JUNEAU COMMISSION ON SUSTAINABILITY AGENDA

May 01, 2024 at 12:00 PM

Zoom Webinar

https://juneau.zoom.us/j/88069534778 or Phone 1-253-215-8782 Meeting ID: 880 6953 4778

A. CALL TO ORDER

B. LAND ACKNOWLEDGEMENT

We would like to acknowledge that the City and Borough of Juneau is on Tlingit land, and wish to honor the indigenous people of this land. For more than ten thousand years, Alaska Native people have been and continue to be integral to the well-being of our community. We are grateful to be in this place, a part of this community, and to honor the culture, traditions, and resilience of the Tlingit people. Gunalchéesh!

C. ROLL CALL

D. APPROVAL OF AGENDA

E. APPROVAL OF MINUTES

1. April 3, 2024 - JCOS Regular Meeting Minutes

F. PUBLIC PARTICIPATION

G. AGENDA TOPICS

2. Who can speak on behalf of JCOS and when? – Nick Waldo
3. Energy Transitions Initiative Partnership Project (ETIPP) – Steve Behnke & Dianna Robinson
4. Clean Ports Grant Program letter of support – Dianna Robinson & Nick Waldo
5. Sustainability Session Debrief – Marian Call & Nick Waldo

H. INFORMATION ITEMS

6. Staff Update – Dianna Robinson (attached)
7. Centennial Hall Sustainability Success – CBJ Architecture (attached from Jeanne Rynne, Chief Architect)
8. Grant update – (attached from Ashley Heimbigner, Grant Manager)

I. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

J. NEXT MEETING DATE

9. Outreach Subcommittee Meeting – May 7, 2024, at 12-1 PM on Zoom
10. Regular Meeting – June 5, 2024, at 12-1 PM on Zoom

K. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 36 hours prior to any meeting so arrangements can be made for closed captioning or sign language interpreter services depending on the meeting format. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.gov.

Juneau Commission on Sustainability (JCOS)
2024 Regular Meeting
Saturday, April 3, 2024, Noon
Minutes

A. CALL TO ORDER

Chair Waldo called the meeting to order at 12:15 p.m.

B. LAND ACKNOWLEDGEMENT

C. ROLL CALL

1. Present: Nick Waldo, Gretchen Keiser, Duff Mitchell, Steve Behnke, Jim Powell, Marian Call
2. Absent: Jessica Barker, Laura Achee, David Teal
3. Staff & Others Present: Dianna Robinson, CBJ staff liaison; Matthew Sill, Docks & Harbors; Lori Sowa, AELP

D. APPROVAL OF AGENDA

Approved with added item to advance FY25 CIP recommendation.

E. APPROVAL OF MINUTES

1. March 6, 2024 - JCOS Regular Meeting Minutes. Approved as amended to reflect that JCOS' March 1 CIP recommendation was not forwarded to the PWFC as intended and addressed.
2. March 12, 2024 - JCOS Outreach Subcommittee Meeting Minutes. Approved.

F. PUBLIC PARTICIPATION

None

G. AGENDA TOPICS

1. Sustainability Sessions - Nick provided an update on the April 18 (6:30 pm) sustainability session on dock electrification. JCOS will take summer off from sustainability session and come back in fall; are discussing having a post season session on cruise ships. Need to discuss goals for it.
2. Staff Update Calendar Discussion - Dianna Robinson
3. Staff Update – Dianna Robinson
    a. Update from Nate Abbott (see attached)
    b. CPRG grant for MWWTP boiler submitted. Copy sent to JCOS members.
    c. Future staff reports: Jim asked for updates on comp. plan and area plans; EV planning and EV chargers.
    d. Solid waste update-- waste characterization study on track -- May 20-25 Cascadia consulting -- She's been working on NEPA compliance for the CDS project.
    e. At the upcoming 4/15 PWFC -- staff will be reintroducing the big question of funding for high level study of future waste disposal options. Zach Gordon Youth center has successfully converted from Fuel Oil Boiler to an Electric Boiler, this also included a controls upgrade. We will report back in a year on what sort of energy and cost savings we are actually seeing.

4. Subcommittee Assignments - Nick Waldo -- let discussion.
    a. Committee structure as project focused -- discussed at Jan. retreat.
        i. Everyone responded to Nick's survey:
        ii. Energy- Financing and CBJ decarbonization Gretchen, Steve, David
        iii. Solid waste and public outreach -- Marian and Nick
        iv. Sust. awards/indicators -- Jim and David
        v. Climate preparedness and food - Jessie and Marian
    b. Discussed how committees can work. Agreed that small workgroups of 2 members can meet without public notice.
        i. Scheduling of comm. meetings -- Chair can let Dianna know they want a meeting.
        ii. comm. members - Chair can let Dianna know they want a meeting.
        iii. if only 2 involved they can meet or talk, but then bring info or proposals for action to the full JCOS.
        iv. If a comm. is drafting a formal recommendation -- there should be public notice.
        v. Dianna can do handle up to 3 meetings/month --
        vi. Nick will have a standing agenda item for comm. updates --
        vii. Small groups should do e-mail to keep people informed.
5. CBJ Fleet Electrification - Steve Behnke -- Nothing to report.
6. JCOS recommendations for FY25 CIP
    a. Duff moved; Gretchen seconded to forward March 1 JCOS recommendation to Finance Committee. Nick will talk to JCOS liaison and Finance Chair to identify how they would like to receive the recommendation.
    b. For background on the development of the March 1 recommendation, see attached.

H. INFORMATION ITEMS

1. 1. Grant Update - Attachment from Ashley Heimbigner
2. Docks & Harbors Infrastructure Event - Attached Flyer from Carl Uchytil

I. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

1. Jim P. reported on JEDC Innovation Summit Mayor interested in a proposal to do scenario planning for Juneau.
2. Steve B. reported that the Planning Commission is holding a special hearing to receive public comments on the draft Blueprint Downtown area plan on Tuesday, April 23, at 5:30 p.m. in the Assembly Chambers.

J. NEXT MEETING DATE

1. Sustainability Session -- April 18
2. Regular JCOS meeting -- May 1

K. ADJOURNMENT

The meeting adjourned at 1:13 p.m.

Submitted by Steve Behnke, acting secretary.

4/3/2024 Project Update from Nate Abbott for JCOS:

- Zach Gordon Youth center has successfully converted from Fuel Oil Boiler to an Electric Boiler, this also included a controls upgrade. We will report back in a year on what sort of energy and cost savings we are actually seeing.
- Glacier Fire Station: Construction has begun on the fuel oil boilers replacement construction is planned to be completed in August, there is also a controls upgrade, electrical upgrade, and air handling upgrade that is happening as part of this project. Again we will report back on realized savings a year after the project is complete.
- Auke Bay Fire Station: Work has begun on the fuel oil boiler replacement with electric boiler. This project also includes a controls upgrade. This project is scheduled to be completed next year due to long lead items for the electrical system. So really in the very early stages of the construction.
- Here in facilities maintenance we have developed a contract with our controls contractor starting next year to performing rolling re-commissioning of our control systems.
- Next week I will be attending Daikin Training on installing and maintaining Daikin VRF Heat Pumps.

Dianna Robinson

From: Steve Behnke <steven.r.behnke@gmail.com>
Sent: Tuesday, April 2, 2024 4:15 PM
To: Dianna Robinson
Cc: Nick Waldo
Subject: Agenda addition: JCOS FY25 CIP recommendations

Dianna, would you please forward this to JCOS members before tomorrow's meeting.

To: JCOS members,
From: Steve Behnke

I hope that JCOS will take some specific actions Wednesday to advance its FY25 CIP recommendations.

Agenda addition:

I intend to ask to add an item to the Wed. 4/3/24 agenda concerning JCOS FY25 CIP recommendations.

Correction to the minutes.

I'd also like to offer a correction to the 3/6/24 minutes. I would have added to this discussion if I'd been able to get on the meeting.

The minutes currently state:

"CIP Comments Discussion & Approval
- Nick notes that this was already submitted.
- Gretchen mentions that Steve is working with Dianna on making sure our comments are in the next public works & facilities committee meeting
- Ella responds that this will be taken up in either COW or finance committee because this is part of public comment"

The minutes should be amended to reflect that JCOS' March 1 CIP recommendation was not forwarded to the PWFC as intended and addressed.

Possible Motions concerning JCOS CIP recommendation

I expect to move that JCOS immediately forward our March 1 recommendation on the FY25CIP to the Finance Committee 20240301 JCOS CIP Recommendations.pdf. Since it is currently directed to the PWFC, it either needs an additional transmittal e-mail with explanation, or should be rewritten and directed to the Finance Committee.

Additionally, I intend to move that JCOS formally request CBJ staff assistance in getting meaningful consideration for the recommendation by the Finance Committee during its CIP review. The Finance Committee is meeting on Saturday, April 6 to begin the budget review, including the CIP. Our recommendation should be part of their packet.

Staff has suggested that our recommendation should be taken up as part of the Assembly's hearing on the CIP (April 29). In my view treating a JCOS recommendation as any other public comment doesn't meet the intent of JCOS's direction to make recommendations to the Assembly. If JCOS's recommendations are to be given the same weight as general public comments, why have JCOS ? As Mr. Bohan points out below, now that the CIP is public, comments can be submitted to the Assembly at any time.

Background and timeline

Feb. 7: JCOS approved sending a memo with CIP recommendations to the city manager and the PWFC.

March 1: Nick signed and submitted CIP recommendation 20240301 JCOS CIP Recommendations.pdf

March 3: After learning that the JCOS' March 1 memo was not being forwarded to the PWFC, I took it upon myself to e-mail Assembly person Adkinson, JCOS liaison, asking her to bring it to the PWFC attention on behalf of JCOS.

March 6: JCOS regular meeting. I learned that Ms. Adkinson had consulted with staff and didn't feel it was appropriate to include our recommendation in the March 11 packet. Since I couldn't get on the meeting I didn't have a chance to make a case for why it should be submitted.

March 7: I forwarded the recommendation to PWFC members directly. I goofed in two ways. First, I didn't consult with Chair Waldo; secondly I identified myself as chair of the Energy Committee, although the Energy Comm. had not approved the action, and in fact I'm not sure of the status of either the Committee or my role. Mr. Waldo has appropriately chided me for these actions and I apologize for both of them.

Since then I've heard some concerns about the way the recommendation was developed and handled by JCOS and by me.

Specifically, Director of E &PW Koch, noted on March 6 that "In past years, Engineering & Public Works has not included the JCOS CIP comments in our March PWFC packet. The JCOS CIP comments will be included in the April 29 Assembly packet that includes the public comment on the CIP. That puts the JCOS comments on equal footing with other public comments on the CIP..."

However, what I said in my March 3 e-mail was "Unlike prior years, JCOS did not have a formal opportunity to comment on the draft CIP list,." I was pointing out that JCOS had not had been offered an opportunity to review or comment on Dept. recommendations, or to offer suggestions for additions as it had been in previous budget cycles.

The difference from past years is highlighted in an e-mail from Ms. Koch to Gretchen and me (Nov. 4,2022):

"CBJ Departments are just starting to think about next year's CIP projects. The CIP budget and listing of projects will likely be on the agenda of the PWFC committee at the end of January. You should aim for sending a memo to Katie somewhere in mid-January outlining JCOS priorities for the CIP. Katie would include the JCOS letter/memo in the packet to the PWFC with the CIP budget agenda item."

Mr. Bohan responded, through Dianna on March 4, to my March 3 e-mail, and pointed out th the Planning Commission did not provide review the CIP for conformance with the Comp. Plan, and that "Basically, the CIP Resolution for the upcoming Fiscal Year is in the public hands (via the PWFC packet) around the end of January. Comments can be provided to the Assembly at any time after the draft CIP resolution becomes public at the PWFC meeting."

Sequence of events leading up to the March 1 letter

Nov. 29, 2023 JCOS Energy Committee Meeting
Discussed and approved FY25 CIP recommendations covering 5 specific areas. (2023-11-29_JCOS-Subcommittee-Energy-Minutes-DRAFT.pdf)

Dec.6 2023 JCOS regular meeting
Discussed the 11/29 JCOS Energy Committee recommendations on an approach to CIP ,.. Ms.Keiser suggested that the Energy Committee and Solid Waste Committee work w/ staff to incorporate JCOS suggestions into CIP, and draft outline or submittal for the January 3, 2024 JCOS regular meeting" 2023-12-06 JCOS-Regular-Minutes-DRAFT.pdf

Jan. 6, 2024 JCOS Retreat
Identified 2024 priorities includinng, clean Energy Financing, CBJ carbon reduction efforts and solid waste -- all areas addressed by the CIP recommendations

Jan- .Feb. 2024 -- Steve had series of e-mail exchanges and 2 meetings, including Dianna, D.Teal and others met w/ staff to discuss CIP related projects. These included a long Feb. 12 e-mail excahnge with Nate Abbott -- which resulted in dropping and changing some of JCOS recommendations.

February 7, 2024 JCOS regular meeting
Discussed key points for several new CIP projects which focus on the sustainability goals, such as energy efficiency and decarbonization of buildings, electric vehicle charging, and solid waste.
Approved a motion to give Nick approval for memo to be sent to staff and PWFC, in order to meet the deadline of March 11.
2024-02-07_JCOS-Regular-Minutes.pdf

CITY AND BOROUGH OF JUNEAU
Engineering and Public Work
155 Heritage Way
Juneau, Alaska 99801
Telephone: 586-0800

DATE: May 01, 2024
TO: Nick Waldo, Chair, Juneau Commission on Sustainability
FROM: Dianna Robinson, Environmental Project Specialist, CBJ
SUBJECT: May Staff Update

Chair Waldo,

Please see updates from CBJ staff below.

Dianna Robinson, Environmental Project Specialist

- On April 23rd, we officially moved on to the next stage of the process to receive the $2.5 million appropriation from Sen. Lisa Murkowski. We're hopeful that we'll receive the funds in the next 2-3 months.
- Staff will issue an RFP for the solid waste 'big question' study sometime in May, and hope to have a finished report around October 2024.
- The RecycleWorks baler had its computer destroyed during a power surge; the center was closed for a little over a week.
- The Waste Characterization Study will take place at the landfill May 20-25th. We hope to get a first draft of the study by the end of June.
- We are working on contract amendments to begin work on the 2022 and 2023 GHG emissions inventories.

Rich Ross, Transit Superintendent:

- The chargers for the 7 buses arriving this fall are still in the manufacturing process. Bids for the switchgear that will power the chargers are due this Thursday. Last I heard from Gillig the buses should be arriving in late September – Early October 2024.
- Capital Transit is submitting a grant application to AKDOT who will submit to FTA today (LoNo) for 6 additional electric buses and related charging infrastructure. If awarded these vehicles will help to bolster our summer service capacity which has been strained in recent years due to record number of cruise passengers. The award announcements should be on or before July 9th. There is a 2 year lead time from when electric buses are ordered to delivery currently.

Nate Abbott, Building Maintenance Supervisor

- Completed the Daikin VRV install
- Next week we will install a Daikin Split and take a startup class

Minta Montalbo, Senior Planner

- The next plan we'll be trying to finalize is the South Douglas West Juneau (SDWJ) area plan, which has completed its public visioning phase and is ready for drafting, so I'm working on a contract for that work. I'll let you know when we have a final draft ready for agency review.
- The Comp Plan is slated for later this summer or early fall, once we finalize the SDWJ area plan. Since these area plans become part of the Comp Plan (if adopted by ordinance), we need to get them finished before we start on the Comp Plan rewrite. That will be a multi-year project, with a full year of public outreach, so plenty of opportunities for JCOS participation.

FINAL IAQ SAMPLING REPORT

CENTENNIAL HALL RENOVATION 2022

CBJ Contract BE22-204

as required by Section 018113

and for LEED IAQc4

Prepared for

Carver Construction, LLC
1012 Second Street
Douglas, AK 99824

25 March 2024

Table of Contents

INTRODUCTION

The subject project is a renovation of the ballrooms at Centennial Hall in Juneau, AK undertaken as CBJ project BE22-204. Construction activities performed for this project include demolition and/or removal of concrete, wood, gypsum board, acoustical wall and ceiling panels, doors, operable walls, along with associated trims and finishes, followed by replacement with new materials and finishes. Work was generally restricted to Ballrooms 1-3 which received structural and acoustical upgrades at both floor and catwalk levels. In addition, upgrades to the HVAC system were provided for the ballrooms.

This Final Indoor Air Quality (IAQ) Sampling Report summarizes the activities performed to protect the health and safety of workers and building occupants during and after construction and to decrease emissions of indoor air contaminants. Additionally, it provides the results from indoor air quality assessments of standard indoor air contaminants of concern. The sampling is also intended to provide an IAQ Indoor Air Quality Assessment in accordance with LEED IEQ v4.

Note that the overall LEED credits for NC IEQ v4 can be achieved either by following a full building flush-out procedure (Option 1, Path 2) or by performing air testing that verifies that the building air quality meets the LEED standards (Option 2, Path 1 and/or Path 2). On this project, both flushing and air testing were performed. The building was partially occupied during construction, so assessments were selected to be suitable for occupied buildings.

CONTAMINANTS OF CONCERN

All construction projects that include demolition of existing materials and installation of new materials have the to potential to release contaminants into the building and to cause exposure to current or future occupants. Contaminants of concern on this project include dust and debris, welding fumes, and fumes or vapors from volatile products used in installation and cleaning as well as in paints and other finishes.

Construction activities with a potential to generate contaminants include:

- Grinding of concrete;
- Demolition and patching of walls, both operable and fixed;
- Welding for structural upgrades;
- Removal and replacement of interior finishes;
- Removal and replacement of exterior finishes;
- Removal and installation of acoustical wall and ceiling panels;
- Installation of spray-on fireproofing; and
- Miscellaneous other tasks required to complete the contract work.

Activities that are particularly prone to creating dust or fumes include grinding concrete and welding. Installation of new finishes is the most likely source of volatile organic compounds. All activities were planned to be performed in a manner that minimized the release of contaminants and exhausted air from the work areas outside the building.

HVAC SYSTEM PROTECTION DURING CONSTRUCTION

A common concern during construction projects is contamination of the building HVAC system by particulates or fumes generated as part of the work activities. To prevent this from occurring, the building HVAC system in the work areas was not used during construction. All supply and return grilles in the work area were sealed with 6-mil polyethylene sheeting which remained in place for the duration of the project. Note that the HVAC system was still in use in other areas of the building that were occupied throughout the construction period.

Heat was provided to the work areas using space heaters. Active work areas were ventilated using negative air machines to filter contaminants from the air (MERV17-20 level filtration), provide adequate air exchange for worker occupancy, and creating a slight negative pressure in the work area to assure that no dust or fumes could migrate from the active work area into the occupied areas of the building.

BALLROOM AIR FLUSHING

After installation of the new HVAC components was completed and all new finishes had been applied in the work areas, the building flush-out activities were performed and filtration media for the HVAC system were replaced with new media in accordance with the requirements of the mechanical system components.

The Centennial Hall ballrooms have a total volume of 12,300 square feet and the new HVAC system has a capacity of 17,400 cubic feet pr minute. The duration of time required to meet the contract requirement of 14,000 cubic feet per square foot of space is:

$$\frac{14{,}000 \text{ cf/sf} \times 12{,}300 \text{ sf}}{17{,}400 \text{ sf}} = 9{,}869 \text{ minutes} = 6.8 \text{ days}$$

Flushing was carried out starting on 21 August 2023 with the system on full supply air and full exhaust with no recirculation. A few interruptions took place to adjust equipment, with the cumulative flushing volume was completed by 31 August. Fortunately, weather conditions were favorable during the flushing event, allowing temperature and humidity requirements (temperature at or above 60F and relative humidity no higher than 60%) to be met. This flushing event satisfies the requirements set forth for the new HVAC system components as well as for the LEED NC IAQ v4 qualification.

IAQ MEASUREMENTS

Measurements were taken on 31 January 2024 with one sample collected in each ballroom. The new partition walls were put in position to divide the ballrooms into three separate sampling spaces. Samples were collected from the center of each ballroom.

Volatile organic chemicals were measured using the EPA TO-15 method, collecting air samples from each ballroom into a 6-liter vacuum cannister (Summa cannister) with regulated inflow over a period of 8 hours. Cannisters were returned to EMSL Laboratory's LA Testing location for analysis via gas chromatography/mass spectrometry (GC/MS).

Sample results are included in Appendix A. Table 1 includes values for all target compounds with a measurable detection (often referred to as a "hits-only" table).

Compounds that were detected include freon 12, butane, isopropyl alcohol, ethanol, acetone, cyclohexane, toluene (not detected in the Ballroom 2 sample), and styrene. All of these are common contaminants found in new materials, adhesives, and cleaning compounds. The sampling goal is for none of these compounds to exceed NIOSH Recommended Exposure Limit and for the total of all the measurable hits to be less than 500 micrograms per cubic meter (ug/m^3).

TABLE 1. Centennial Hall TO-15 Cannister - Measurable Compounds

Target Compound	Results in ug/m^3			
	Ballroom 1	**Ballroom 2**	**Ballroom 3**	**NIOSH REL**
Freon 12	4.3	3.4	4.1	4,900,000
n-Butane	11	7.8	10	1,900,000
Ethanol	40	30	37	1,900,000
Isopropyl alcohol	4.6	6.3	3.8	980,000
Acetone	20	12	18	590,000
Cyclohexane	5.1	4.7	5	1,000,000
Toluene	2.4	ND	2.2	380,000
Styrene	3.3	2.9	3.7	210,000
TOTALS	90.7	67.1	83.8	NA

REQUIREMENT: total of all measured compounds no more than 500 ug/m^3
and no compound above the NIOSH REL (recommended exposure limit)
NOTE: All other target compounds were not detected in the samples (ND).

Totals for each sample were well below the allowable levels and many orders of magnitude below the NIOSH recommended exposure limit.

Particulates were measured with a Quest Technologies EVM-series meter, with each sample run for 15 minutes. Particulates were measured in the PM-10 and the PM-2.5 size ranges. Particulate levels were far below the LEED requirement of 50 ug/m3 and several orders of magnitude below the EPA recommended exposure limit. Measurements are presented in Table 2.

TABLE 2. Centennial Hall Particulate Measurements

Particulate Size	Results in ug/m^3			
	Ballroom 1	**Ballroom 2**	**Ballroom 3**	**EPA REL**
PM-10	0.003	0.004	0.002	150
PM-2.5	0.001	0.001	0.001	65

REQUIREMENT: PM-10 less than 50 micrograms per cubic meter (ug/m^3)
and less than the EPA REL (recommended exposure limit)

Carbon monoxide was also measured in all three ballrooms using the Quest Technologies meter. Carbon monoxide was not detected in any of the ballrooms at a concentration of 1 part per million or higher. The LEED requirement for carbon monoxide measurements matches the EPA recommended exposure limit, which is less than 9 parts per million and no more than 2 parts per million higher than outdoor levels. Measurements are presented in Table 3.

TABLE 3. Centennial Hall Particulate Measurements

Particulate Size	Results in ppm			
	Ballroom 1	**Ballroom 2**	**Ballroom 3**	**EPA REL**
Carbon monoxide	<1	<1	<1	9

REQUIREMENT: less than 9 ppm and no more than 2 ppm over outdoor levels.

NOTE: Outdoor level of carbon monoxide was <1 ppm.

CONCLUSION

Flushing activities meet project requirements for both mechanical system purposes and for LEED IAQc4 purposes.

Based on the results of IAQ measurements, indoor air quality levels in the Centennial Hall ballrooms meet the final clearance standards set forth in LEED IEQc4 and no further sampling is necessary.

THIRD-PARTY SAMPLER COMFIRMATION

I certify that all measurements and assessments on this project were performed by Dahlberg Design, LLC, a third-party firm, and subcontract laboratories, without any intervention from the Contractor or any other party with a vested interest in the outcome of this sampling.

Sigrid Dahlberg, P.E.

Principal Engineer for Dahlberg Design, LLC

APPENDIX A

ANALYTICAL LABORATOR RESULTS

LA TESTING
5431 Industrial Drive
Huntington Beach, CA 92649
Telephone: (714)828-4999 FAX: (714)828-4944
hblab@latesting.com | http://www.EMSL.com

EMSL ORDER ID:
EMSL CUSTOMER ID:

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Laboratory Report- Sample Summary

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
332402243-0001	BALLROOM 1	1/31/2024	8:34 AM
332402243-0002	BALLROOM 3	1/31/2024	8:39 AM
332402243-0003	BALLROOM 2	1/31/2024	8:38 AM

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

Report Date	Report Revision	Revision Comments
2/15/2024	R0	Initial Report

Michael Chapman

Michael Chapman, Laboratory Manager
or other approved signatory

Test results meet all AIHA-LAP,LLC requirements unless otherwise specified. Laboratory ID 101650

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

LA TESTING
5431 Industrial Drive
Huntington Beach, CA 92649
Telephone: (714)828-4999 FAX: (714)828-4944
hblab@latesting.com | http://www.EMSL.com

EMSL ORDER ID:
EMSL CUSTOMER ID:

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
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Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
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Case Narrative

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

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

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

Gas Standards:
Certified Gas standards were used for all analyses.

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

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

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

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

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

Initial Calibration
All Initial Calibration criteria met method specification.

Initial Calibration Verification Standard (ICVS)- Second Source
ICVS met method specification with 70-130% recovery for 100% of compounds.

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

LA TESTING
5431 Industrial Drive
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Attention: Sigrid Dahlberg
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EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Case Narrative

Continuing Calibration Verification Standard (CCVS)
CCVS met method specification with all compounds within 30% deviation.

Ending Calibration Verification Standard (ECVS)
ECVS met method specification with all compounds within 30% deviation.

Method Blanks (MB)
Method Blank met method specification.

Reporting Limit Laboratory Control Samples (RLLCS)
RLLCS met method specification with 90% of compounds within the 60-140% recovery range. Individual compounds outside of the recovery range may be listed below.

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

The following data qualifiers that may have been reported with the data,
ND- Non Detect. This notation would be used in the results column in lieu of a "U" qualifier.
U- Compound was analyzed for but not detected at a listed and appropriately adjusted reporting level.
J (Target)- Concentration estimated between Reporting Limit and MDL.
J- Estimated value reported below adjusted reporting limit for target compounds or estimating a concentration for TICs where a 1:1 response is assumed
B- Compound found in associated method blank as well as in the sample.
E- Estimated value exceeding upper calibration range of instrument. Ethanol and isopropyl alcohol are not specifically targeted to dilute within calibration range.
D- Compound reported from additional diluted analysis.
N- indicates presumptive evidence of a compound based on library search match.

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

Michael Chapman, Laboratory Manager
or other approved signatory

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EMSL ORDER ID: 3[illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	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	**0.86**	0.50		**4.3**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**4.8**	0.50		**11**	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**21**	0.50		**40**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**1.9**	0.50		**4.6**	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	**8.4**	0.50		**20**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.5**	0.50		**5.1**	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	**0.63**	0.50		**2.4**	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.78**	0.50		**3.3**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**40**	**ppbv**		**91**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.3	10	93%

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

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

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

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Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.86**		**4.3**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**4.8**		**11**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**21**		**40**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**1.9**		**4.6**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**8.4**		**20**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.5**		**5.1**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Phone: 907-723-8896
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	**0.63**		**2.4**	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	**0.78**		**3.3**	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	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	**0.82**	0.50		**4.1**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**4.1**	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	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**20**	0.50		**37**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**1.5**	0.50		**3.8**	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	**7.6**	0.50		**18**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.5**	0.50		**5.0**	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	**0.58**	0.50		**2.2**	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.87**	0.50		**3.7**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**37**	**ppbv**		**84**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.3	10	93%

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

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

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.82**		**4.1**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**4.1**		**10**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**20**		**37**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**1.5**		**3.8**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**7.6**		**18**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.5**		**5.0**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	0.58		2.2	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	0.87		3.7	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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EMSL ORDER ID: 3[illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

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EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	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	**0.69**	0.50		**3.4**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**3.3**	0.50		**7.8**	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**16**	0.50		**30**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**2.6**	0.50		**6.3**	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	**5.0**	0.50		**12**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.4**	0.50		**4.7**	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	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

LA TESTING
5431 Industrial Drive
Huntington Beach, CA 92649
Telephone: (714)828-4999 FAX: (714)828-4944
hblab@latesting.com | http://www.EMSL.com

EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	ND	0.50		ND	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.68**	0.50		**2.9**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**30**	**ppbv**		**67**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.4	10	94%

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

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

LA TESTING
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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.69**		**3.4**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**3.3**		**7.8**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**16**		**30**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**2.6**		**6.3**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**5.0**		**12**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.4**		**4.7**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	ND		ND	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	**0.68**		**2.9**	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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

LA Testing, Inc.
5431 Industrial Drive
Huntington Beach, CA 92649
Ph. (800) 755-1794
Fax (714) 828-4944

LA Testing Order Number (Lab Use Only): #332402243

Company/Cust. ID: DAHLBERG DESIGN	Company/Billing ID: DAHLBERG DESIGN	Sampled By (Sign):
Contact Name: SIGRID DAHLBERG	Billing Contact: - Same -	Sampled By (Name): SIGRID DAHLBERG
Street Address: 222 SEWARD ST # 205	Street Address:	Total # of Samples: 3
City, State, Zip: JUNEAU AK 99801	City, State, Zip:	Date Shipped: 7 Feb 2024
Phone: 907.723.8856 Fax: -	Phone: Fax:	Sample Collection Zip Code: 99801
Email Results To: sigrid@dahlberg.design	Project Name: CENTENNIAL HALL 2023	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**

Client Field Sample Identification	Sampling Start Information				Sampling Stop Information				Canister Information			Gauge #		Flow Contoller		Analysis				Matrix			
	Barometric Pres. ("Hg):				Barometric Pres. ("Hg): 29.34							366320	219424										
	Start Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Stop Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Canister ID	Size (L)	Can Cert Batch ID	Outgoing Pressure ("Hg)	Incoming Pressure ("Hg)	Reg. ID	Cal Flow (ml/min)	USEPA TO-15	NJDEP LLTO-15	LIBRARY SEARCH	Other (Specify)	Indoor/ Ambient Air	Soil Gas	Landfill/ Vent	Other:
BALLROOM 1	31 Jan 2024	0834	-29.2	70	31 Jan 2024	1638	-3.2	71	E15530	6	89A	-30	-3.2	07978	11.0					✓			
BALLROOM 3	"	0839	-29.2	70	"	1640	-2.2	71	E0666	6	89A	-30	-2.4	15114	11.0					✓			
BALLROOM #2	"	0838	-29.1	70	"	1639	-2.1	71	E15536	6	89A	-30	-3.0	15116	11.0					✓			
											HH	02/13/24											

Comments:

Check Box if Seal Intact

Lab Canister Certification
Analyst Signature (TO-15):

Relinquished by:	Date/ Time	Received by:	Date/ Time	Seal # / Intact	Reason for Exchange (circle appropriate)
Rob Hansen	12.22.23	Sigrid Dahlberg	5 JAN 2024 4pm	☑	Shipping Courier Receiving Sampling Other:
Sigrid Dahlberg	6 Feb 2024	Emily Mendoza (FX)	2/9/24 10:25AM	☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:

#3324022243

TO-FM-12 Sample Information
Revision 13
Effective Date: December 20, 2022

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, achieve requested TAT, and provide you with helpful interpretation information.

Company: DAHLBERG DESIGN

Contact Person:

Name: SIGRID DAHLBERG
E-mail: sigrid@dahlberg.design
Additional E-mails: sdahlberg907@gmail.com
Telephone #: 907.723.8896

Library Search requested: [ ] YES [ ] NO
A library search (*aka Tentatively Identified Compounds*) 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 to provide you with all available information for your sample.

Sample Type:

[ ] **Indoor Air Quality (Home/Office)**
[ ] **IAQ (Industrial)**
[ ] **Soil Gas/Sub Slab**
[✓] **Other:** Public building / non-office
Sample Description: Reoccupancy sampling after renovation at convention center

PLEASE NOTE: The result forms we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

[✓] **OSHA PELs/NIOSH RELs**	*combined form*		[ ] **Potential Sources of Compounds found in your IAQ sample**		
[ ] **EPA RSLs** - *11/2022; default is THQ 0.1*	Residential	Industrial	[ ] **TVOC (Library Search Required for this format)**		
[ ] **EPA VISLs** - *3/2012*	IA/SG		[ ] **NH DES_WMD** - *2/2013*	Indoor Air	Soil Gas
[ ] **NJ DEP** - *5/2021* - **Circle one:**	VI-Indoor AQ	VI-Soil Gas	[ ] **Ohio** - *5/2016* - **Circle one:**	Residential	Commercial
[ ] **NC DENR** - *2/2018* - **Circle one:**	Residential	Non-residential	[ ] **Indiana Dept Env Mgmt Screeening Levels** - *3/2018*		
[ ] **PA DEP** - *11/2016*	Indoor Air		[ ] **Vermont DEC IROCP** - *7/2017* **(soil gas only)**		
[ ] **PA DEP** - 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas			[ ] **California OEHHA** - *2/2012*		
[ ] **CA HHSL** - *9/2010* - **Circle one:**	Indoor Air	Soil Gas	[ ] **Other; these are the compounds I want reported:**		

JPP 02/13/24

Please note: There is an additional charge for any of the tests below. **USEPA TO-3 AND ASTM 5504 analyses can be performed from your canister at the Cinnaminson NJ Laboratory.**

Very Important Information for Clients!** ***Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

US EPA TO-3 via GC/FID:
[ ] **C_1-C_6 hydrocarbons**
[ ] **Methane only**

ASTM-D5504 *via GC/SCD:* *
[ ] **Sulfur Scan (H_2S, COS, MeSH, EtSH, DMS)**
[ ] **H_2S only**

We can provide the following CMS tests from your canisters at the **Cinnaminson and Huntington Beach** laboratories. Please note these tests are to be used for IAQ/Screening purposes ONLY. EMSL recommends alternate field sampling techniques for these parameters (with the exception of water vapor); please contact your sales rep for the proper media. Please note: There is an additional charge for any of the tests below.

Draeger Analyzer:

[ ] **CO** [ ] **CO_2** [ ] **NH_3** [ ] **O2** [ ] **Water Vapor**

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure 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.

Submittals: Carver Construction, LLC

Heads up! We need your Approval of the following Submittals, **Due on 02/29/2024.**

General Information:

1050033 - 132 Construction Waste Management Final Report (Revision)

Project: Centennial Hall Ballroom Reno
Centennial Hall - Ballroom
155 South Seward Street, Juneau, AK 99801

Manager: James Malapanis, *Project Manager*
Carver Construction, LLC
1800 Greenwood Crest, Comox, BC V9M 4C8

Requested by: James Malapanis, *Project Manager*

Approved as Noted
2/16/24
Lisa Eagan-Lagerquist

Request For Approval:

Submitted Date: 02/15/2024

Responders: - **City & Borough of Juneau - Gen Term** - Lisa Eagan-Lagerquist *(Project Manager)*
- **Jensen Yorba Wall Inc.** - Dan Fabrello *(Construction Administrator)*

Commenters: - **Carver Construction LLC** - James Malapanis *(Project Manager)*

Instructions:

Item	Rev	Reference	Phase	Cost Code	Subject	Type	Critical Date	
107	1			017400	Construction Waste Management Final Report (Revision)	General Documentation	02/29/2024	Details

WASTE MANAGEMENT RECEIPT LOG Updated: 2-15-2024

NOTE: UOM - TONS

GOAL: DIVERT 50% BY WEIGHT OF TOTAL CONSTRUCTION & DEMOLISION WASTE GENERATED ON-SITE.

TARGET MATERIALS: CONCRETE 40 T, METALS 4 T, WOOD 5 T, CARDBOARD 1 T, ALUMINUM/PLASTICS 0.1 T, NON-RECYCLABLES 50 T

DATE	FACILITY	FACILITY ID	METALS	CONCRETE	GRAVEL	WOOD	SOUND PANELS	CARDBOARD	NON RECYCLABLES	NOTES
12/12/22	D&S Recycling	Recycle	0.62							
12/21/22	Capitol Disposal	Landfill							1.45	
12/21/22	Capitol Disposal	Landfill							1.02	
12/21/22	Capitol Disposal	Landfill							0.48	
12/22/22	Scookum	Recycle	1.65							
12/22/22	Scookum	Recycle	0.93							
12/22/22	Capitol Disposal	Landfill							0.69	
12/26/22	D&S Recycling	Recycle	0.63							
12/28/22	Capitol Disposal	Landfill							1.2	
1/2/23	Capitol Disposal	Landfill							1.15	
1/6/23	Bobcat	Repurpose	4.39							
1/6/23	Bobcat	Repurpose	3.91							
1/6/23	Bobcat	Repurpose	3.8							
1/6/23	Bobcat	Repurpose	4.93							
1/6/23	Capitol Disposal	Landfill							1.03	
1/17/23	Capitol Disposal	Landfill							0.64	
1/18/23	Capitol Disposal	Landfill							0.35	
1/19/23	Bobcat	Repurpose	1.59							
1/25/23	Capitol Disposal	Landfill							1.48	
1/25/23	Capitol Disposal	Landfill							1.84	
2/11/23	Carver's Lot	Recycle		3.46						
2/11/23	Carver's Lot	Recycle		2						
2/11/23	Carver's Lot	Recycle		3.03						
2/11/23	Carver's Lot	Recycle		2.16						
2/11/23	Carver's Lot	Recycle		2.08						

2/18/23	Bobcat	Repurpose	3.37					
2/18/23	Carver's Lot	Recycle		2.83				
2/18/23	Carver's Lot	Recycle		2.41				
2/18/23	Carver's Lot	Recycle		2.84				
2/18/23	Carver's Lot	Recycle		2.5				
2/18/23	Carver's Lot	Recycle			2.45			
2/18/23	Carver's Lot	Recycle			3.57			
2/18/23	Carver's Lot	Recycle			4.04			
2/18/23	Carver's Lot	Recycle			2.99			
2/18/23	Carver's Lot	Recycle			3.36			
2/18/23	Carver's Lot	Recycle			3.5			
2/18/23	Carver's Lot	Recycle			2.95			
2/18/23	Carver's Lot	Recycle			3.63			
2/25/23	Carver's Lot	Recycle			3.51			
2/25/23	Carver's Lot	Recycle			3.025			
2/25/23	Carver's Lot	Recycle			3.025			
2/25/23	Carver's Lot	Recycle			3.04			
2/25/23	Carver's Lot	Recycle			3.51			
2/25/23	JAC & Others	Repurpose				0.36		
2/25/23	Carver's Lot	Recycle			3.31			
2/25/23	Carver's Lot	Recycle			1.48			
2/25/23	Carver's Lot	Recycle	1.19					
2/25/23	Capitol Disposal	Landfill						0.87
2/28/23	Carver's Lot	Recycle			3.95			
3/9/23	Capitol Disposal	Landfill						0.97
3/9/23	Capitol Disposal	Recycle	0.67					
3/17/23	Individuals	Repurpose				0.36		
3/17/23	CBJ	Repurpose				0.82		
4/28/23	Capitol Disposal	Landfill						0.98
4/21/23	Capitol Disposal	Landfill						1.41
4/28/23	Capitol Disposal	Recycle	0.8					

5/11/23	Capitol Disposal	Recycle	0.24							
5/11/23	Capitol Disposal	Landfill							0.84	
5/16/23	Capitol Disposal	Landfill							0.44	
6/2/23	Bobcat	Repurpose	0.57							
6/5/23	Capitol Disposal	Landfill							0.69	
6/15/23	Capitol Disposal	Landfill							0.38	
6/15/23	Capitol Disposal	Landfill							0.73	
7/10/23	Capitol Disposal	Landfill							0.33	
7/10/23	Capitol Disposal	Recycle						0.05		
7/20/23	Capitol Disposal	Recycle							0.36	
7/21/23	Capitol Disposal	Landfill							0.83	
7/21/23	Capitol Disposal	Recycle						0.05		
7/24/23	Capitol Disposal	Landfill							0.23	
7/25/23	Capitol Disposal	Landfill							0.31	
7/25/23	Capitol Disposal	Recycle							0.31	
7/27/23	Skookum	Recycle	1.9							
7/27/23	Skookum	Recycle	1.55							
8/1/23	Individuals	Repurpose				1				
8/1/23	Individuals	Repurpose				1.75				
8/1/23	Individuals	Repurpose	1.5							
8/8/23	Capitol Disposal	Landfill							0.19	
8/16/23	Capitol Disposal	Landfill							0.51	
8/23/23	Capitol Disposal	Landfill							0.59	
2/14/24	Capitol Disposal	Landfill							0.025	Alcan estimate at completion
			34.24	23.31	51.34	2.75	1.54	0.1	22.325	

Total Waste:	135.605	TONS
Waste Diverted from Landfill:	113.28	TONS
Percentage (%) Diverted:	83.54%	

CITY AND BOROUGH OF JUNEAU
Engineering and Public Works De
155 South Seward Street
Juneau, Alaska 99801
Telephone: 586-0800 Facsimile: 463-2606

DATE: May 1, 2024

TO: Nick Waldo, Chair
Juneau Commission on Sustainability

FROM: Jeanne Rynne, Chief Architect

SUBJECT: Sustainability Successes of the
Centennial Hall Ballroom Renovation

Executive Summary
In June of 2022, the City Assembly followed JCOS' recommendation to approve a LEED exemption for the Centennial Hall Ballroom Renovation. The request was made because the facility type and scope of the renovations did not meet LEED eligibility criteria. Despite this fact, CBJ Engineering strove to incorporate sustainable features in the project to the extent possible. The purpose of this memo is to inform the Commission of the successful sustainability efforts on the Centennial Hall Ballroom Rennovation project.

Background
Demolition work for the Centennial Hall Ballroom Renovation Project started in December of 2021. The hall reopened for its first event in September 2023 and achieved final completion in March 2024. The project was successful in achieving its sustainability goals.

Sustainable Element Project Successes
Despite the eligibility challenges for LEED certification, we incorporated green building practices to the extent possible. These are the outcomes:

- HVAC
  - The new system is zoned by individual ballrooms. This promotes energy efficiency as the ballrooms can be scheduled independently with the heating/cooling only provided to the individual zone.
  - Air source heat pump units were installed to provide the heating/cooling of the (3) separate ballroom spaces via variable refrigerant flow type duct coils installed in the existing ductwork.
  - The original air handling unit was replaced with a new, more efficient unit, utilizing variable frequency drives.
  - The new air handling system uses demand control ventilation strategies to provide only minimal outdoor air when the space is not occupied. Outdoor ventilation air is increased as the occupant load increases.
  - The new system reused the existing ducts to reduce construction waste.
  - We anticipate that this work will reduce the Ballroom EUI (Energy Use Intensity [1]) by 61% from 131 to 51. Based on current data we are trending this way, but it's too early to provide specific information. Moreover, with the use of Centennial Hall being altered during the COVID Pandemic, we will need to be careful about what years we compare to. This analysis is a work in progress.

- Products with low to no VOC (volatile organic compounds) were provided to improve indoor air quality. (Interior paint, resilient flooring, grout, and sound absorbing wall panels.)
- The Contractor followed a strict Indoor Air Quality (IAQ) Management plan during construction. This plan lead to a high level of indoor air quality during construction. This enabled the Centennial Hall staff outside the construction area to safely occupy the building during the entire construction period.

- A post construction Indoor Air Quality (IAQ) assessment (See attached report) sho
  the indoor air quality levels in the Centennial Hall Ballrooms met the final clearance standards set forth in LEED IEQc4.
    - The total of each targeted compound for each sample was well below the allowable levels and many orders of magnitude below the NIOSH recommended exposure limit. Moreover, particulate levels were far below the LEED requirement of 50 $\mu g/M^3$ and several orders of magnitude below the EPA recommended exposure limit.
- 83% of construction waste was diverted from the land fill.
  - Per the Waste Management specification, the Contractor set what they believed to be an achievable goal of diverting 50% of the construction waste from the land fill. Not only did they meet this goal but ended up exceeding it by 33% by diverting 83% of construction waste (by weight) from the land fill. (See attached Waste Management Final Log)

<u>The sustainability improvements implemented with the Centennial Ballroom Renovation will support the potential for LEED Certification of a future full building renovation.</u>

FINAL IAQ SAMPLING REPORT

CENTENNIAL HALL RENOVATION 2022

CBJ Contract BE22-204

as required by Section 018113

and for LEED IAQc4

Prepared for

Carver Construction, LLC
1012 Second Street
Douglas, AK 99824

25 March 2024

Table of Contents

INTRODUCTION

The subject project is a renovation of the ballrooms at Centennial Hall in Juneau, AK undertaken as CBJ project BE22-204. Construction activities performed for this project include demolition and/or removal of concrete, wood, gypsum board, acoustical wall and ceiling panels, doors, operable walls, along with associated trims and finishes, followed by replacement with new materials and finishes. Work was generally restricted to Ballrooms 1-3 which received structural and acoustical upgrades at both floor and catwalk levels. In addition, upgrades to the HVAC system were provided for the ballrooms.

This Final Indoor Air Quality (IAQ) Sampling Report summarizes the activities performed to protect the health and safety of workers and building occupants during and after construction and to decrease emissions of indoor air contaminants. Additionally, it provides the results from indoor air quality assessments of standard indoor air contaminants of concern. The sampling is also intended to provide an IAQ Indoor Air Quality Assessment in accordance with LEED IEQ v4.

Note that the overall LEED credits for NC IEQ v4 can be achieved either by following a full building flush-out procedure (Option 1, Path 2) or by performing air testing that verifies that the building air quality meets the LEED standards (Option 2, Path 1 and/or Path 2). On this project, both flushing and air testing were performed. The building was partially occupied during construction, so assessments were selected to be suitable for occupied buildings.

CONTAMINANTS OF CONCERN

All construction projects that include demolition of existing materials and installation of new materials have the to potential to release contaminants into the building and to cause exposure to current or future occupants. Contaminants of concern on this project include dust and debris, welding fumes, and fumes or vapors from volatile products used in installation and cleaning as well as in paints and other finishes.

Construction activities with a potential to generate contaminants include:

- Grinding of concrete;
- Demolition and patching of walls, both operable and fixed;
- Welding for structural upgrades;
- Removal and replacement of interior finishes;
- Removal and replacement of exterior finishes;
- Removal and installation of acoustical wall and ceiling panels;
- Installation of spray-on fireproofing; and
- Miscellaneous other tasks required to complete the contract work.

Activities that are particularly prone to creating dust or fumes include grinding concrete and welding. Installation of new finishes is the most likely source of volatile organic compounds. All activities were planned to be performed in a manner that minimized the release of contaminants and exhausted air from the work areas outside the building.

HVAC SYSTEM PROTECTION DURING CONSTRUCTION

A common concern during construction projects is contamination of the building HVAC system by particulates or fumes generated as part of the work activities. To prevent this from occurring, the building HVAC system in the work areas was not used during construction. All supply and return grilles in the work area were sealed with 6-mil polyethylene sheeting which remained in place for the duration of the project. Note that the HVAC system was still in use in other areas of the building that were occupied throughout the construction period.

Heat was provided to the work areas using space heaters. Active work areas were ventilated using negative air machines to filter contaminants from the air (MERV17-20 level filtration), provide adequate air exchange for worker occupancy, and creating a slight negative pressure in the work area to assure that no dust or fumes could migrate from the active work area into the occupied areas of the building.

BALLROOM AIR FLUSHING

After installation of the new HVAC components was completed and all new finishes had been applied in the work areas, the building flush-out activities were performed and filtration media for the HVAC system were replaced with new media in accordance with the requirements of the mechanical system components.

The Centennial Hall ballrooms have a total volume of 12,300 square feet and the new HVAC system has a capacity of 17,400 cubic feet pr minute. The duration of time required to meet the contract requirement of 14,000 cubic feet per square foot of space is:

$$\frac{14{,}000 \text{ cf/sf} \times 12{,}300 \text{ sf}}{17{,}400 \text{ sf}} = 9{,}869 \text{ minutes} = 6.8 \text{ days}$$

Flushing was carried out starting on 21 August 2023 with the system on full supply air and full exhaust with no recirculation. A few interruptions took place to adjust equipment, with the cumulative flushing volume was completed by 31 August. Fortunately, weather conditions were favorable during the flushing event, allowing temperature and humidity requirements (temperature at or above 60F and relative humidity no higher than 60%) to be met. This flushing event satisfies the requirements set forth for the new HVAC system components as well as for the LEED NC IAQ v4 qualification.

IAQ MEASUREMENTS

Measurements were taken on 31 January 2024 with one sample collected in each ballroom. The new partition walls were put in position to divide the ballrooms into three separate sampling spaces. Samples were collected from the center of each ballroom.

Volatile organic chemicals were measured using the EPA TO-15 method, collecting air samples from each ballroom into a 6-liter vacuum cannister (Summa cannister) with regulated inflow over a period of 8 hours. Cannisters were returned to EMSL Laboratory's LA Testing location for analysis via gas chromatography/mass spectrometry (GC/MS).

Sample results are included in Appendix A. Table 1 includes values for all target compounds with a measurable detection (often referred to as a "hits-only" table).

Compounds that were detected include freon 12, butane, isopropyl alcohol, ethanol, acetone, cyclohexane, toluene (not detected in the Ballroom 2 sample), and styrene. All of these are common contaminants found in new materials, adhesives, and cleaning compounds. The sampling goal is for none of these compounds to exceed NIOSH Recommended Exposure Limit and for the total of all the measurable hits to be less than 500 micrograms per cubic meter (ug/m^3).

TABLE 1. Centennial Hall TO-15 Cannister - Measurable Compounds

Target Compound	Results in ug/m^3			
	Ballroom 1	**Ballroom 2**	**Ballroom 3**	**NIOSH REL**
Freon 12	4.3	3.4	4.1	4,900,000
n-Butane	11	7.8	10	1,900,000
Ethanol	40	30	37	1,900,000
Isopropyl alcohol	4.6	6.3	3.8	980,000
Acetone	20	12	18	590,000
Cyclohexane	5.1	4.7	5	1,000,000
Toluene	2.4	ND	2.2	380,000
Styrene	3.3	2.9	3.7	210,000
TOTALS	90.7	67.1	83.8	NA

REQUIREMENT: total of all measured compounds no more than 500 ug/m^3
and no compound above the NIOSH REL (recommended exposure limit)
NOTE: All other target compounds were not detected in the samples (ND).

Totals for each sample were well below the allowable levels and many orders of magnitude below the NIOSH recommended exposure limit.

Particulates were measured with a Quest Technologies EVM-series meter, with each sample run for 15 minutes. Particulates were measured in the PM-10 and the PM-2.5 size ranges. Particulate levels were far below the LEED requirement of 50 ug/m3 and several orders of magnitude below the EPA recommended exposure limit. Measurements are presented in Table 2.

TABLE 2. Centennial Hall Particulate Measurements

Particulate Size	Results in ug/m^3			
	Ballroom 1	**Ballroom 2**	**Ballroom 3**	**EPA REL**
PM-10	0.003	0.004	0.002	150
PM-2.5	0.001	0.001	0.001	65

REQUIREMENT: PM-10 less than 50 micrograms per cubic meter (ug/m^3)
and less than the EPA REL (recommended exposure limit)

Carbon monoxide was also measured in all three ballrooms using the Quest Technologies meter. Carbon monoxide was not detected in any of the ballrooms at a concentration of 1 part per million or higher. The LEED requirement for carbon monoxide measurements matches the EPA recommended exposure limit, which is less than 9 parts per million and no more than 2 parts per million higher than outdoor levels. Measurements are presented in Table 3.

TABLE 3. Centennial Hall Particulate Measurements

Particulate Size	Results in ppm			
	Ballroom 1	Ballroom 2	Ballroom 3	EPA REL
Carbon monoxide	<1	<1	<1	9

REQUIREMENT: less than 9 ppm and no more than 2 ppm over outdoor levels.

NOTE: Outdoor level of carbon monoxide was <1 ppm.

CONCLUSION

Flushing activities meet project requirements for both mechanical system purposes and for LEED IAQc4 purposes.

Based on the results of IAQ measurements, indoor air quality levels in the Centennial Hall ballrooms meet the final clearance standards set forth in LEED IEQc4 and no further sampling is necessary.

THIRD-PARTY SAMPLER COMFIRMATION

I certify that all measurements and assessments on this project were performed by Dahlberg Design, LLC, a third-party firm, and subcontract laboratories, without any intervention from the Contractor or any other party with a vested interest in the outcome of this sampling.

Sigrid Dahlberg, P.E.

Principal Engineer for Dahlberg Design, LLC

APPENDIX A

ANALYTICAL LABORATOR RESULTS

LA TESTING
5431 Industrial Drive
Huntington Beach, CA 92649
Telephone: (714)828-4999 FAX: (714)828-4944
hblab@latesting.com | http://www.EMSL.com

EMSL ORDER ID:
EMSL CUSTOMER ID:

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Laboratory Report- Sample Summary

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
332402243-0001	BALLROOM 1	1/31/2024	8:34 AM
332402243-0002	BALLROOM 3	1/31/2024	8:39 AM
332402243-0003	BALLROOM 2	1/31/2024	8:38 AM

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

Report Date	Report Revision	Revision Comments
2/15/2024	R0	Initial Report

Michael Chapman

Michael Chapman, Laboratory Manager
or other approved signatory

Test results meet all AIHA-LAP,LLC requirements unless otherwise specified. Laboratory ID 101650

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

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Case Narrative

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

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

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

Gas Standards:
Certified Gas standards were used for all analyses.

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

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

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

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

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

Initial Calibration
All Initial Calibration criteria met method specification.

Initial Calibration Verification Standard (ICVS)- Second Source
ICVS met method specification with 70-130% recovery for 100% of compounds.

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

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Case Narrative

Continuing Calibration Verification Standard (CCVS)
CCVS met method specification with all compounds within 30% deviation.

Ending Calibration Verification Standard (ECVS)
ECVS met method specification with all compounds within 30% deviation.

Method Blanks (MB)
Method Blank met method specification.

Reporting Limit Laboratory Control Samples (RLLCS)
RLLCS met method specification with 90% of compounds within the 60-140% recovery range. Individual compounds outside of the recovery range may be listed below.

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

The following data qualifiers that may have been reported with the data,
ND- Non Detect. This notation would be used in the results column in lieu of a "U" qualifier.
U- Compound was analyzed for but not detected at a listed and appropriately adjusted reporting level.
J (Target)- Concentration estimated between Reporting Limit and MDL.
J- Estimated value reported below adjusted reporting limit for target compounds or estimating a concentration for TICs where a 1:1 response is assumed
B- Compound found in associated method blank as well as in the sample.
E- Estimated value exceeding upper calibration range of instrument. Ethanol and isopropyl alcohol are not specifically targeted to dilute within calibration range.
D- Compound reported from additional diluted analysis.
N- indicates presumptive evidence of a compound based on library search match.

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

Michael Chapman, Laboratory Manager
or other approved signatory

LA TESTING
5431 Industrial Drive
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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	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	**0.86**	0.50		**4.3**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**4.8**	0.50		**11**	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**21**	0.50		**40**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**1.9**	0.50		**4.6**	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	**8.4**	0.50		**20**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.5**	0.50		**5.1**	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	**0.63**	0.50		**2.4**	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.78**	0.50		**3.3**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**40**	**ppbv**		**91**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.3	10	93%

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

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

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

Attention: Sigrid Dahlberg
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Project Name: CENTENNIAL HALL 2023

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Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.86**		**4.3**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**4.8**		**11**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**21**		**40**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**1.9**		**4.6**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**8.4**		**20**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.5**		**5.1**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0001
CUSTOMER SAMPLE ID: BALLROOM 1

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:34
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2158.D	E15530	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	**0.63**		**2.4**	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	**0.78**		**3.3**	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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EMSL ORDER ID: 3[illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	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	**0.82**	0.50		**4.1**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**4.1**	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	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**20**	0.50		**37**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**1.5**	0.50		**3.8**	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	**7.6**	0.50		**18**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.5**	0.50		**5.0**	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	**0.58**	0.50		**2.2**	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.87**	0.50		**3.7**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**37**	**ppbv**		**84**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.3	10	93%

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

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

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

Attention: Sigrid Dahlberg
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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.82**		**4.1**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**4.1**		**10**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**20**		**37**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**1.5**		**3.8**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**7.6**		**18**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.5**		**5.0**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

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EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0002
CUSTOMER SAMPLE ID: BALLROOM 3

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:39
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2159.D	E0666	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	**0.58**		**2.2**	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	**0.87**		**3.7**	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	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	**0.69**	0.50		**3.4**	2.5	
Freon 114(1,2-Dichlorotetrafluoroethan	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	ND	0.50		ND	1.0	
n-Butane	106-97-8	58.12	**3.3**	0.50		**7.8**	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.51	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	**16**	0.50		**30**	0.94	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.09	**2.6**	0.50		**6.3**	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethan	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	**5.0**	0.50		**12**	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.05	ND	0.50		ND	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.52	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.93	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.08	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.18	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.09	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.11	ND	0.50		ND	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.11	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	**1.4**	0.50		**4.7**	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	100.1	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.11	ND	0.50		ND	1.8	

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EMSL ORDER ID: [illegible]
EMSL CUSTOMER ID: [illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

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Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	ND	0.50		ND	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.9	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	**0.68**	0.50		**2.9**	2.1	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.7	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.6	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.4	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.2	ND	0.50		ND	2.6	
Total Target Compound Concentrations:			**30**	**ppbv**		**67**	**ug/m3**	

Surrogate	Result	Spike	Recovery
4-Bromofluorobenzene	9.4	10	94%

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

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

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Juneau, AK 99801-1239

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
Reported: 2/15/2024

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.9	**0.69**		**3.4**	4900000		4900000	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.9	ND		ND	7000000		7000000	
Chloromethane	NC	74-87-3	50.49	ND		ND	LFC		210000	
n-Butane	--	106-97-8	58.12	**3.3**		**7.8**	1900000		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	LFC		2600	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	LFC		2200	
Bromomethane	NC	74-83-9	94.94	ND		ND	LFC		78000	
Chloroethane	NC	75-00-3	64.51	ND		ND	LFC		2600000	
Ethanol	--	64-17-5	46.07	**16**		**30**	1900000		1900000	
Bromoethene(Vinyl bromide)	C	593-60-2	106.9	ND		ND	LFC		N.E.	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.4	ND		ND	5600000		5600000	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.09	**2.6**		**6.3**	980000		980000	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.4	ND		ND	7700000		7700000	
Acetone	NC	67-64-1	58.08	**5.0**		**12**	590000		2400000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	790000		N.E.	
Acetonitrile	NC	75-05-8	41.05	ND		ND	34000		67000	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	300000		300000	
Bromoethane(Ethyl bromide)	--	74-96-4	109.0	ND		ND	880000		880000	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.52	ND		ND	3100		3100	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	3100		62000	
Methylene chloride	C	75-09-2	84.93	ND		ND	LFC		87000	
Acrylonitrile	C	107-13-1	53.08	ND		ND	2200		4300	
Methyl-tert-butyl ether(MTBE)	C	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	NC	110-54-3	86.18	ND		ND	180000		1800000	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	400000		400000	
Vinyl acetate	NC	108-05-4	86.09	ND		ND	14000		N.E.	
2-Butanone(MEK)	NC	78-93-3	72.11	ND		ND	590000		590000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	790000		790000	
Ethyl acetate	NC	141-78-6	88.11	ND		ND	1400000		1400000	
Chloroform	C	67-66-3	119.4	ND		ND	9800		240000	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	590000		590000	
1,1,1-Trichloroethane	NC	71-55-6	133.4	ND		ND	1900000		1900000	
Cyclohexane	NC	110-82-7	84.16	**1.4**		**4.7**	1000000		1000000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.2	ND		ND	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.8	ND		ND	13000		63000	
n-Heptane	NC	142-82-5	100.2	ND		ND	350000		2000000	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	4000		200000	
Benzene	C	71-43-2	78.11	ND		ND	320		3200	
Trichloroethene	C	79-01-6	131.4	ND		ND	130000		540000	
1,2-Dichloropropane	C	78-87-5	113.0	ND		ND	LFC		350000	
Methyl Methacrylate	NC	80-62-6	100.1	ND		ND	410000		410000	
Bromodichloromethane	C	75-27-4	163.8	ND		ND	N.E.		N.E.	
1,4-Dioxane	C	123-91-1	88.11	ND		ND	3600		360000	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.2	ND		ND	200000		410000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.0	ND		ND	4500		N.E.	

LA TESTING
5431 Industrial Drive
Huntington Beach, CA 92649
Telephone: (714)828-4999 FAX: (714)828-4944
hblab@latesting.com | http://www.EMSL.com

EMSL ORDER ID: 33[illegible]
EMSL CUSTOMER ID: D[illegible]
EMSL SAMPLE ID: 332402243-0003
CUSTOMER SAMPLE ID: BALLROOM 2

Attention: Sigrid Dahlberg
Dahlberg Design
222 Seward Street
Suite 205
Juneau, AK 99801-1239

Phone: 907-723-8896
Email: sigrid@dahlberg.design

Customer PO:
EMSL Project ID:
Project Name: CENTENNIAL HALL 2023

Collected: 01/31/2024 08:38
Received: 02/09/2024 10:25
Analyzed: See Results
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Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2024	HP	T2160.D	E15526	250 cc	1

NIOSH and OSHA Exposure Limit Comparisons

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	NIOSH REL ug/m3	>	OSHA PEL ug/m3	>
Toluene	NC	108-88-3	92.14	ND		ND	380000		750000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.0	ND		ND	4500		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.4	ND		ND	55000		55000	
2-Hexanone(MBK)	NC	591-78-6	100.2	ND		ND	4100		410000	
Tetrachloroethene	C	127-18-4	165.8	ND		ND	LFC		680000	
Dibromochloromethane	--	124-48-1	208.3	ND		ND	N.E.		N.E.	
1,2-Dibromoethane	C	106-93-4	187.9	ND		ND	350		150000	
Chlorobenzene	NC	108-90-7	112.6	ND		ND	N.E.		350000	
Ethylbenzene	C	100-41-4	106.2	ND		ND	430000		430000	
Xylene (p,m)	NC	1330-20-7	106.2	ND		ND	430000		430000	
Xylene (Ortho)	NC	95-47-6	106.2	ND		ND	430000		430000	
Styrene	NC	100-42-5	104.1	**0.68**		**2.9**	210000		430000	
Isopropylbenzene (cumene)	NC	98-82-8	120.2	ND		ND	250000		250000	
Bromoform	C	75-25-2	252.7	ND		ND	5200		5200	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.9	ND		ND	6900		34000	
4-Ethyltoluene	--	622-96-8	120.2	ND		ND	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.2	ND		ND	120000		N.E.	
2-Chlorotoluene	--	95-49-8	126.6	ND		ND	260000		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.2	ND		ND	120000		N.E.	
1,3-Dichlorobenzene	--	541-73-1	147.0	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.0	ND		ND	LFC		450000	
Benzyl chloride	C	100-44-7	126.6	ND		ND	5200		5200	
1,2-Dichlorobenzene	NC	95-50-1	147.0	ND		ND	300000		300000	
1,2,4-Trichlorobenzene	NC	120-82-1	181.4	ND		ND	37000		N.E.	
Hexachloro-1,3-butadiene	C	87-68-3	260.8	ND		ND	210		N.E.	
Naphthalene	C	91-20-3	128.2	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 exceedances as marked

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

Compound Exposure Definitions
NE= No Limit Established NS= No Screening Value
LFC= Lowest Feasible Concentration

Agency Definitions
NIOSH= The National Institute for Occupational Safety and Health
OSHA= Occupational Safety and Health Administration

Reference
Occupational Safety and Health Administration (OSHA) (2017) Air Contaminants. 29 CFR 1910.1000 [82 FR 2735, January 9, 2017].

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

Carcinogenic (C) Exceedance
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 (NC) Exceedance
Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.
Thus is a theoretical risk and not an actual epidemiological one.

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

LA Testing, Inc.
5431 Industrial Drive
Huntington Beach, CA 92649
Ph. (800) 755-1794
Fax (714) 828-4944

LA Testing Order Number (Lab Use Only): #332402243

Company/Cust. ID: DAHLBERG DESIGN	Company/Billing ID: DAHLBERG DESIGN	Sampled By (Sign):
Contact Name: SIGRID DAHLBERG	Billing Contact: - Same -	Sampled By (Name): SIGRID DAHLBERG
Street Address: 222 SEWARD ST # 205	Street Address:	Total # of Samples: 3
City, State, Zip: JUNEAU AK 99801	City, State, Zip:	Date Shipped: 7 Feb 2024
Phone: 907.723.8856 Fax: -	Phone: Fax:	Sample Collection Zip Code: 99801
Email Results To: sigrid@dahlberg.design	Project Name: CENTENNIAL HALL 2023	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

LA Testing Sample Identifier

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

Client Field Sample Identification	Sampling Start Information				Sampling Stop Information				Canister Information			Gauge #		Flow Contoller		Analysis				Matrix			
	Barometric Pres. ("Hg):				Barometric Pres. ("Hg): 29.34							366320	219424										
	Start Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Stop Date	Time (24 hr clock)	Canister Pressure ("Hg)	Interior Temp. (F)	Canister ID	Size (L)	Can Cert Batch ID	Outgoing Pressure ("Hg)	Incoming Pressure ("Hg)	Reg. ID	Cal Flow (ml/min)	USEPA TO-15	NJDEP LLTO-15	LIBRARY SEARCH	Other (Specify)	Indoor/ Ambient Air	Soil Gas	Landfill/ Vent	Other:
BALLROOM 1	31 Jan 2024	0834	-29	70	31 Jan 2024	1638	-3	71	E15530	6	89A	-30	-3.2	07978	11.0					✓			
BALLROOM 3	"	0839	-29½	70	"	1640	-2½	71	E0666	6	89A	-30	-2.4	15114	11.0					✓			
BALLROOM & 2	"	0838	-29½	70	"	1639	-2½	71	E15536	6	89A	-30	-3.0	15116	11.0					✓			
											HP	02/13/24											

Comments:

Check Box if Seal Intact

Lab Canister Certification
Analyst Signature (TO-15):

Relinquished by:	Date/ Time	Received by:	Date/ Time	Seal # / Intact	Reason for Exchange (circle appropriate)
Rob Hansen	12.22.23	Sigrid Dahlberg	5 JAN 2024 4pm	☑	Shipping Courier Receiving Sampling Other:
Sigrid Dahlberg	6 Feb 2024	Emily Mendoza (FX)	2/9/24 10:25AM	☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:
				☐	Shipping Courier Receiving Sampling Other:

#3324022243

TO-FM-12 Sample Information
Revision 13
Effective Date: December 20, 2022

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, achieve requested TAT, and provide you with helpful interpretation information.

Company: DAHLBERG DESIGN

Contact Person:

Name: SIGRID DAHLBERG
E-mail: sigrid@dahlberg.design
Additional E-mails: sdahlberg907@gmail.com
Telephone #: 907.723.8896

Library Search requested: [ ] YES [ ] NO
A library search (*aka Tentatively Identified Compounds*) 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 to provide you with all available information for your sample.

Sample Type:

[ ] **Indoor Air Quality (Home/Office)**
[ ] **IAQ (Industrial)**
[ ] **Soil Gas/Sub Slab**
[✓] **Other:** Public building / non-office
Sample Description: Reoccupancy sampling after renovation at convention center

PLEASE NOTE: The result forms we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

[✓] **OSHA PELs/NIOSH RELs**	*combined form*		[ ] **Potential Sources of Compounds found in your IAQ sample**		
[ ] **EPA RSLs** - *11/2022; default is THQ 0.1*	Residential	Industrial	[ ] **TVOC (Library Search Required for this format)**		
[ ] **EPA VISLs** - *3/2012*	IA/SG		[ ] **NH DES_WMD** - *2/2013*	Indoor Air	Soil Gas
[ ] **NJ DEP** - *5/2021* - **Circle one:**	VI-Indoor AQ	VI-Soil Gas	[ ] **Ohio** - *5/2016* - **Circle one:**	Residential	Commercial
[ ] **NC DENR** - *2/2018* - **Circle one:**	Residential	Non-residential	[ ] **Indiana Dept Env Mgmt Screeening Levels** - *3/2018*		
[ ] **PA DEP** - *11/2016*	Indoor Air		[ ] **Vermont DEC IROCP** - *7/2017* **(soil gas only)**		
[ ] **PA DEP** - 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas			[ ] **California OEHHA** - *2/2012*		
[ ] **CA HHSL** - *9/2010* - **Circle one:**	Indoor Air	Soil Gas	[ ] **Other; these are the compounds I want reported:**		

JPP 02/13/24

Please note: There is an additional charge for any of the tests below. **USEPA TO-3 AND ASTM 5504 analyses can be performed from your canister at the Cinnaminson NJ Laboratory.**

Very Important Information for Clients!** ***Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

US EPA TO-3 via GC/FID:
[ ] **C_1-C_6 hydrocarbons**
[ ] **Methane only**

ASTM-D5504 *via GC/SCD:* *
[ ] **Sulfur Scan (H_2S, COS, MeSH, EtSH, DMS)**
[ ] **H_2S only**

We can provide the following CMS tests from your canisters at the **Cinnaminson and Huntington Beach** laboratories. Please note these tests are to be used for IAQ/Screening purposes ONLY. EMSL recommends alternate field sampling techniques for these parameters (with the exception of water vapor); please contact your sales rep for the proper media. Please note: There is an additional charge for any of the tests below.

Draeger Analyzer:

[ ] **CO** [ ] **CO_2** [ ] **NH_3** [ ] **O2** [ ] **Water Vapor**

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure 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.

Submittals: Carver Construction, LLC

Heads up! We need your Approval of the following Submittals, **Due on 02/29/2024.**

General Information:

1050033 - 132 Construction Waste Management Final Report (Revision)

Project: Centennial Hall Ballroom Reno
Centennial Hall - Ballroom
155 South Seward Street, Juneau, AK 99801

Manager: James Malapanis, *Project Manager*
Carver Construction, LLC
1800 Greenwood Crest, Comox, BC V9M 4C8

Requested by: James Malapanis, *Project Manager*

Approved as Noted
2/16/24
Lisa Eagan-Lagerquist

Request For Approval:

Submitted Date: 02/15/2024

Responders: - **City & Borough of Juneau - Gen Term** - Lisa Eagan-Lagerquist *(Project Manager)*
- **Jensen Yorba Wall Inc.** - Dan Fabrello *(Construction Administrator)*

Commenters: - **Carver Construction LLC** - James Malapanis *(Project Manager)*

Instructions:

Item	Rev	Reference	Phase	Cost Code	Subject	Type	Critical Date	
107	1			017400	Construction Waste Management Final Report (Revision)	General Documentation	02/29/2024	Details

WASTE MANAGEMENT RECEIPT LOG

Updated: 2-15-2024

NOTE: UOM - TONS

GOAL: DIVERT 50% BY WEIGHT OF TOTAL CONSTRUCTION & DEMOLISION WASTE GENERATED ON-SITE.

TARGET MATERIALS: CONCRETE 40 T, METALS 4 T, WOOD 5 T, CARDBOARD 1 T, ALUMINUM/PLASTICS 0.1 T, NON-RECYCLABLES 50 T

DATE	FACILITY	FACILITY ID	METALS	CONCRETE	GRAVEL	WOOD	SOUND PANELS	CARDBOARD	NON RECYCLABLES	NOTES
12/12/22	D&S Recycling	Recycle	0.62							
12/21/22	Capitol Disposal	Landfill							1.45	
12/21/22	Capitol Disposal	Landfill							1.02	
12/21/22	Capitol Disposal	Landfill							0.48	
12/22/22	Scookum	Recycle	1.65							
12/22/22	Scookum	Recycle	0.93							
12/22/22	Capitol Disposal	Landfill							0.69	
12/26/22	D&S Recycling	Recycle	0.63							
12/28/22	Capitol Disposal	Landfill							1.2	
1/2/23	Capitol Disposal	Landfill							1.15	
1/6/23	Bobcat	Repurpose	4.39							
1/6/23	Bobcat	Repurpose	3.91							
1/6/23	Bobcat	Repurpose	3.8							
1/6/23	Bobcat	Repurpose	4.93							
1/6/23	Capitol Disposal	Landfill							1.03	
1/17/23	Capitol Disposal	Landfill							0.64	
1/18/23	Capitol Disposal	Landfill							0.35	
1/19/23	Bobcat	Repurpose	1.59							
1/25/23	Capitol Disposal	Landfill							1.48	
1/25/23	Capitol Disposal	Landfill							1.84	
2/11/23	Carver's Lot	Recycle		3.46						
2/11/23	Carver's Lot	Recycle		2						
2/11/23	Carver's Lot	Recycle		3.03						
2/11/23	Carver's Lot	Recycle		2.16						
2/11/23	Carver's Lot	Recycle		2.08						

2/18/23	Bobcat	Repurpose	3.37					
2/18/23	Carver's Lot	Recycle		2.83				
2/18/23	Carver's Lot	Recycle		2.41				
2/18/23	Carver's Lot	Recycle		2.84				
2/18/23	Carver's Lot	Recycle		2.5				
2/18/23	Carver's Lot	Recycle			2.45			
2/18/23	Carver's Lot	Recycle			3.57			
2/18/23	Carver's Lot	Recycle			4.04			
2/18/23	Carver's Lot	Recycle			2.99			
2/18/23	Carver's Lot	Recycle			3.36			
2/18/23	Carver's Lot	Recycle			3.5			
2/18/23	Carver's Lot	Recycle			2.95			
2/18/23	Carver's Lot	Recycle			3.63			
2/25/23	Carver's Lot	Recycle			3.51			
2/25/23	Carver's Lot	Recycle			3.025			
2/25/23	Carver's Lot	Recycle			3.025			
2/25/23	Carver's Lot	Recycle			3.04			
2/25/23	Carver's Lot	Recycle			3.51			
2/25/23	JAC & Others	Repurpose				0.36		
2/25/23	Carver's Lot	Recycle			3.31			
2/25/23	Carver's Lot	Recycle			1.48			
2/25/23	Carver's Lot	Recycle	1.19					
2/25/23	Capitol Disposal	Landfill						0.87
2/28/23	Carver's Lot	Recycle			3.95			
3/9/23	Capitol Disposal	Landfill						0.97
3/9/23	Capitol Disposal	Recycle	0.67					
3/17/23	Individuals	Repurpose				0.36		
3/17/23	CBJ	Repurpose				0.82		
4/28/23	Capitol Disposal	Landfill						0.98
4/21/23	Capitol Disposal	Landfill						1.41
4/28/23	Capitol Disposal	Recycle	0.8					

5/11/23	Capitol Disposal	Recycle	0.24							
5/11/23	Capitol Disposal	Landfill							0.84	
5/16/23	Capitol Disposal	Landfill							0.44	
6/2/23	Bobcat	Repurpose	0.57							
6/5/23	Capitol Disposal	Landfill							0.69	
6/15/23	Capitol Disposal	Landfill							0.38	
6/15/23	Capitol Disposal	Landfill							0.73	
7/10/23	Capitol Disposal	Landfill							0.33	
7/10/23	Capitol Disposal	Recycle						0.05		
7/20/23	Capitol Disposal	Recycle							0.36	
7/21/23	Capitol Disposal	Landfill							0.83	
7/21/23	Capitol Disposal	Recycle						0.05		
7/24/23	Capitol Disposal	Landfill							0.23	
7/25/23	Capitol Disposal	Landfill							0.31	
7/25/23	Capitol Disposal	Recycle							0.31	
7/27/23	Skookum	Recycle	1.9							
7/27/23	Skookum	Recycle	1.55							
8/1/23	Individuals	Repurpose				1				
8/1/23	Individuals	Repurpose				1.75				
8/1/23	Individuals	Repurpose	1.5							
8/8/23	Capitol Disposal	Landfill							0.19	
8/16/23	Capitol Disposal	Landfill							0.51	
8/23/23	Capitol Disposal	Landfill							0.59	
2/14/24	Capitol Disposal	Landfill							0.025	Alcan estimate at completion
			34.24	23.31	51.34	2.75	1.54	0.1	22.325	

Total Waste:	135.605	TONS
Waste Diverted from Landfill:	113.28	TONS
Percentage (%) Diverted:	83.54%	

April 24, 2024 EPW Grant Application Update

Planned and pending (recently submitted) applications as of April 24, 2024. This list includes programs with active/recently closed NOFOs and does not include programs which were evaluated but not a competitive fit for CBJ at this time.

Grant Name	Source	Lead Department	Project Name/Scope	Amount	Status
2024 Clean Heavy-Duty Vehicles Grant Program	EPA	EPW	TBD	TBD	*Reviewing (Due July 25)*
Energy Transitions Initiative Partnership Project (ETIPP)	NREL	EPW	TBD	TBD	*Reviewing (Due July 10)*
Active Transportation Infra Investment Program (ATIIP)	FHWA	EPW	Lemon Creek Multimodal Path (Tentative)	TBD	*In Progress (Due June 17)*
Renew America's Schools Prize	DOE SCEP	EPW/JSD	JSD-Wide HVAC Controls Upgrades	TBD	*In Progress (Due June 13)*
Clean Ports Program	EPA	D&H, EPW	Shore Power at Dock 16B	$35-45M	*In Progress (Due May 28)*
Low or No Emission and Grants for Buses and Bus Facilities Programs	FTA	Capital Transit	Acquisition of six electric busses (including replacement of Proterra Bus) + charging infra	$11.9M	*Submitted*
Waste to Energy Technical Assistance	NREL	EPW	Technical Assistance	40hrs TA	*Submitted*
Denali Commission Program Grants	Denali Commission	EPW	Mendenhall River Culvert Check Valves	TBD	**Did not submit due to incompatible award timeline*