	
1,3-Dichlorobenzene	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	106-46-7	147.00	ND		ND	LFC		450000	
Benzyl chloride	100-44-7	126.00	ND		ND	5200		5200	
1,2-Dichlorobenzene	95-50-1	147.00	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	120-82-1	181.50	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	87-68-3	260.80	ND		ND	210		N.E.	
Naphthalene	91-20-3	128.17	ND		ND	52000		52000	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > columns used to flag exceedences as marked

Exposure Limit Definitions
REL= Recommended Exposure Limit, PEL= Permissable Exposure Limit

Compound Exposure Definitions
NE= No Limit Established

Agency Definitions
NIOSH= The National Institute for Occupational Safety

Reference
Occupational Safety and Health Administration (OSHA) General Industry Air Contaminants Standard (29 CFR 1910.1000)

NJDEP Certification #: 03036

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	1st Fl. N. Cornd

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources
Chloromethane	74-87-3	0.62		1.3	Most (99%) of the chloromethane in the environment comes from natural sources. Because chloromethane is made in the oceans by natural processes, it is present in air all over the world. In most areas, the outside air contains less than 1 part of chloromethane in a billion parts of air (ppb). In cities, human activities, mostly combustion and manufacturing, add to the chloromethane in the air, resulting in somewhat higher levels, up to 1 ppb. Cigarette smoke, polystyrene insulation, and aerosol propellants; home burning of wood, coal, or certain plastics; and chlorinated swimming pools.[4]
n-Butane	106-97-8	7.7		18	Aerosol spray products for some paints, cosmetics, automotive products, leather treatments, pesticides.[2]
Ethanol	64-17-5	59	D	110	Hand sanitizers, disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Isopropyl alcohol(2-Propanol)	67-63-0	3.9		10	Eye Glass Cleaners. Disinfecting wipes. Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Acetone	67-64-1	74	D	170	Rubber cement, cleaning fluids, scented candles and nail polish remover.[1]
n-Hexane	110-54-3	1.8		6.4	Gasoline, rubber cement, typing correction fluid and aerosols in perfumes.[1]
2-Butanone(MEK)	78-93-3	16		47	2-Butanone is produced in large quantities. Nearly half of its use is in paints and other coatings because it will quickly evaporate into the air and it dissolves many substances.[4] Can occur from automobile exhaust, printing inks, fragrance/flavoring agent in candy and perfume, paint, glue, cleaning agents and cigarette smoke.[1]
Ethyl acetate	141-78-6	0.77		2.8	Personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray.[2]
Tetrahydrofuran	109-99-9	27		79	PVC cement and primer, various adhesives, contact cement, model cement.[2]
Cyclohexane	110-82-7	2.5		8.5	Cyclohexane can be added to lacquers and resins, paint and varnish removers, and fungicides. It is also used as a fuel for camp stoves. Exposure can also occur when people use products that contain cyclohexane or when they smoke cigarettes.[4]
Toluene	108-88-3	24		92	Toluene is produced in the process of making gasoline and other fuels from crude oil and making coke from coal. Will occur in gasoline exhaust. Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.[4]

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.

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EMSL Order #:	491500273
EMSL Sample #:	491500273-5
Customer ID:	ANGS50
Customer PO:	Not Available

Attn:	Kevin Hagen Angstrom Analytical, Inc. 5001 Cedar Lake Road St Louis Park, MN 55416	Phone: Fax: Date Collected: Date Received:	952-252-0405 952-252-0407 03/13/2015 03/19/2015
Project:	Capitol Bldg. Phase IV	Sample ID:	1st Fl. N. Cornd

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	03/25/2015	KW	K2711.D	E0640	250 cc	1
Dilution1	03/26/2015	KW	K2722.D	E0640	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	Use and Possible Sources

Sources References

(1) NJDEP "Common Household Sources of Background Indoor Air Contamination". June 26, 2012
(2) NYSDOH "Volatile Organic Compounds (VOCs) in Commonly Used Products", 2007
(3) EPA, Air & Radiation, TTN Web - Technology Transfer NetworkAir Toxics Web site, various years.
(4) Agency for Toxic Substances and Disease Registry (ATSDR). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
(5) OFFICE OF POLLUTION PREVENTION AND TOXICS, U.S. ENVIRONMENTAL PROTECTION AGENCY, August 1994, EPA 749-F-94-012a
(6) U.S. Environmental Protection Agency, Office of Research and Development, Cincinnati, OH. 1985.
(7) World Health Organization,
(8) Product Safety Assessment, Revised: November 19, 2010 The Dow Chemical Company
(9) California Office of Environmental Health Hazard Assessment, PROPOSED ACTION LEVEL FOR 2-CHLOROTOLUENE
(10) Delaware Health and Social Services, Division of Public Health, Revised: 01/2010
(11) USEPA, Envirofacts Master Chemical Integrator (EMCI), Scorecard, 4/10/2009

NJDEP Certification #: 03036