

**Total  
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Setting the Standard in Comprehensive Environmental Solutions

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# Indoor Air Quality Assessment Report

at

**Samuel Tucker Elementary School**  
435 Ferdinand Day Drive,  
Alexandria, VA 22304



Report Prepared for:

John Contreras  
Alexandria City Public Schools  
2601 Cameron Mills Rd, Alexandria, VA 22302

*Dated: September 27, 2021*

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## ABBREVIATIONS AND ACRONYMS

<b>AHU</b>	Air-Handling Unit
<b>AIHA</b>	American Industrial Hygiene Association
<b>ASHRAE</b>	American Society of Heating, Refrigerating and Air-Conditioning Engineers
<b>ASTM</b>	American Society for Testing and Materials
<b>CO</b>	Carbon Monoxide
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>EMLAP</b>	Environmental Microbiology Laboratory Accreditation Program
<b>HVAC</b>	Heating, Ventilating, And Air-Conditioning
<b>IAQ</b>	Indoor Air Quality
<b>NIST</b>	National Institute for Standards and Technology
<b>NVLAP</b>	National Voluntary Laboratory Accreditation Program
<b>RH</b>	Relative Humidity

### **Abbreviations involving scientific volume and measurements involving media or water sampling**

<b>Spores/m<sup>3</sup></b>	Mold spores per cubic meter of air
<b>LPM</b>	Liters Per Minute
<b>NTE</b>	Not to exceed
<b>°F</b>	degree Fahrenheit
<b>PPM</b>	Parts Per Million



## 1. Executive Summary

Total Environmental Concepts (TEC) was contracted by Alexandria City Public Schools (ACPS) to perform Indoor Air Quality (IAQ) assessments at 19 schools. Douglas MacArthur Elementary was out of service and not assessed. The original list included:

- Alexandria City High School (AC)
- AC Satellite Campus, Central Offices (CO)
- Charles Barrett Elementary School (BC)
- Cora Kelly School for Math (CK)
- Frances C. Hammond Elementary School (FH)
- George Mason Elementary School (GM)
- George Mason Elementary School (GW)
- James Polk Elementary School (JP)
- John Adams Elementary School (JA)
- Lyles-Crouch Elementary School (LC)
- Minnie Howard High School (MH)
- Naomi Brooks Elementary School (NB)
- **Samuel Tucker Elementary School (ST)**
- William Ramsey Elementary School (WR)
- Douglas MacArthur Elementary School (DM)
- Jefferson-Houston Elementary School (JH)
- Ferdinand T. Day Elementary School (FD)
- Patrick Henry Elementary School (PH)
- Mount Vernon Community School (MV)

This IAQ assessment was conducted at Samuel Tucker Elementary School on Tuesday, August 24, 2021. ACPS required that the testing to be based on the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) guidelines. ACPS provided site plans and fifteen (15) sampling locations per school. Sampling locations were chosen by ACPS based on internal review of facilities maintenance records, and a review of facilities maintenance related issues. These sampling locations were selected to collect representative IAQ data in these specific areas and to document any areas of potential concern observed during the site assessment. As such, ACPS required that TEC test for the following major indoor air pollutants:

- Mold
- Radon
- TO+15 (VOCs)
- Formaldehyde
- 4-polycyclohexene (4-PCH)

In accordance with ASHRAE, TEC also took measurements of the following at each school:

- Carbon Monoxide
- Carbon Dioxide
- Humidity
- Temperature

- Oxygen

**Summary of findings and recommendaitons during this limited IAQ investigation:**

- **Mold** – TEC conducted site-specific mold sampling outside at Samuel Tucker Elementary School to obtain a baseline of the number and types of fungal spores in the air. This baseline was compared to the spores collected inside at the sampling locations since inside spore counts above baseline could indicate internal sources of mold.

**Findings:**

The number of spores in the air were within acceptable ranges in all locations as compared to background outside air mold spore counts. Photographs can be found in Section 3, Visual Observations.

**Recommendations:**

- Moving forward, any suspected mold growth should be inspected by a qualified professional.
- Investigate sources of water leaks and any evidence of water staining.
- Inspect above drop ceilings and replace stained ceiling tiles.
- Inspect areas around the building foundation.
- For all HVAC and associated building systems, a detailed schedule of maintenance should be established and adhered to.

None of the results from the fifteen sampling locations at at Samuel Tucker Elementary School were indicative of mold issues.

- **Radon** – levels recorded in all locations were less than 4pCi/L, as recommended by EPA and HUD.
- **VOCs** – The levels of volatile organic compounds (VOCs) recorded at each location were within acceptable ranges, when compared to EPA Regional Screening Levels (RSLs).
- **4-PCH** – levels recorded during this investigation were within the LEED (Leadership of Energy and Environmental Design) IAQ guideline of 6.5 ug/m<sup>3</sup>.
- **Formaldehyde** – the levels of formaldehyde recorded at each location were within an acceptable range, compared to EPA Regional Screening Level (RSLs) of 1ug/m<sup>3</sup>.
- **Carbon monoxide** – concentrations in all areas were less than the EPA and ASHRAE recommended limit of 9 ppm.
- **Carbon dioxide** – concentrations in all tested spaces were less than the ASHRAE limit of 1,092 ppm.
- **RH** – the relative humidity in all tested spaces was within the ASHRAE guidelines of ≤ 67%, and for the purposes of this investigation ≤ 65%. None of the tested locations had a relative humidity greater than 65%.
- **Temperature** – none of the tested spaces had a temperatures greater than the ASHRAE recommended summer range of 75°F-80.5°F.

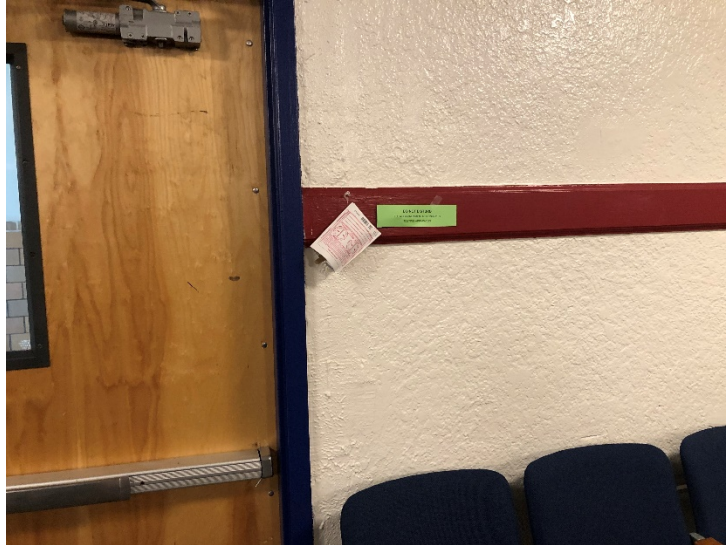
## 2. Assesment Methods

TEC staff scientists Margaret Stanger, Victoria Powers, and Channing Jackson, conducted IAQ inspections and air sampling on Monday, August 23, 2021, under the direction of Industrial Hygienist Nikki Satari. All air samples were collected three-six feet from floor level, the typical breathing zone for adults.

Mold air samples were collected with a field calibrated Environmental Monitoring Systems High Volume Sampling Pump on Allergenco-D Disposable IAQ Air Monitoring Cassettes at a flow rate of 10 liters per minute for a sample volume of 75 liters during the assessment (photograph below). The Hayes Microbial Consulting laboratory reports are included in Appendix A.



Radon gas samples were collected by securing Air Chek Radon Test Kits (photograph below). Samples were collected within the breathing zone (4-6ft from ground level) at each sample location. In accordance with Air Chek's Radon Test Kit Instructions, kits were secured to walls inside the building and away from, open windows, doors to the outside, or interior air ventilation systems. The sampling time was 72 hours. Radon analytical results can be found in Appendix B.



Formaldehyde gas air samples were collected using static Aldehyde TraceAir II Monitors (photograph below). Samples were secured to surrounding testing equipment to expose the full surface area of the sampling device for the full 4 hours of sampling time. Monitors were collected after 4 hours and processed for shipment to Phase Separation Science located in Catonsville, MD. Formaldehyde analytical results can be found in Appendix D.



The 4-polycyclohexene (4-PCH) samples were collected in SKC's Anasorb CSC sorbent tubes through Gilian GilAir3 Air Sampling Pumps (photograph below). Pumps were placed within the breathing zone (4-6ft from ground level). Run times were 8 hours or time weighted 4 hour runs. 4-PCH analytical results can be found in Appendix E.





TO+15 (VOCs) samples were collected using ENTECH Instruments 1.4L SUMMA canisters with an ENTECH regulator attachment (photograph below). Canisters were deployed at each location for a run time of 8 hours or a time-weighted run time of 4 hours. Internal pressure readings were recorded at the start and end of each sample run time. TO+15 (VOCs) analytical results can be found in Appendix C.





The temperature and relative humidity were taken with the AcuRite Digital Indoor Temperature and Humidity Monitor in the lobby of each school. Temperature and relative humidity readings can be found in Section 5 Mold Sampling Results, below.

Real-time measurements for oxygen, carbon dioxide, carbon monoxide, VOC, hydrogen sulfides were taken with multi-gas detector. These measurements can be found in Section 10 Multi-gas Detector (MSA Altair Multi-gas) Readings. This information can be found in Table 1 below.



### 3. Visual Observations

Sample Location	August 24, 2021	Visual Observations
Media Assembly	Water stain observed on the ceiling of the Media Assembly room.	

Library Office	Water stain observed on ceiling of the Library Office.	
Gymnasium	Radon sampling kit location	

#### 4. Conditions for Human Occupancy

Conditions for Human Occupancy are addressed in ASHRAE Standard 55-2017. These standards are designed to provide comfort for an estimated 80% of occupants. The standard provides for a temperature range from between approximately 67 and 82 °F. A more specific range based on relative humidity, season, clothing worn, activity levels, and other factors can be determined. For example, the standard does not specify a lower humidity range, but notes that issues of comfort, skin irritation, dry mucous membranes, and static electricity may arise when the relative humidity is less than 30%. ASHRAE Standard 62.1-2016 does recommend an upper limit of 67% humidity to avoid conditions conducive to microbial growth. For the purposes of this investigation, TEC used a conservative upper limit of 65%. The recommended ASHRAE temperature range for schools and office spaces in summer is 75°F-80.5°F.



#### **4.1 Temperature**

The recommended ASHRAE temperature range for schools and office spaces in summer is 75°F-80.5°F. The recorded relative humidity in all locations was below 65% and average indoor temperature can be found in Table 2.

#### **4.2 Relative Humidity**

ASHRAE Standard 62.1-2016 recommends a relative humidity no greater than 67% to avoid conditions conducive to microbial growth. The relative humidity observed by TEC during this investigation was observed to be below 65% in all locations. Average relative humidity can be found in Table 2.

#### **4.3 Carbon Dioxide**

Carbon dioxide (CO<sub>2</sub>) is a byproduct of combustion burning engines. Generators, furnaces, boilers, idling automobile engines. High CO<sub>2</sub> measurements may indicate engine maintenance issues. There were no exceedances in real-time during the IAQ investigation. Complete results can be found in Table 1.

#### **4.4 Carbon Monoxide**

Carbon monoxide (CO) is a byproduct of the combustion of fossil fuels. Generators, furnaces, boilers, idling automobile engines, may all produce CO. High CO measurements may indicate engine maintenance issues. There were no exceedances in real-time during the IAQ investigation. Complete results can be found in Table 1.

#### **4.5 Multi-gas Detector Readings**

Multi-gas readings were taken at each location to document current conditions at the time of the sampling efforts and to monitor the environment between sampling locations. There were no exceedances in real-time during the IAQ investigation. Complete results can be found in Table 1.

### **5. Mold Sampling Results**

TEC conducted mold sampling outside to obtain a baseline spore count. This baseline was compared to inside mold spore counts at the designated sampling locations.

The number of spores in the air was within acceptable ranges in all locations compared to background outside air mold spore counts.

In conclusion, federal standards for the number of fungal spores present in the indoor environment don't exist. The widely accepted guideline in the indoor air quality field requires

that the number and types of spores present in the indoor environment not exceed those present outdoors at any given time.

Mold is carried indoors through building entrances, open windows, loading docks, foot traffic into buildings, and the HVAC system. To thrive indoors, mold requires a food source, proper temperature, and humidity to foster its growth.

There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and, if it does, to help pinpoint the area of contamination.

There will also be mold spores present in "normal" outdoor environments. In any environment, excess mold growth may arise as a result of excess moisture, and indoors this may indicate water leaks or high indoor humidity.

Interior spore counts above baseline readings may indicate internal sources of mold, and this would indicate a requirement for further investigation and potential mitigation

TEC recommends that ACPS investigate all areas where there are obvious signs of water intrusion. Care should be taken to look above drop ceilings and around the building foundation. Any hidden suspected mold should be tested and verified by a qualified professional. The mold in air results do not indicate a need for mold abatement at this time, but conditions may worsen if the issues with leaks and water intrusion are not addressed. The observed ratio anomalies are most likely caused by a combination of the normal fluctuation in daily spore counts and the issues with water intrusion.

### **Findings:**

The number of spores in the air were within acceptable ranges in all locations as compared to background outside air mold spore counts. Photographs can be found in Section 3, Visual Observations.

### **Recommendations:**

- Moving forward, any suspected mold growth should be inspected by a qualified professional.
- Investigate sources of water leaks and any evidence of water staining.
- Inspect above drop ceilings and replace stained ceiling tiles.
- Inspect areas around the building foundation.
- For all HVAC and associated building systems, a detailed schedule of maintenance should be established and adhered to.

None of the results from the fifteen sampling locations at Samuel Tucker Elementary School were indicative of mold issues.

Mold analytical results can be found in Appendix A.

## **6. Radon Gas Sampling Results**

Radon forms as the result of the radioactive decay of uranium. Uranium is a naturally occurring radioactive by product that occurs when rock and soil breaks down. Some building materials, such as granite, may be a source of radon. Sampling areas were provided by ACPS. This did not allow for TEC to utilize the sampling protocol provided by Air Chek for performing a comprehensive survey. Air Chek Radon Test Kits collection times were a minimum of 72 hours. Test kits were then retrieved and shipped to Air Chek Inc. located in Mills River, NC. Air Chek laboratories are National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP), and American Industrial Hygiene Association (AIHA) for Environmental Microbial Laboratory Accreditation Program (EMLAP) certified. Analytical results can be found in Appendix B.

## **7. Formaldehyde Gas Sampling Results**

Sources of formaldehyde are similar to sources of carbon monoxide. They include gas-burning engines and space heaters. Other sources include smoking, household products, pressed wood products, and adhesives. Analytical results can be found in Appendix D.

## **8. TO+15 (VOC) Sampling Results**

Volatile organic compounds (VOCs), are organic chemicals emitted as gases. Carpets, flooring materials, cleaning agents, disinfectants, air fresheners, and vinyl furnishings, may all be sources of VOCs in indoor air. Analytical results can be found in Appendix C.

## **9. 4-PCH Sampling Results**

4-polycyclohexene is a common indoor air contaminant most commonly associated with "new-carpet" smell complaints. 4-PCH is a byproduct of carpet manufacturing and has been associated with adverse health effects. None of the areas investigated during this study indicated elevated levels of PCH. Analytical results can be found in Appendix E.

## **10. Multi-Gas Detector (MSA Altair Multi-gas) Readings**

Multi-gas readings were taken at each location to document current conditions at the time of the sampling efforts and to monitor the environment between sampling locations. There were no exceedances in real-time during the IAQ investigation. Multi-gas results can be found below in Table 1.

**Table 1**

Multi-Gas Detector Readings				
Location	VOC	CO	OXYGEN	H2S
Reception Office	0.0	0.0	20.8	0.0
Cafeteria	0.0	0.0	20.8	0.0
Gym	0.0	0.0	20.8	0.0
Library	0.0	0.0	20.8	0.0
Class 123	0.0	0.0	20.8	0.0
Class 115	0.0	0.0	20.8	0.0
121 Computer Lab	0.0	0.0	20.8	0.0
Class 106	0.0	0.0	20.8	0.0
Class 208	0.0	0.0	20.8	0.0
Class 214	0.0	0.0	20.8	0.0
Class 218	0.0	0.0	20.8	0.0
Hall 226	0.0	0.0	20.8	0.0
Hall 201	0.0	0.0	20.8	0.0
Class 200	0.0	0.0	20.8	0.0
Media Assembly	0.0	0.0	20.8	0.0

## Table 2

Results of Analytes by Location						
Location	Radon	Mold		TO+15 VOCs	4PCH	Formaldehyde
		AVG: 77 F	AVG: 46 %			
Reception Office	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Cafeteria	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Gym	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Library	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 123	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 115	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
121 Computer Lab	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 106	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 208	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 214	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 218	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Hall 226	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Hall 201	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Class 200	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL
Media Assembly	< 4 pCi/L	Spore Count Normal		< RSL	< 6.5 ug/m3	< RSL

## 11. Quality Control Program

- TEC recognizes the importance of quality assurance (QA) and quality control (QC) measures as they relate to the performance of sample collection and processing.
- To ensure compliance with QA/QC measures, SOPs have been developed for field sample collection techniques, field sample screening procedures, multi-media sampling, and the accurate presentation of findings/reporting.
- All staff are provided these SOPs and are trained in these procedures before conducting work activities. TEC's Program Manager and the on-site PM/QCM will manage the quality control program.
- The PM will work closely with field technicians to ensure the success of the quality control program. All team members will receive copies of and abide by the quality control plan.
- Daily records will be kept of all operations, activities, and tests performed in the quality control program.
- All samples collected during this IAQ assessment were collected, processed, and shipped under the strictest chain of custody (CoC) guidelines.
- All samples were shipped for analysis by a National Voluntary Laboratory Accreditation Program (NVLAP) or National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory.

## **Appendix A: Mold Analytical Results**



Analysis Report prepared for

## Total Environmental Concepts, Inc.

8382 Terminal Road  
Suite B  
Lorton, VA 22079

Phone: (571) 289-2173

Samuel W Tucker Elementary School  
435 Ferdinand Day Drive  
Alexandria, VA 22304

Collected: **August 24, 2021**  
Received: **August 25, 2021**  
Reported: **August 25, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!  
We received 17 samples by FedEx in good condition for this project on August 25th, 2021.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.



Steve Hayes, BSMT(ASCP)  
Laboratory Director  
Hayes Microbial Consulting, LLC.



EPA Laboratory ID: VA01419



Lab ID: #188863



DPH License: #PH-0198

Sample Number	1 ST4318593			2 ST4318575			3 ST4318274			4 ST4318592		
Sample Name	ST Reception			ST Cafe			ST Library			ST Gym		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>		
Background	2			2			2			2		
Fragments	ND			ND			ND			ND		
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total
Alternaria												
Ascospores	2	27	66.7%	1	13	100.0%	1	13	50.0%	2	27	40.0%
Aspergillus Penicillium												
Basidiospores							1	13	50.0%	1	13	20.0%
Bipolaris Drechslera												
Chaetomium												
Cladosporium												
Curvularia										1	13	20.0%
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes	1	13	33.3%							1	13	20.0%
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Pestalotiopsis												
<b>Total</b>	<b>3</b>	<b>40</b>	<b>100%</b>	<b>1</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>26</b>	<b>100%</b>	<b>5</b>	<b>66</b>	<b>100%</b>

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality



Collected: **Aug 24, 2021**      Received: **Aug 25, 2021**      Reported: **Aug 25, 2021**      Revision: **2**

Project Analyst: Ramesh Poluri, PhD *P. Ramesh*      Date: **08 - 25 - 2021**      Reviewed By: Steve Hayes, BSMT *Stephen N. Hayes*      Date: **08 - 25 - 2021**

Sample Number	5 ST4318587			6 ST4318584			7 ST4318585			8 ST4318586		
Sample Name	ST 123			ST 115			ST 130			ST 106		
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>		
Background	2			2			2			2		
Fragments	13/m <sup>3</sup>			ND			ND			ND		
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total
Alternaria												
Ascospores	2	27	66.7%	1	13	50.0%	1	13	25.0%	1	13	100.0%
Aspergillus Penicillium												
Basidiospores	1	13	33.3%									
Bipolaris Drechslera												
Chaetomium												
Cladosporium							1	13	25.0%			
Curvularia				1	13	50.0%	1	13	25.0%			
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes							1	13	25.0%			
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Pestalotiopsis												
<b>Total</b>	<b>3</b>	<b>40</b>	<b>100%</b>	<b>2</b>	<b>26</b>	<b>100%</b>	<b>4</b>	<b>52</b>	<b>100%</b>	<b>1</b>	<b>13</b>	<b>100%</b>

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality



Collected: **Aug 24, 2021**

Received: **Aug 25, 2021**

Reported: **Aug 25, 2021**

Revision: **2**

Project Analyst:  
 Ramesh Poluri, PhD *P. Ramesh*

Date:  
**08 - 25 - 2021**

Reviewed By:  
 Steve Hayes, BSMT *Stephen N. Hayes*

Date:  
**08 - 25 - 2021**

Sample Number	9	ST4318598			10	ST4318590			11	ST4318588			12	ST4318582		
Sample Name	ST 200			ST Hallway 202			ST 208			ST 214						
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter						
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>						
Background	2			2			2			2						
Fragments	ND			ND			ND			ND						
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total				
Alternaria																
Ascospores	2	27	100.0%	2	27	66.7%	1	13	14.3%	1	13	100.0%				
Aspergillus Penicillium																
Basidiospores				1	13	33.3%										
Bipolaris Drechslera																
Chaetomium																
Cladosporium							6	80	85.7%							
Curvularia																
Epicoccum																
Fusarium																
Memnoniella																
Myxomycetes																
Pithomyces																
Stachybotrys																
Stemphylium																
Torula																
Ulocladium																
Pestalotiopsis																
Total	2	27	100%	3	40	100%	7	93	100%	1	13	100%				

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality



Collected: **Aug 24, 2021**      Received: **Aug 25, 2021**      Reported: **Aug 25, 2021**      Revision: **2**

Project Analyst: Ramesh Poluri, PhD *P. Ramesh*      Date: **08 - 25 - 2021**      Reviewed By: Steve Hayes, BSMT *Stephen N. Hayes*      Date: **08 - 25 - 2021**

Sample Number	13	ST4318581			14	ST4318579			15	ST4318383			16	ST4318577		
Sample Name	<b>ST Media</b>			<b>ST 218</b>			<b>ST Outside</b>			<b>ST Hallway 229</b>						
Sample Volume	75.00 liter			75.00 liter			75.00 liter			75.00 liter						
Reporting Limit	13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>			13 spores/m <sup>3</sup>						
Background	2			2			2			2						
Fragments	ND			ND			13/m <sup>3</sup>			ND						
Organism	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total	Raw Count	Count / m <sup>3</sup>	% of Total				
Alternaria							4	53	<1%							
Ascospores	1	13	33.3%	1	13	50.0%	144	1920	32.0%	2	27	100.0%				
Aspergillus Penicillium							3	40	<1%							
Basidiospores							88	1173	19.6%							
Bipolaris Drechslera																
Chaetomium																
Cladosporium				1	13	50.0%	192	2560	42.7%							
Curvularia	1	13	33.3%				2	27	<1%							
Epicoccum																
Fusarium																
Memnoniella																
Myxomycetes							3	40	<1%							
Pithomyces							12	160	2.7%							
Stachybotrys																
Stemphylium																
Torula							2	27	<1%							
Ulocladium																
Pestalotiopsis	1	13	33.3%													
<b>Total</b>	<b>3</b>	<b>39</b>	<b>100%</b>	<b>2</b>	<b>26</b>	<b>100%</b>	<b>450</b>	<b>6000</b>	<b>100%</b>	<b>2</b>	<b>27</b>	<b>100%</b>				

Water Damage Indicator      Common Allergen      Slightly Higher than Baseline      Significantly Higher than Baseline      Ratio Abnormality

Collected: **Aug 24, 2021**

Received: **Aug 25, 2021**

Reported: **Aug 25, 2021**

Revision: **2**



Project Analyst:  
 Ramesh Poluri, PhD

*P. Ramesh*

Date:  
**08 - 25 - 2021**

Reviewed By:  
 Steve Hayes, BSMT

*Stephen N. Hayes*

Date:  
**08 - 25 - 2021**

#17	Swab (1.00 cm2)	Organism	Spore Estimate	Mycelial Estimate
ST 1 - ST Media		Myxomycetes	Rare	ND

**Spore Trap Information**

<b>Reporting Limit</b>	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.										
<b>Blanks</b>	Results have not been corrected for field or laboratory blanks.										
<b>Background</b>	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of <i>Aspergillus</i> and <i>Penicillium</i> may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p><b>NBD:</b> No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <p><b>1 :</b> &lt;5% of field occluded. No spores will be uncountable.</p> <p><b>2 :</b> 5-25% of field occluded.</p> <p><b>3 :</b> 25-75% of field occluded.</p> <p><b>4 :</b> 75-90% of field occluded.</p> <p><b>5 :</b> &gt;90% of field occluded. Suggested recollection of sample.</p>										
<b>Fragments</b>	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.										
<b>Control Comparisons</b>	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.										
<table border="1"> <tr> <td data-bbox="44 980 464 1040">Water Damage Indicator</td> <td data-bbox="491 980 2039 1010"><b>Blue:</b> These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.</td> </tr> <tr> <td data-bbox="44 1040 464 1101">Common Allergen</td> <td data-bbox="491 1040 2039 1070"><b>Green:</b> Although all molds are potential allergens, these are the most common allergens that may be found indoors.</td> </tr> <tr> <td data-bbox="44 1101 464 1161">Slightly Higher than Baseline</td> <td data-bbox="491 1101 2039 1130"><b>Orange:</b> The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.</td> </tr> <tr> <td data-bbox="44 1161 464 1221">Significantly Higher than Baseline</td> <td data-bbox="491 1161 2039 1190"><b>Red:</b> The spore count is significantly higher than the baseline count and probably indicates a source of contamination.</td> </tr> <tr> <td data-bbox="44 1221 464 1279">Ratio Abnormality</td> <td data-bbox="491 1221 2039 1284"><b>Violet:</b> The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.</td> </tr> </table>	Water Damage Indicator	<b>Blue:</b> These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.	Common Allergen	<b>Green:</b> Although all molds are potential allergens, these are the most common allergens that may be found indoors.	Slightly Higher than Baseline	<b>Orange:</b> The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.	Significantly Higher than Baseline	<b>Red:</b> The spore count is significantly higher than the baseline count and probably indicates a source of contamination.	Ratio Abnormality	<b>Violet:</b> The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.	
Water Damage Indicator	<b>Blue:</b> These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.										
Common Allergen	<b>Green:</b> Although all molds are potential allergens, these are the most common allergens that may be found indoors.										
Slightly Higher than Baseline	<b>Orange:</b> The spore count is slightly higher than the outside count and may or may not indicate a source of contamination.										
Significantly Higher than Baseline	<b>Red:</b> The spore count is significantly higher than the baseline count and probably indicates a source of contamination.										
Ratio Abnormality	<b>Violet:</b> The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.										
<b>Color Coding</b>	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.										



<b>Spore Estimate</b>		<b>Percentages</b>
ND	None Detected	0%
Rare	Less than 10 spores	< 1%
Light	10 - 99 spores	1-10%
Moderate	100 - 999 spores	11-25%
Heavy	1000 - 9999 spores	26-50%
Very Heavy	10000 or greater spores	51-100%

<b>Mycelial Estimate</b>	
ND	None Detected No active growth at site.
Trace	Very small amount of Mycelium Probably no active growth at site.
Few	Some Mycelium Possible active growth at site.
Many	Large amount of Mycelium Probable active growth at site.

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<b>Alternaria</b>	<b>Habitat:</b> Commonly found outdoors in soil and decaying plants. Indoors, it is commonly found on window sills and other horizontal surfaces. <b>Effects:</b> A common allergen and has been associated with hypersensitivity pneumonitis. Alternaria is capable of producing toxic metabolites which may be associated with disease in humans or animals. Occasionally an agent of onychomycosis, ulcerated cutaneous infection and chronic sinusitis, principally in the immunocompromised patient.
<b>Ascospores</b>	<b>Habitat:</b> A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report. <b>Effects:</b> Health affects are poorly studied, but many are likely to be allergenic.
<b>Aspergillus Penicillium</b>	<b>Habitat:</b> The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates. <b>Effects:</b> This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.
<b>Basidiospores</b>	<b>Habitat:</b> A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings. <b>Effects:</b> Common allergens and are also associated with hypersensitivity pneumonitis.
<b>Cladosporium</b>	<b>Habitat:</b> One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts. <b>Effects:</b> A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.
<b>Curvularia</b>	<b>Habitat:</b> They exist in soil and plant debris, and are plant pathogens. <b>Effects:</b> They are allergenic and a common cause of allergic fungal sinusitis. An occasional cause of human infection, including keratitis, sinusitis, onychomycosis, mycetoma, pneumonia, endocarditis and disseminated infection, primarily in the immunocompromised.

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**Myxomycetes**

**Habitat:** Found on decaying plant material and as a plant pathogen.

**Effects:** Some allergenic properties reported, but generally pose no health concerns to humans.

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**Pestalotiopsis**

**Habitat:** Found in soil and occasionally on plants. Some species can break down plastics.

**Effects:** No known health effects. Allergenic properties are poorly studied.

---

**Pithomyces**

**Habitat:** Common fungus isolated from soil, decaying plant material. Rarely found indoors.

**Effects:** Allergenic properties are poorly studied. No cases of infection in humans.

---

**Torula**

**Habitat:** Found in soil and on wood and grasses. Occasionally found growing indoors on cellulose containing materials.

**Effects:** A known allergen. No known cases of human infection.

---



Placement Tech  
Placement Date  
Address

Victoria P  
8/24/2021

Sample Type  
Email

Mold  
KFord@tecinc.com

Sample #	Location/ room	Flow Rate	Sampling Time	Pump Start Time	Pump End Time	Comments
ST4318593	ST reception	1L/M	7.5m	1508	1515	
ST4318575	ST cafe					
ST4315274	ST library			1518	1525	
ST4318592	ST gym			1528	1535	
ST4318587	ST 125			1538	1545	
ST4318584	ST 115			1548	1555	
ST4318585	ST 130			1559	1606	
ST4318580	ST 106			1607	1614	
ST4318598	ST 200			1618	1625	
ST4318570	ST hallway 202			1628	1635	
ST4318588	ST 208			1637	1644	
ST4318582	ST 214			1649	1656	
ST4318581	ST media			1701	1708	
ST4318579	ST 218			1712	1719	
ST4318383	ST outside			1759	1706	
ST4318577	ST hallway 229			1725	1732	
ST 1	ST media		1530			mold swab

5/2/21

N

SHIP: FEDEX - BOX 50  
DATE: 08-25-2021



21031714

M 8-25-21

Location	Material / room	Post Job	Sample Time	Post Job Time	Post Job End	Comments
ST 4318573	ST reception		7:5m	15:08	15:15	
ST 4318575	ST Cafe			15:18	15:25	
ST 4315214	ST library			15:28	15:35	
ST 4318572	ST gym			15:38	15:45	
ST 4318587	ST P25			15:48	15:55	
ST 4318584	ST 115			15:59	16:06	
ST 4318585	ST 130			16:07	16:14	
ST 4318580	ST 106			16:18	16:25	
ST 4318598	ST 200			16:32	16:35	
ST 4318570	ST hallway 200			16:37	16:44	
ST 4318588	ST 208			16:49	16:56	
ST 4318582	ST 214			17:01	17:08	
ST 4318581	ST media			17:12	17:19	
ST 4318579	ST 218			17:59	17:06	
ST 4318583	ST outside			17:59	17:06	
ST 4318577	ST hallway 229			17:25	17:32	
ST 1	ST media		15:30			Mold Swab

## **Appendix B: Radon Analytical Results**

**Attention: P8184 / LEILA DEAN / TOTAL ENVIRONMENTAL CONCEPTS**

Kit #: 9723849 Result: 0.5 ± 0.3 pCi/l

Location: St - 208

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 4:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 71 hours 12.2% 70°F

Kit #: 9723855 Result: < 0.3 pCi/l

Location: St - 121 Comp Lab

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 4:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 71 hours 11.3% 70°F

Kit #: 9723856 Result: < 0.3 pCi/l

Location: St - 115

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 4:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 71 hours 11.3% 70°F

Kit #: 9723857 Result: < 0.3 pCi/l

Location: St - 200

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 4:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 71 hours 12.6% 70°F

Kit #: 9723858 Result: < 0.3 pCi/l

Location: St - Reception

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 3:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 72 hours 10.9% 70°F

Kit #: 9723860 Result: < 0.3 pCi/l

Location: St - Reception

St Blank

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 3:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 72 hours 6.0% 70°F



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**Attention: P8184 / LEILA DEAN / TOTAL ENVIRONMENTAL CONCEPTS**

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Kit #: 9723861 Result: < 0.3 pCi/l  
Location: St - Reception D

St  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 3:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 72 hours 10.8% 70°F

---

Kit #: 9723863 Result: < 0.3 pCi/l  
Location: St - Media Assembly

St  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 11.6% 70°F

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Kit #: 9723866 Result: < 0.3 pCi/l  
Location: St - Cafeteria

St  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 3:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 72 hours 14.5% 70°F

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Kit #: 9723867 Result: < 0.3 pCi/l  
Location: St - 106

St  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.9% 70°F

---

Kit #: 9723868 Result: 0.5 ± 0.3 pCi/l  
Location: St - Library

St Library  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.3% 70°F

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Kit #: 9723869 Result: < 0.3 pCi/l  
Location: St - Cafeteria

St  
,

## Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 3:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 72 hours 14.7% 70°F

---

**Attention: P8184 / LEILA DEAN / TOTAL ENVIRONMENTAL CONCEPTS**

---

Kit #: 9723899 Result: ????

Location: BLANK ?

St

,

Analysis Note : IB2

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-30 at 7:00 pm

Ended : 2021-08-30 at 7:00 pm

Hours/MST% : 0 hours 12.3% 70°F

---

Kit #: 9723839 Result: < 0.3 pCi/l

Location: St - GYM-1

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 3:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 72 hours 12.3% 70°F

---

Kit #: 9723840 Result: < 0.3 pCi/l

Location: St - GYM-2

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 3:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 72 hours 11.0% 70°F

---

Kit #: 9723847 Result: < 0.3 pCi/l

Location: St - 123

St

,

Analysis Note :

Analyzed : 2021-08-31 at 2:00 pm

Started : 2021-08-24 at 4:00 pm

Ended : 2021-08-27 at 3:00 pm

Hours/MST% : 71 hours 11.3% 70°F

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**Attention: P8184 / LEILA DEAN / TOTAL ENVIRONMENTAL CONCEPTS**

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Kit #: 9723874 Result: < 0.3 pCi/l  
Location: St - 214

St  
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Analysis Note :  
Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.0% 70°F

---

Kit #: 9723875 Result: < 0.3 pCi/l  
Location: St - 218

St  
,

Analysis Note :  
Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.3% 70°F

---

Kit #: 9723876 Result: < 0.3 pCi/l  
Location: St - Hall 201-202

St  
,

Analysis Note :  
Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.9% 70°F

---

Kit #: 9723877 Result: < 0.3 pCi/l  
Location: St - Hall 225-229

St  
,

Analysis Note :  
Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 10.9% 70°F

---

Kit #: 9723883 Result: < 0.3 pCi/l  
Location: St - Medfa Assembly 0

St  
,

Analysis Note :  
Analyzed : 2021-08-31 at 2:00 pm  
Started : 2021-08-24 at 4:00 pm  
Ended : 2021-08-27 at 3:00 pm  
Hours/MST% : 71 hours 11.6% 70°F

---



Samuel Tucker- ES

Project Title	Madrigal	Project Date	8/24/21	Project Title	ES
Client	Radon	Project Date		Project Title	ES
Client	Radon	Project Date		Project Title	ES

Item #	Location / Room	DATE 2020	Wk/ Yr	Wkday Yr	Fri Yr	Time B	Time Off	Comment
ST 9723 658	ST-RECEPTION		Y	N	N	3:15		
ST 9723 860 A	ST-RECEPTION D		Y	N	N	3:15		
ST 9723 860 B	ST-RECEPTION B		Y	N	N	3:15		
ST 9723 860	ST-CATHERINA-1		Y	Y	N	3:24		
ST 9723 869	ST-CATHERINA-2		Y	Y	N	3:25		
ST 9723 839	ST-CATH-1		Y	N	N	3:33		
ST 9723 840	ST-CATH-2		Y	N	N	3:34		
ST 9723 868	ST-Library		Y	N	N	3:40		
ST 9723 847	ST-123		Y	Y	N	3:45		
ST 9723 856	ST-115		Y	Y	N	3:46		
ST 9723 855	ST-121 COMPLAINT		Y	N	N	3:56		
ST 9723 867	ST-106		Y	Y	N	4:00		
ST 9723 849	ST-208		Y	Y	N	4:02		
ST 9723 874	ST-214		Y	Y	N	4:10		
ST 9723 875	ST-218		Y	Y	N	4:11		
ST 9723 877	ST-Hall 226-229		Y	N	N	4:14		
ST 9723 876	ST-Hall 201-202		Y	N	N	4:16		
ST 9723 857	ST-200		Y	N	N	4:18		
ST 9723 863	ST-Media Assembly		Y	N	N	4:30		
ST 9723 883	ST-Media Assembly D		Y	N	N	4:30		

## **Appendix C: VOCs (TO+15) Analytical Results**



Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

September 2, 2021

**Karl Ford**  
**Total Environmental Concepts - Lorton**  
8382 Terminal Road, Suite B  
Lorton, VA 22079



Reference: PSS Project No: **21082523**  
Project Name: ACPS IAQ Testing  
Project Location: Samuel Tucker Elementary  
Project ID.: 4920002

Dear Karl Ford:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **21082523**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 29, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

  
**Dan Prucnal**

Laboratory Manager



Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Project ID: 4920002**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/25/2021 at 05:35 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
21082523-001	ST-Reception	AIR	08/24/21 19:18
21082523-002	ST-Cafeteria	AIR	08/24/21 19:25
21082523-003	ST-Library	AIR	08/24/21 19:31
21082523-004	ST-Gym	AIR	08/24/21 19:37
21082523-005	ST-123 Class	AIR	08/24/21 19:43
21082523-006	ST-115 Class	AIR	08/24/21 19:50
21082523-007	ST-130 Class	AIR	08/24/21 19:58
21082523-008	ST-106 Class	AIR	08/24/21 20:05
21082523-009	ST-Storage 200	AIR	08/24/21 20:23
21082523-010	ST-208 Class	AIR	08/24/21 20:34
21082523-011	ST-214 Class	AIR	08/24/21 20:40
21082523-012	ST-218 Class	AIR	08/24/21 20:45
21082523-013	ST-Hall 229	AIR	08/24/21 20:55
21082523-014	ST-Media Assembly	AIR	08/24/21 20:59
21082523-015	ST-Outdoor	AIR	08/24/21 21:07

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.



## Explanation of Qualifiers

Project Name: ACPS IAQ Testing

PSS Project No.: 21082523

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### Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

### Certifications:

NELAP Certifications: PA 68-03330, VA 460156  
State Certifications: MD 179, WV 303  
Regulated Soil Permit: P330-12-00268  
NSWC USCG Accepted Laboratory  
LDBE MWAA LD1997-0041-2015

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-Library**      **Date/Time Sampled: 08/24/2021 19:31**      **PSS Sample ID: 21082523-003**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	17	ug/M3	9.5		1	08/26/21	08/26/21 18:27	1014
Benzene	0.35	ug/M3	0.32		1	08/26/21	08/26/21 18:27	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 18:27	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 18:27	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 18:27	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 18:27	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 18:27	1014
2-Butanone (MEK)	1.7	ug/M3	1.5		1	08/26/21	08/26/21 18:27	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 18:27	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 18:27	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 18:27	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 18:27	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014
Chloromethane	1.0	ug/M3	0.41		1	08/26/21	08/26/21 18:27	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 18:27	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 18:27	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 18:27	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 18:27	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 18:27	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 18:27	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 18:27	1014
Dichlorodifluoromethane	1.6	ug/M3	0.99		1	08/26/21	08/26/21 18:27	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 18:27	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 18:27	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 18:27	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 18:27	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 18:27	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 18:27	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 18:27	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 18:27	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 18:27	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 18:27	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 18:27	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 18:27	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-Library**      **Date/Time Sampled: 08/24/2021 19:31**      **PSS Sample ID: 21082523-003**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 18:27	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 18:27	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 18:27	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 18:27	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014
Methylene Chloride	<b>21</b>	ug/M3	14		1	08/26/21	08/26/21 18:27	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 18:27	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 18:27	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 18:27	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 18:27	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 18:27	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 18:27	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 18:27	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 18:27	1014
Toluene	<b>1.4</b>	ug/M3	0.38		1	08/26/21	08/26/21 18:27	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 18:27	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 18:27	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 18:27	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 18:27	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 18:27	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 18:27	1014
1,2,4-Trimethylbenzene	<b>4.5</b>	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014
1,3,5-Trimethylbenzene	<b>1.1</b>	ug/M3	0.98		1	08/26/21	08/26/21 18:27	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 18:27	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 18:27	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 18:27	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 18:27	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 18:27	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 18:27	1014
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	101 %		87-120		1	08/26/21	08/26/21 18:27	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-123 Class**      **Date/Time Sampled: 08/24/2021 19:43**      **PSS Sample ID: 21082523-005**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	21	ug/M3	9.5		1	08/26/21	08/26/21 13:03	1014
Benzene	0.35	ug/M3	0.32		1	08/26/21	08/26/21 13:03	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 13:03	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 13:03	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 13:03	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 13:03	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 13:03	1014
2-Butanone (MEK)	1.8	ug/M3	1.5		1	08/26/21	08/26/21 13:03	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 13:03	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 13:03	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 13:03	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 13:03	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014
Chloromethane	1.2	ug/M3	0.41		1	08/26/21	08/26/21 13:03	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 13:03	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 13:03	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 13:03	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:03	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:03	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:03	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:03	1014
Dichlorodifluoromethane	1.8	ug/M3	0.99		1	08/26/21	08/26/21 13:03	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 13:03	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 13:03	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:03	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:03	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:03	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 13:03	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 13:03	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 13:03	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:03	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 13:03	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 13:03	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 13:03	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-123 Class**      **Date/Time Sampled: 08/24/2021 19:43**      **PSS Sample ID: 21082523-005**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 13:03	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 13:03	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 13:03	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 13:03	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 13:03	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 13:03	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 13:03	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 13:03	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 13:03	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 13:03	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:03	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:03	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 13:03	1014
Toluene	<b>3.4</b>	ug/M3	0.38		1	08/26/21	08/26/21 13:03	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:03	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:03	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:03	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:03	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:03	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:03	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:03	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 13:03	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 13:03	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 13:03	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 13:03	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 13:03	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 13:03	1014
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	104 %		87-120		1	08/26/21	08/26/21 13:03	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-208 Class**      **Date/Time Sampled: 08/24/2021 20:34**      **PSS Sample ID: 21082523-010**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	13	ug/M3	9.5		1	08/26/21	08/26/21 13:57	1014
Benzene	0.32	ug/M3	0.32		1	08/26/21	08/26/21 13:57	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 13:57	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 13:57	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 13:57	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 13:57	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 13:57	1014
2-Butanone (MEK)	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:57	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 13:57	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 13:57	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 13:57	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 13:57	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014
Chloromethane	0.83	ug/M3	0.41		1	08/26/21	08/26/21 13:57	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 13:57	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 13:57	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 13:57	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:57	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:57	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:57	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 13:57	1014
Dichlorodifluoromethane	1.3	ug/M3	0.99		1	08/26/21	08/26/21 13:57	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 13:57	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 13:57	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:57	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:57	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 13:57	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 13:57	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 13:57	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 13:57	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:57	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 13:57	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 13:57	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 13:57	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-208 Class**      **Date/Time Sampled: 08/24/2021 20:34**      **PSS Sample ID: 21082523-010**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 13:57	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 13:57	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 13:57	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 13:57	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 13:57	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 13:57	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 13:57	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 13:57	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 13:57	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 13:57	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:57	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 13:57	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 13:57	1014
Toluene	<b>0.94</b>	ug/M3	0.38		1	08/26/21	08/26/21 13:57	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:57	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:57	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:57	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:57	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 13:57	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 13:57	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 13:57	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 13:57	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 13:57	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 13:57	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 13:57	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 13:57	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 13:57	1014

Surrogate(s)	Recovery	Limits
4-Bromofluorobenzene	103 %	87-120



**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-214 Class**      **Date/Time Sampled: 08/24/2021 20:40**      **PSS Sample ID: 21082523-011**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	18	ug/M3	9.5		1	08/26/21	08/26/21 14:51	1014
Benzene	0.35	ug/M3	0.32		1	08/26/21	08/26/21 14:51	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 14:51	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 14:51	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 14:51	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 14:51	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 14:51	1014
2-Butanone (MEK)	1.8	ug/M3	1.5		1	08/26/21	08/26/21 14:51	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 14:51	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 14:51	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 14:51	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 14:51	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014
Chloromethane	1.1	ug/M3	0.41		1	08/26/21	08/26/21 14:51	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 14:51	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 14:51	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 14:51	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 14:51	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 14:51	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 14:51	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 14:51	1014
Dichlorodifluoromethane	1.6	ug/M3	0.99		1	08/26/21	08/26/21 14:51	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 14:51	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 14:51	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 14:51	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 14:51	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 14:51	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 14:51	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 14:51	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 14:51	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 14:51	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 14:51	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 14:51	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 14:51	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-214 Class**      **Date/Time Sampled: 08/24/2021 20:40**      **PSS Sample ID: 21082523-011**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 14:51	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 14:51	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 14:51	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 14:51	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 14:51	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 14:51	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 14:51	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 14:51	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 14:51	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 14:51	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 14:51	1014
Tetrachloroethene	<b>1.6</b>	ug/M3	1.4		1	08/26/21	08/26/21 14:51	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 14:51	1014
Toluene	<b>1.6</b>	ug/M3	0.38		1	08/26/21	08/26/21 14:51	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 14:51	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 14:51	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 14:51	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 14:51	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 14:51	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 14:51	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 14:51	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 14:51	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 14:51	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 14:51	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 14:51	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 14:51	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 14:51	1014

Surrogate(s)	Recovery	Limits
4-Bromofluorobenzene	102 %	87-120

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-218 Class**      **Date/Time Sampled: 08/24/2021 20:45**      **PSS Sample ID: 21082523-012**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	18	ug/M3	9.5		1	08/26/21	08/26/21 15:46	1014
Benzene	0.35	ug/M3	0.32		1	08/26/21	08/26/21 15:46	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 15:46	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 15:46	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 15:46	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 15:46	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 15:46	1014
2-Butanone (MEK)	1.8	ug/M3	1.5		1	08/26/21	08/26/21 15:46	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 15:46	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 15:46	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 15:46	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 15:46	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014
Chloromethane	1.1	ug/M3	0.41		1	08/26/21	08/26/21 15:46	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 15:46	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 15:46	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 15:46	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 15:46	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 15:46	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 15:46	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 15:46	1014
Dichlorodifluoromethane	1.7	ug/M3	0.99		1	08/26/21	08/26/21 15:46	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 15:46	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 15:46	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 15:46	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 15:46	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 15:46	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 15:46	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 15:46	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 15:46	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 15:46	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 15:46	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 15:46	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 15:46	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-218 Class**      **Date/Time Sampled: 08/24/2021 20:45**      **PSS Sample ID: 21082523-012**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 15:46	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 15:46	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 15:46	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 15:46	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 15:46	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 15:46	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 15:46	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 15:46	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 15:46	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 15:46	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 15:46	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 15:46	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 15:46	1014
Toluene	<b>1.7</b>	ug/M3	0.38		1	08/26/21	08/26/21 15:46	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 15:46	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 15:46	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 15:46	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 15:46	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 15:46	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 15:46	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 15:46	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 15:46	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 15:46	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 15:46	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 15:46	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 15:46	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 15:46	1014

Surrogate(s)	Recovery	Limits
4-Bromofluorobenzene	102 %	87-120

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-Hall 229**      **Date/Time Sampled: 08/24/2021 20:55**      **PSS Sample ID: 21082523-013**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	17	ug/M3	9.5		1	08/26/21	08/26/21 16:39	1014
Benzene	0.35	ug/M3	0.32		1	08/26/21	08/26/21 16:39	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 16:39	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 16:39	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 16:39	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 16:39	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 16:39	1014
2-Butanone (MEK)	1.7	ug/M3	1.5		1	08/26/21	08/26/21 16:39	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 16:39	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 16:39	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 16:39	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 16:39	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014
Chloromethane	0.95	ug/M3	0.41		1	08/26/21	08/26/21 16:39	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 16:39	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 16:39	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 16:39	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 16:39	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 16:39	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 16:39	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 16:39	1014
Dichlorodifluoromethane	1.4	ug/M3	0.99		1	08/26/21	08/26/21 16:39	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 16:39	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 16:39	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 16:39	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 16:39	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 16:39	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 16:39	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 16:39	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 16:39	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 16:39	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 16:39	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 16:39	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 16:39	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014

**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-Hall 229**      **Date/Time Sampled: 08/24/2021 20:55**      **PSS Sample ID: 21082523-013**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 16:39	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 16:39	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 16:39	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 16:39	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 16:39	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 16:39	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 16:39	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 16:39	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 16:39	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 16:39	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 16:39	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 16:39	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 16:39	1014
Toluene	<b>1.5</b>	ug/M3	0.38		1	08/26/21	08/26/21 16:39	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 16:39	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 16:39	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 16:39	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 16:39	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 16:39	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 16:39	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 16:39	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 16:39	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 16:39	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 16:39	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 16:39	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 16:39	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 16:39	1014

Surrogate(s)	Recovery	Limits				
4-Bromofluorobenzene	102 %	87-120	1	08/26/21	08/26/21 16:39	1014



**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082523

**Sample ID: ST-Media Assembly      Date/Time Sampled: 08/24/2021 20:59      PSS Sample ID: 21082523-014**  
**Matrix: AIR      Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	22	ug/M3	9.5		1	08/26/21	08/26/21 17:33	1014
Benzene	0.32	ug/M3	0.32		1	08/26/21	08/26/21 17:33	1014
Benzyl Chloride	ND	ug/M3	1.0		1	08/26/21	08/26/21 17:33	1014
Bromodichloromethane	ND	ug/M3	1.3		1	08/26/21	08/26/21 17:33	1014
Bromoform	ND	ug/M3	2.1		1	08/26/21	08/26/21 17:33	1014
Bromomethane	ND	ug/M3	0.78		1	08/26/21	08/26/21 17:33	1014
1,3-Butadiene	ND	ug/M3	0.44		1	08/26/21	08/26/21 17:33	1014
2-Butanone (MEK)	1.6	ug/M3	1.5		1	08/26/21	08/26/21 17:33	1014
Carbon Disulfide	ND	ug/M3	12		1	08/26/21	08/26/21 17:33	1014
Carbon Tetrachloride	ND	ug/M3	1.3		1	08/26/21	08/26/21 17:33	1014
Chlorobenzene	ND	ug/M3	0.92		1	08/26/21	08/26/21 17:33	1014
Chloroethane	ND	ug/M3	0.53		1	08/26/21	08/26/21 17:33	1014
Chloroform	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014
Chloromethane	1.1	ug/M3	0.41		1	08/26/21	08/26/21 17:33	1014
Allyl Chloride (3-Chloropropene)	ND	ug/M3	0.63		1	08/26/21	08/26/21 17:33	1014
Cyclohexane	ND	ug/M3	0.69		1	08/26/21	08/26/21 17:33	1014
Dibromochloromethane	ND	ug/M3	1.7		1	08/26/21	08/26/21 17:33	1014
1,2-Dibromoethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 17:33	1014
1,2-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 17:33	1014
1,3-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 17:33	1014
1,4-Dichlorobenzene	ND	ug/M3	1.2		1	08/26/21	08/26/21 17:33	1014
Dichlorodifluoromethane	1.7	ug/M3	0.99		1	08/26/21	08/26/21 17:33	1014
1,1-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 17:33	1014
1,2-Dichloroethane	ND	ug/M3	0.81		1	08/26/21	08/26/21 17:33	1014
1,1-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 17:33	1014
cis-1,2-Dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 17:33	1014
trans-1,2-dichloroethene	ND	ug/M3	0.79		1	08/26/21	08/26/21 17:33	1014
1,2-Dichloropropane	ND	ug/M3	1.8		1	08/26/21	08/26/21 17:33	1014
cis-1,3-Dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 17:33	1014
trans-1,3-dichloropropene	ND	ug/M3	0.91		1	08/26/21	08/26/21 17:33	1014
1,2-Dichlorotetrafluoroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 17:33	1014
1,4-Dioxane (P-Dioxane)	ND	ug/M3	3.6		1	08/26/21	08/26/21 17:33	1014
Ethyl Acetate	ND	ug/M3	0.72		1	08/26/21	08/26/21 17:33	1014
Ethylbenzene	ND	ug/M3	0.43		1	08/26/21	08/26/21 17:33	1014
4-Ethyltoluene	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014



**Certificate of Analysis**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

**Sample ID: ST-Media Assembly**      **Date/Time Sampled: 08/24/2021 20:59**      **PSS Sample ID: 21082523-014**  
**Matrix: AIR**      **Date/Time Received: 08/25/2021 17:35**

VOCs in Air by GC/MS      Analytical Method: EPA TO-15      Preparation Method: TO-15P

Qualifier(s): See Batch 187107 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
n-Heptane	ND	ug/M3	0.82		1	08/26/21	08/26/21 17:33	1014
Hexachlorobutadiene	ND	ug/M3	2.1		1	08/26/21	08/26/21 17:33	1014
n-Hexane	ND	ug/M3	14		1	08/26/21	08/26/21 17:33	1014
2-Hexanone (MBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 17:33	1014
Isopropylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014
Methylene Chloride	ND	ug/M3	14		1	08/26/21	08/26/21 17:33	1014
4-Methyl-2-Pentanone (MIBK)	ND	ug/M3	2.0		1	08/26/21	08/26/21 17:33	1014
Methyl-t-Butyl Ether	ND	ug/M3	0.36		1	08/26/21	08/26/21 17:33	1014
Naphthalene	ND	ug/M3	0.52		1	08/26/21	08/26/21 17:33	1014
Propylene	ND	ug/M3	1.7		1	08/26/21	08/26/21 17:33	1014
n-Propylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014
Styrene	ND	ug/M3	4.3		1	08/26/21	08/26/21 17:33	1014
1,1,2,2-Tetrachloroethane	ND	ug/M3	1.4		1	08/26/21	08/26/21 17:33	1014
Tetrachloroethene	ND	ug/M3	1.4		1	08/26/21	08/26/21 17:33	1014
Tetrahydrofuran	ND	ug/M3	0.59		1	08/26/21	08/26/21 17:33	1014
Toluene	<b>1.6</b>	ug/M3	0.38		1	08/26/21	08/26/21 17:33	1014
1,2,4-Trichlorobenzene	ND	ug/M3	1.5		1	08/26/21	08/26/21 17:33	1014
1,1,1-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 17:33	1014
1,1,2-Trichloroethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 17:33	1014
Trichloroethene	ND	ug/M3	1.1		1	08/26/21	08/26/21 17:33	1014
Trichlorofluoromethane	ND	ug/M3	1.1		1	08/26/21	08/26/21 17:33	1014
1,1,2-Trichlorotrifluoroethane	ND	ug/M3	1.5		1	08/26/21	08/26/21 17:33	1014
1,2,4-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014
1,3,5-Trimethylbenzene	ND	ug/M3	0.98		1	08/26/21	08/26/21 17:33	1014
2,2,4-Trimethylpentane	ND	ug/M3	0.93		1	08/26/21	08/26/21 17:33	1014
Vinyl acetate	ND	ug/M3	1.8		1	08/26/21	08/26/21 17:33	1014
Bromoethene	ND	ug/M3	0.87		1	08/26/21	08/26/21 17:33	1014
Vinyl chloride	ND	ug/M3	0.51		1	08/26/21	08/26/21 17:33	1014
m&p-Xylene	ND	ug/M3	0.87		1	08/26/21	08/26/21 17:33	1014
o-Xylene	ND	ug/M3	0.43		1	08/26/21	08/26/21 17:33	1014
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	101 %		87-120		1	08/26/21	08/26/21 17:33	1014

02 September 2021

Amber Confer  
Phase Separation Science, Inc.  
6630 Baltimore National Pike, Route 40 West  
Baltimore, MD 21228  
RE: Samuel Tucker Elementary

Enclosed are the results of analyses for samples received by the laboratory on 08/26/21 13:25.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at [www.mdspectral.com](http://www.mdspectral.com) for a complete listing of our TNI 2009 Standard accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rabecka Koons  
Quality Assurance Officer

## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ST-RECEPTION	21082523-001	1082629-01	Vapor	08/24/21 19:18	08/26/21 13:25
ST-CAFETERIA	21082523-002	1082629-02	Vapor	08/24/21 19:25	08/26/21 13:25
ST-GYM	21082523-004	1082629-03	Vapor	08/24/21 19:37	08/26/21 13:25
ST-1115 CLASS	21082523-006	1082629-04	Vapor	08/24/21 19:50	08/26/21 13:25
ST-130 CLASS	21082523-007	1082629-05	Vapor	08/24/21 19:58	08/26/21 13:25
ST-106 CLASS	21082523-008	1082629-06	Vapor	08/24/21 20:05	08/26/21 13:25
ST-STORAGE 200	21082523-009	1082629-07	Vapor	08/24/21 20:23	08/26/21 13:25
ST-OUTDOOR	21082523-015	1082629-08	Vapor	08/24/21 21:07	08/26/21 13:25



Rabecka Koons, Quality Assurance Officer

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

**Analytical Results**

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-RECEPTION**  
**21082523-001**  
**1082629-01 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	39.7		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 16:19	WB
Benzene	0.38	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 16:19	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 16:19	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:19	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 16:19	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 16:19	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 16:19	WB
Carbon disulfide	2.90		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 16:19	WB
Carbon tetrachloride	0.44	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:19	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 16:19	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 16:19	WB
Chloroform	0.24	J	ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 16:19	WB
Chloromethane	1.20		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 16:19	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 16:19	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 16:19	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:19	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 16:19	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:19	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:19	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:19	WB
Dichlorodifluoromethane	2.42		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 16:19	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 16:19	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 16:19	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:19	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:19	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:19	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 16:19	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 16:19	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 16:19	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 16:19	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 16:19	WB
Ethylbenzene	0.26	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:19	WB
4-Ethyltoluene	0.59	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:19	WB
Freon 113	0.46	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 16:19	WB

Rabecka Koons, Quality Assurance Officer

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**Analytical Results**

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-RECEPTION**  
**21082523-001**  
**1082629-01 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 16:19	WB
<b>n-Heptane</b>	<b>0.45</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 16:19	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 16:19	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 16:19	WB
<b>2-Hexanone</b>	<b>0.45</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 16:19	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 16:19	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 16:19	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 16:19	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>2.71</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 16:19	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 16:19	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 16:19	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 16:19	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 16:19	WB
<b>Styrene</b>	<b>0.47</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 16:19	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 16:19	WB
<b>Tetrachloroethene</b>	<b>3.32</b>		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 16:19	WB
<b>Tetrahydrofuran</b>	<b>0.24</b>	J	ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 16:19	WB
<b>Toluene</b>	<b>1.43</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 16:19	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 16:19	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:19	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:19	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:19	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:19	WB
<b>1,2,4-Trimethylbenzene</b>	<b>0.74</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:19	WB
<b>1,3,5-Trimethylbenzene</b>	<b>0.25</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:19	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.23</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 16:19	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 16:19	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:19	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 16:19	WB
<b>o-Xylene</b>	<b>0.48</b>	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:19	WB
<b>m- &amp; p-Xylenes</b>	<b>0.96</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 16:19	WB
Surrogate: 4-Bromofluorobenzene			73-115	105 %	08/27/21		08/27/21 16:19		

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-CAFETERIA**  
**21082523-002**  
**1082629-02 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	19.7		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 16:54	WB
Benzene	0.38	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 16:54	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 16:54	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:54	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 16:54	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 16:54	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 16:54	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 16:54	WB
Carbon tetrachloride	0.44	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:54	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 16:54	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 16:54	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 16:54	WB
Chloromethane	1.09		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 16:54	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 16:54	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 16:54	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 16:54	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 16:54	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:54	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:54	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 16:54	WB
Dichlorodifluoromethane	2.23		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 16:54	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 16:54	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 16:54	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:54	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:54	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 16:54	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 16:54	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 16:54	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 16:54	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 16:54	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 16:54	WB
Ethylbenzene	0.35	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:54	WB
4-Ethyltoluene	1.38		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:54	WB
Freon 113	0.46	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 16:54	WB

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Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-CAFETERIA**  
**21082523-002**  
**1082629-02 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 16:54	WB
<b>n-Heptane</b>	<b>0.37</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 16:54	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 16:54	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 16:54	WB
<b>2-Hexanone</b>	<b>0.20</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 16:54	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 16:54	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 16:54	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 16:54	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>1.39</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 16:54	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 16:54	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 16:54	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 16:54	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 16:54	WB
Styrene	ND		ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 16:54	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 16:54	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 16:54	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 16:54	WB
<b>Toluene</b>	<b>0.79</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 16:54	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 16:54	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:54	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:54	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:54	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.35</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 16:54	WB
<b>1,2,4-Trimethylbenzene</b>	<b>1.97</b>		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:54	WB
<b>1,3,5-Trimethylbenzene</b>	<b>0.69</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 16:54	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.23</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 16:54	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 16:54	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:54	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 16:54	WB
<b>o-Xylene</b>	<b>1.00</b>		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 16:54	WB
<b>m- &amp; p-Xylenes</b>	<b>1.95</b>		ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 16:54	WB
Surrogate: 4-Bromofluorobenzene			73-115	105 %			08/27/21	08/27/21 16:54	



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-GYM**  
**21082523-004**  
**1082629-03 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatiles Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	<b>23.8</b>		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 17:28	WB
Benzene	<b>0.38</b>	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 17:28	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 17:28	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 17:28	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 17:28	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 17:28	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 17:28	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 17:28	WB
Carbon tetrachloride	<b>0.44</b>	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 17:28	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 17:28	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 17:28	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 17:28	WB
Chloromethane	<b>1.14</b>		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 17:28	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 17:28	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 17:28	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 17:28	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 17:28	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 17:28	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 17:28	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 17:28	WB
Dichlorodifluoromethane	<b>2.32</b>		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 17:28	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 17:28	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 17:28	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 17:28	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 17:28	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 17:28	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 17:28	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 17:28	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 17:28	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 17:28	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 17:28	WB
Ethylbenzene	<b>0.39</b>	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 17:28	WB
4-Ethyltoluene	<b>1.43</b>		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 17:28	WB
Freon 113	<b>0.54</b>	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 17:28	WB



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-GYM**  
**21082523-004**  
**1082629-03 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 17:28	WB
<b>n-Heptane</b>	<b>0.25</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 17:28	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 17:28	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 17:28	WB
<b>2-Hexanone</b>	<b>0.49</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 17:28	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 17:28	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 17:28	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 17:28	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>2.39</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 17:28	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 17:28	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 17:28	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 17:28	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 17:28	WB
<b>Styrene</b>	<b>0.21</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 17:28	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 17:28	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 17:28	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 17:28	WB
<b>Toluene</b>	<b>0.83</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 17:28	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 17:28	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 17:28	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 17:28	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 17:28	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 17:28	WB
<b>1,2,4-Trimethylbenzene</b>	<b>2.02</b>		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 17:28	WB
<b>1,3,5-Trimethylbenzene</b>	<b>0.69</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 17:28	WB
2,2,4-Trimethylpentane	ND		ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 17:28	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 17:28	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 17:28	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 17:28	WB
<b>o-Xylene</b>	<b>0.96</b>		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 17:28	WB
<b>m- &amp; p-Xylenes</b>	<b>1.87</b>		ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 17:28	WB
Surrogate: 4-Bromofluorobenzene			73-115	104 %			08/27/21	08/27/21 17:28	



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-1115 CLASS**  
**21082523-006**  
**1082629-04 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	29.5		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 18:03	WB
Benzene	0.35	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 18:03	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 18:03	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:03	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 18:03	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 18:03	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 18:03	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 18:03	WB
Carbon tetrachloride	0.50	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:03	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 18:03	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 18:03	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 18:03	WB
Chloromethane	1.36		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 18:03	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 18:03	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 18:03	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:03	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 18:03	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:03	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:03	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:03	WB
Dichlorodifluoromethane	2.42		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 18:03	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 18:03	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 18:03	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:03	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:03	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:03	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 18:03	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 18:03	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 18:03	WB
1,4-Dioxane	0.29	J	ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 18:03	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 18:03	WB
Ethylbenzene	0.39	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:03	WB
4-Ethyltoluene	0.25	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:03	WB
Freon 113	0.61	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 18:03	WB



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-1115 CLASS**  
**21082523-006**  
**1082629-04 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 18:03	WB
<b>n-Heptane</b>	<b>0.37</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 18:03	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 18:03	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 18:03	WB
<b>2-Hexanone</b>	<b>0.37</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 18:03	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 18:03	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 18:03	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 18:03	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>2.33</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 18:03	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 18:03	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 18:03	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 18:03	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 18:03	WB
<b>Styrene</b>	<b>0.21</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 18:03	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 18:03	WB
<b>Tetrachloroethene</b>	<b>5.36</b>		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 18:03	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 18:03	WB
<b>Toluene</b>	<b>1.70</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 18:03	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 18:03	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:03	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:03	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:03	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:03	WB
<b>1,2,4-Trimethylbenzene</b>	<b>0.29</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:03	WB
1,3,5-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:03	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.28</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 18:03	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 18:03	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:03	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 18:03	WB
<b>o-Xylene</b>	<b>0.48</b>	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:03	WB
<b>m- &amp; p-Xylenes</b>	<b>1.48</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 18:03	WB
Surrogate: 4-Bromofluorobenzene				73-115	102 %		08/27/21	08/27/21 18:03	



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-130 CLASS**  
**21082523-007**  
**1082629-05 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatiles Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	26.6		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 18:38	WB
Benzene	0.38	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 18:38	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 18:38	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:38	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 18:38	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 18:38	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 18:38	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 18:38	WB
Carbon tetrachloride	0.44	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:38	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 18:38	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 18:38	WB
Chloroform	0.29	J	ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 18:38	WB
Chloromethane	1.24		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 18:38	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 18:38	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 18:38	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 18:38	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 18:38	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:38	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:38	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 18:38	WB
Dichlorodifluoromethane	2.42		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 18:38	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 18:38	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 18:38	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:38	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:38	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 18:38	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 18:38	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 18:38	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 18:38	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 18:38	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 18:38	WB
Ethylbenzene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:38	WB
4-Ethyltoluene	0.25	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:38	WB
Freon 113	0.54	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 18:38	WB

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Rabecka Koons, Quality Assurance Officer

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-130 CLASS**  
**21082523-007**  
**1082629-05 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 18:38	WB
<b>n-Heptane</b>	<b>0.29</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 18:38	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 18:38	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 18:38	WB
<b>2-Hexanone</b>	<b>0.25</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 18:38	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 18:38	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 18:38	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 18:38	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>1.71</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 18:38	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 18:38	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 18:38	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 18:38	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 18:38	WB
<b>Styrene</b>	<b>0.30</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 18:38	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 18:38	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 18:38	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 18:38	WB
<b>Toluene</b>	<b>1.55</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 18:38	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 18:38	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:38	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:38	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:38	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 18:38	WB
<b>1,2,4-Trimethylbenzene</b>	<b>0.29</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:38	WB
1,3,5-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 18:38	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.23</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 18:38	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 18:38	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:38	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 18:38	WB
<b>o-Xylene</b>	<b>0.26</b>	J	ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 18:38	WB
<b>m- &amp; p-Xylenes</b>	<b>0.65</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 18:38	WB
Surrogate: 4-Bromofluorobenzene			73-115	102 %			08/27/21	08/27/21 18:38	



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-106 CLASS**  
**21082523-008**  
**1082629-06 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	20.5		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 19:12	WB
Benzene	0.38	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 19:12	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 19:12	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:12	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 19:12	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 19:12	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 19:12	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 19:12	WB
Carbon tetrachloride	0.44	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:12	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 19:12	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 19:12	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 19:12	WB
Chloromethane	1.16		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 19:12	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 19:12	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 19:12	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:12	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 19:12	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:12	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:12	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:12	WB
Dichlorodifluoromethane	2.42		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 19:12	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 19:12	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 19:12	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:12	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:12	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:12	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 19:12	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 19:12	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 19:12	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 19:12	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 19:12	WB
Ethylbenzene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:12	WB
4-Ethyltoluene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:12	WB
Freon 113	0.54	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 19:12	WB

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-106 CLASS**  
**21082523-008**  
**1082629-06 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 19:12	WB
<b>n-Heptane</b>	<b>0.29</b>	J	ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 19:12	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 19:12	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 19:12	WB
<b>2-Hexanone</b>	<b>0.20</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 19:12	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 19:12	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 19:12	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 19:12	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>1.59</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 19:12	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 19:12	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 19:12	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 19:12	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 19:12	WB
<b>Styrene</b>	<b>0.21</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 19:12	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 19:12	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 19:12	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 19:12	WB
<b>Toluene</b>	<b>3.13</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 19:12	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 19:12	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:12	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:12	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:12	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:12	WB
<b>1,2,4-Trimethylbenzene</b>	<b>0.25</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:12	WB
1,3,5-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:12	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.23</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 19:12	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 19:12	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:12	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 19:12	WB
o-Xylene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:12	WB
<b>m- &amp; p-Xylenes</b>	<b>0.43</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 19:12	WB
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>73-115</i>	<i>102 %</i>	<i>08/27/21</i>	<i>08/27/21 19:12</i>			

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-STORAGE 200**  
**21082523-009**  
**1082629-07 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatiles Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	23.8		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 19:46	WB
Benzene	0.38	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 19:46	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 19:46	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:46	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 19:46	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 19:46	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 19:46	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 19:46	WB
Carbon tetrachloride	0.50	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:46	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 19:46	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 19:46	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 19:46	WB
Chloromethane	1.18		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 19:46	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 19:46	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 19:46	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 19:46	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 19:46	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:46	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:46	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 19:46	WB
Dichlorodifluoromethane	2.27		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 19:46	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 19:46	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 19:46	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:46	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:46	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 19:46	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 19:46	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 19:46	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 19:46	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 19:46	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 19:46	WB
Ethylbenzene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:46	WB
4-Ethyltoluene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:46	WB
Freon 113	0.54	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 19:46	WB

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Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-STORAGE 200**  
**21082523-009**  
**1082629-07 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 19:46	WB
n-Heptane	ND		ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 19:46	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 19:46	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 19:46	WB
<b>2-Hexanone</b>	<b>0.37</b>	J	ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 19:46	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 19:46	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 19:46	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 19:46	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>2.18</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 19:46	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 19:46	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 19:46	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 19:46	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 19:46	WB
<b>Styrene</b>	<b>0.34</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 19:46	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 19:46	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 19:46	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 19:46	WB
<b>Toluene</b>	<b>1.06</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 19:46	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 19:46	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:46	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:46	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:46	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.35</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 19:46	WB
<b>1,2,4-Trimethylbenzene</b>	<b>0.25</b>	J	ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:46	WB
1,3,5-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 19:46	WB
2,2,4-Trimethylpentane	ND		ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 19:46	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 19:46	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:46	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 19:46	WB
o-Xylene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 19:46	WB
<b>m- &amp; p-Xylenes</b>	<b>0.52</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 19:46	WB
Surrogate: 4-Bromofluorobenzene			73-115	104 %	08/27/21		08/27/21 19:46		



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-OUTDOOR**  
**21082523-015**  
**1082629-08 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep</b>									
Acetone	17.7		ug/m <sup>3</sup>	2.40	2.40	1	08/27/21	08/27/21 20:20	WB
Benzene	0.42	J	ug/m <sup>3</sup>	0.64	0.16	1	08/27/21	08/27/21 20:20	WB
Benzyl chloride	ND		ug/m <sup>3</sup>	1.00	0.25	1	08/27/21	08/27/21 20:20	WB
Bromodichloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 20:20	WB
Bromoform	ND		ug/m <sup>3</sup>	2.10	0.53	1	08/27/21	08/27/21 20:20	WB
Bromomethane	ND		ug/m <sup>3</sup>	0.78	0.20	1	08/27/21	08/27/21 20:20	WB
1,3-Butadiene	ND		ug/m <sup>3</sup>	0.44	0.44	1	08/27/21	08/27/21 20:20	WB
Carbon disulfide	ND		ug/m <sup>3</sup>	1.56	1.56	1	08/27/21	08/27/21 20:20	WB
Carbon tetrachloride	0.50	J	ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 20:20	WB
Chlorobenzene	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 20:20	WB
Chloroethane	ND		ug/m <sup>3</sup>	0.53	0.27	1	08/27/21	08/27/21 20:20	WB
Chloroform	ND		ug/m <sup>3</sup>	0.97	0.24	1	08/27/21	08/27/21 20:20	WB
Chloromethane	1.14		ug/m <sup>3</sup>	0.41	0.10	1	08/27/21	08/27/21 20:20	WB
3-Chloropropene	ND		ug/m <sup>3</sup>	0.63	0.16	1	08/27/21	08/27/21 20:20	WB
Cyclohexane	ND		ug/m <sup>3</sup>	0.69	0.17	1	08/27/21	08/27/21 20:20	WB
Dibromochloromethane	ND		ug/m <sup>3</sup>	1.30	0.33	1	08/27/21	08/27/21 20:20	WB
1,2-Dibromoethane (EDB)	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 20:20	WB
1,2-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 20:20	WB
1,3-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 20:20	WB
1,4-Dichlorobenzene	ND		ug/m <sup>3</sup>	1.20	0.30	1	08/27/21	08/27/21 20:20	WB
Dichlorodifluoromethane	2.47		ug/m <sup>3</sup>	0.99	0.99	1	08/27/21	08/27/21 20:20	WB
1,1-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 20:20	WB
1,2-Dichloroethane	ND		ug/m <sup>3</sup>	0.81	0.20	1	08/27/21	08/27/21 20:20	WB
1,1-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 20:20	WB
cis-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 20:20	WB
trans-1,2-Dichloroethene	ND		ug/m <sup>3</sup>	0.79	0.20	1	08/27/21	08/27/21 20:20	WB
1,2-Dichloropropane	ND		ug/m <sup>3</sup>	0.92	0.23	1	08/27/21	08/27/21 20:20	WB
cis-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 20:20	WB
trans-1,3-Dichloropropene	ND		ug/m <sup>3</sup>	0.91	0.23	1	08/27/21	08/27/21 20:20	WB
1,4-Dioxane	ND		ug/m <sup>3</sup>	0.72	0.18	1	08/27/21	08/27/21 20:20	WB
Ethyl acetate	ND		ug/m <sup>3</sup>	3.60	3.60	1	08/27/21	08/27/21 20:20	WB
Ethylbenzene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 20:20	WB
4-Ethyltoluene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 20:20	WB
Freon 113	0.46	J	ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 20:20	WB

Rabecka Koons, Quality Assurance Officer

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## Analytical Results

**Project: Samuel Tucker Elementary**

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

**ST-OUTDOOR**  
**21082523-015**  
**1082629-08 (Vapor)**  
**Sample Date: 08/24/21**

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<b>Volatile Organics by EPA TO-15 (GC/MS) Prepared by TO-15 Prep (continued)</b>									
Freon 114	ND		ug/m <sup>3</sup>	1.40	1.40	1	08/27/21	08/27/21 20:20	WB
n-Heptane	ND		ug/m <sup>3</sup>	0.82	0.21	1	08/27/21	08/27/21 20:20	WB
Hexachlorobutadiene	ND		ug/m <sup>3</sup>	2.10	2.10	1	08/27/21	08/27/21 20:20	WB
Hexane	ND		ug/m <sup>3</sup>	14.0	14.0	1	08/27/21	08/27/21 20:20	WB
2-Hexanone	ND		ug/m <sup>3</sup>	0.82	0.15	1	08/27/21	08/27/21 20:20	WB
Isopropylbenzene (Cumene)	ND		ug/m <sup>3</sup>	1.10	0.40	1	08/27/21	08/27/21 20:20	WB
Methyl tert-butyl ether (MTBE)	ND		ug/m <sup>3</sup>	0.72	0.21	1	08/27/21	08/27/21 20:20	WB
Methylene chloride	ND		ug/m <sup>3</sup>	18.0	18.0	1	08/27/21	08/27/21 20:20	WB
<b>Methyl ethyl ketone (2-Butanone)</b>	<b>1.53</b>		ug/m <sup>3</sup>	0.59	0.34	1	08/27/21	08/27/21 20:20	WB
Methyl isobutyl ketone	ND		ug/m <sup>3</sup>	0.82	0.82	1	08/27/21	08/27/21 20:20	WB
Naphthalene	ND		ug/m <sup>3</sup>	1.10	0.70	1	08/27/21	08/27/21 20:20	WB
Propene	ND		ug/m <sup>3</sup>	0.34	0.34	1	08/27/21	08/27/21 20:20	WB
n-Propylbenzene	ND		ug/m <sup>3</sup>	0.98	0.40	1	08/27/21	08/27/21 20:20	WB
<b>Styrene</b>	<b>0.43</b>	J	ug/m <sup>3</sup>	0.85	0.15	1	08/27/21	08/27/21 20:20	WB
1,1,2,2-Tetrachloroethane	ND		ug/m <sup>3</sup>	1.40	0.35	1	08/27/21	08/27/21 20:20	WB
Tetrachloroethene	ND		ug/m <sup>3</sup>	1.40	0.70	1	08/27/21	08/27/21 20:20	WB
Tetrahydrofuran	ND		ug/m <sup>3</sup>	0.59	0.15	1	08/27/21	08/27/21 20:20	WB
<b>Toluene</b>	<b>0.75</b>		ug/m <sup>3</sup>	0.75	0.35	1	08/27/21	08/27/21 20:20	WB
1,2,4-Trichlorobenzene	ND		ug/m <sup>3</sup>	1.50	0.38	1	08/27/21	08/27/21 20:20	WB
1,1,1-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 20:20	WB
1,1,2-Trichloroethane	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 20:20	WB
Trichloroethene	ND		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 20:20	WB
<b>Trichlorofluoromethane (Freon 11)</b>	<b>1.29</b>		ug/m <sup>3</sup>	1.10	0.28	1	08/27/21	08/27/21 20:20	WB
1,2,4-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 20:20	WB
1,3,5-Trimethylbenzene	ND		ug/m <sup>3</sup>	0.98	0.25	1	08/27/21	08/27/21 20:20	WB
<b>2,2,4-Trimethylpentane</b>	<b>0.23</b>	J	ug/m <sup>3</sup>	0.93	0.23	1	08/27/21	08/27/21 20:20	WB
Vinyl acetate	ND		ug/m <sup>3</sup>	0.70	0.70	1	08/27/21	08/27/21 20:20	WB
Vinyl bromide	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 20:20	WB
Vinyl chloride	ND		ug/m <sup>3</sup>	0.51	0.13	1	08/27/21	08/27/21 20:20	WB
o-Xylene	ND		ug/m <sup>3</sup>	0.87	0.22	1	08/27/21	08/27/21 20:20	WB
<b>m- &amp; p-Xylenes</b>	<b>0.43</b>	J	ug/m <sup>3</sup>	1.70	0.43	1	08/27/21	08/27/21 20:20	WB
Surrogate: 4-Bromofluorobenzene			73-115	102 %	08/27/21		08/27/21 20:20		



Rabecka Koons, Quality Assurance Officer

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## Analytical Results

### Project: Samuel Tucker Elementary

Project Number: 4920002  
Project Manager: Amber Confer

Reported:  
09/02/21 11:16

### Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Rabecka Koons, Quality Assurance Officer

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Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No.: 21082523
Project Location: Samuel Tucker Elementary
Project Number: 4920002
Report To LOD: No

Samples Transferred To:
Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227

Phone: 410-247-7600 1082629

For Questions or issues please contact: Amber Confer

Report Due On :09/02/21 05:00

Table with 9 columns: Lab Sample ID, Field Sample ID, Date Sampled, Time Sampled, Matrix, Analyses Required, Method, Type of Container, Preservative. Contains 8 rows of sample data.

Handwritten notes on the right side of the table: -01, -02, -03, -04, -05, -06, -07, -08

Data Deliverables Required: COA

Perform Q.C. on Sample :

Send Report Attn : reporting@phaseonline.com

Send Invoice Attn : invoicing@phaseonline.com

Airbill No.: Carrier: TFE

Condition Upon Receipt :

Comments :

Samples Relinquished By: [Signature] Date: 8-26-21 Time: 13:23
Samples Received By: [Signature]
Samples Relinquished By: [Signature] Date: 8-26-21 Time:
Samples Received By:
Samples Relinquished By: Date: Time:
Samples Received By: Lori Foster

13:25 8/26/21



# Air Analysis by TO-15

Chain of Custody

Client Contact Information		Project Manager: <i>Amber Confer</i>		Carrier:		_____ of _____ COCs									
Company: <i>PSS</i>		Phone:		Samplers Name(s)		Analysis/ Matrix									
		Site Contact:													
Project Name:		Analysis Turnaround Time													
Site:		Standard (Specify)													
PO #		Rush (Specify)													
Client Sample ID	Sample Date Start	Time Start (24 hr clock)	Sample Date Stop	Time Stop (24 hr clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Incoming Canister Pressure ("Hg) (Lab)	Sample Regulator ID	Can ID	Can Size (L)	TO-15 FULL LIST	TO-15 ABBREVIATED LIST	Indoor / Ambient Air	Soil Gas / Subslab	Comments
<i>21082523-001</i>	<i>8/24/21</i>	<i>1518</i>	<i>8/24/21</i>	<i>1918</i>	<i>30.0</i>	<i>3.0</i>		<i>4503</i>	<i>3681</i>	<i>1.4L</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>1082629-01</i>
<i>-002</i>	<i> </i>	<i>1525</i>	<i> </i>	<i>1925</i>	<i>29.0</i>	<i>0.0</i>		<i>4509</i>	<i>9611</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-02</i>
<i>-004</i>	<i> </i>	<i>1537</i>	<i> </i>	<i>1937</i>	<i>31.0</i>	<i>3.0</i>		<i>3465</i>	<i>572</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-03</i>
<i>-006</i>	<i> </i>	<i>1550</i>	<i> </i>	<i>1950</i>	<i>31.0</i>	<i>5.0</i>		<i>4446</i>	<i>9845</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-04</i>
<i>-007</i>	<i> </i>	<i>1557</i>	<i> </i>	<i>1958</i>	<i>30.0</i>	<i>1.0</i>		<i>3605</i>	<i>886</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-05</i>
<i>-008</i>	<i> </i>	<i>1600</i>	<i> </i>	<i>2005</i>	<i>33.0</i>	<i>0.0</i>		<i>14028</i>	<i>3682</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-06</i>
<i>-009</i>	<i> </i>	<i>1615</i>	<i> </i>	<i>2023</i>	<i>32.0</i>	<i>0.0</i>		<i>3911</i>	<i>597</i>	<i> </i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-07</i>
<i>-015</i>	<i>↓</i>	<i>1606</i>	<i>↓</i>	<i>2107</i>	<i>31.0</i>	<i>0.0</i>		<i>14367</i>	<i>3052</i>	<i>↓</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>-08</i>
Special Instructions/QC Requirements & Comments:															
Canisters Shipped by:		Date/Time:		Canisters Received by: <i>[Signature]</i>		Date/Time: <i>13:25 8/26/21</i>									
Samples Relinquished by:		Date/Time:		Received by:		Date/Time:									
Relinquished by:		Date/Time:		Received by:		Date/Time:									

## Case Narrative

Project Name: ACPS IAQ Testing

PSS Project No.: 21082523

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

### **Sample Receipt:**

Soil gas/indoor air not indicated on COC; samples are indoor air.

Canister IDs listed on COC are incorrect for following samples: 003, 005, 007, and 008; canister IDs corrected on COC.

Container label for COC sample 008 reads PO5281; logged in according to COC. Sampling times listed on container label match COC.

Incoming pressures not taken for samples 001, 002, 004, 006, 007, 008, 009, 015.

21082523: Analyses associated with analyst code 4010 were performed by Maryland Spectral Services, Inc., 1500 Caton Center Drive, Suite G, Baltimore, MD 21227 - VA 460156

### **Analytical:**

#### **VOCs in Air by GC/MS**

##### **Batch: 187107**

Method exceedance: Laboratory control sample/laboratory control sample duplicate (LCS/LCSD)exceedances identified; see QC summary.

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**

EPA TO-15: 1,2-Dichlorotetrafluoroethane, Chloroethane, Dibromochloromethane

**Lab Chronology**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>EPA TO-15</b>	ST-Library	Initial	21082523-003	A	87457	187107	08/26/2021 05:57	08/26/2021 18:27
	ST-123 Class	Initial	21082523-005	A	87457	187107	08/26/2021 05:57	08/26/2021 13:03
	ST-208 Class	Initial	21082523-010	A	87457	187107	08/26/2021 05:57	08/26/2021 13:57
	ST-214 Class	Initial	21082523-011	A	87457	187107	08/26/2021 05:57	08/26/2021 14:51
	ST-218 Class	Initial	21082523-012	A	87457	187107	08/26/2021 05:57	08/26/2021 15:46
	ST-Hall 229	Initial	21082523-013	A	87457	187107	08/26/2021 05:57	08/26/2021 16:39
	ST-Media Assembly	Initial	21082523-014	A	87457	187107	08/26/2021 05:57	08/26/2021 17:33
	87457-1-BKS	BKS	87457-1-BKS	A	87457	187107	08/26/2021 05:57	08/26/2021 07:37
	87457-1-BLK	BLK	87457-1-BLK	A	87457	187107	08/26/2021 05:57	08/26/2021 10:26
	87457-1-BSD	BSD	87457-1-BSD	A	87457	187107	08/26/2021 05:57	08/26/2021 08:28

Project Name ACPS IAQ Testing

PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 187107

Matrix: Air

Prep Method: TO-15P

Date Prep: 08/26/21

MB Sample Id: 87457-1-BLK

LCS Sample Id: 87457-1-BKS

LCSD Sample Id: 87457-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acetone	<9.498	11.87	9.807	83	9.783	82	69-118	1	25	ug/M3	
Benzene	<0.3193	15.97	14.75	92	14.63	92	79-107	0	25	ug/M3	
Benzyl Chloride	<1.035	25.87	28.57	110	28.51	110	78-143	0	25	ug/M3	
Bromodichloromethane	<1.340	33.49	29.54	88	29.47	88	81-111	0	25	ug/M3	
Bromoform	<2.067	51.67	51.26	99	51.05	99	78-133	0	25	ug/M3	
Bromomethane	<0.7764	19.41	18.71	96	18.36	95	76-116	1	25	ug/M3	
1,3-Butadiene	<0.4423	11.06	10.15	92	10.02	91	70-116	1	25	ug/M3	
2-Butanone (MEK)	<1.474	14.74	13.18	89	13.09	89	74-114	0	25	ug/M3	
Carbon Disulfide	<12.45	15.56	13.88	89	13.67	88	79-117	1	25	ug/M3	
Carbon Tetrachloride	<1.258	31.45	27.67	88	27.55	88	81-110	0	25	ug/M3	
Chlorobenzene	<0.9204	23.01	22.82	99	22.73	99	84-119	0	25	ug/M3	
Chloroethane	<0.5276	13.19	12.63	96	12.45	94	72-118	2	25	ug/M3	
Chloroform	<0.9761	24.40	21.87	90	21.62	89	82-108	1	25	ug/M3	
Chloromethane	<0.4128	10.32	8.690	84	8.443	82	64-121	2	25	ug/M3	
Allyl Chloride (3-Chloropropene)	<0.6258	15.64	14.27	91	14.17	91	77-113	0	25	ug/M3	
Cyclohexane	<0.6881	17.20	17.03	99	16.96	99	82-110	0	25	ug/M3	
Dibromochloromethane	<1.703	42.58	38.66	91	38.49	90	82-113	1	25	ug/M3	
1,2-Dibromoethane	<1.536	38.40	36.02	94	35.94	94	86-110	0	25	ug/M3	
1,2-Dichlorobenzene	<1.202	30.05	29.15	97	28.97	96	83-130	1	25	ug/M3	
1,3-Dichlorobenzene	<1.202	30.05	28.73	96	28.61	95	85-128	1	25	ug/M3	
1,4-Dichlorobenzene	<1.202	30.05	28.85	96	28.61	95	82-132	1	25	ug/M3	
Dichlorodifluoromethane	<0.9887	24.72	20.81	84	19.68	80	62-122	5	25	ug/M3	
1,1-Dichloroethane	<0.8092	20.23	18.49	91	18.45	91	79-110	0	25	ug/M3	
1,2-Dichloroethane	<0.8092	20.23	17.68	87	17.60	87	75-112	0	25	ug/M3	
1,1-Dichloroethene	<0.7926	19.82	18.51	93	18.39	93	80-110	0	25	ug/M3	
cis-1,2-Dichloroethene	<0.7926	19.82	19.18	97	19.06	96	84-109	1	25	ug/M3	
trans-1,2-dichloroethene	<0.7926	19.82	18.98	96	18.83	95	81-109	1	25	ug/M3	
1,2-Dichloropropane	<1.848	23.10	20.97	91	20.88	90	81-111	1	25	ug/M3	
cis-1,3-Dichloropropene	<0.9074	22.68	22.50	99	22.55	99	89-109	0	25	ug/M3	
trans-1,3-dichloropropene	<0.9074	22.68	22.05	97	22.18	98	89-114	1	25	ug/M3	
1,2-Dichlorotetrafluoroethane	<1.398	34.94	31.31	90	30.82	88	72-116	2	25	ug/M3	
1,4-Dioxane (P-Dioxane)	<3.602	18.01	18.37	102	18.34	102	70-120	0	25	ug/M3	
Ethyl Acetate	<0.7204	18.01	19.13	106	18.95	105	87-124	1	25	ug/M3	
Ethylbenzene	<0.4340	21.70	23.65	109	23.48	108	87-125	1	25	ug/M3	
4-Ethyltoluene	<0.9827	24.57	25.40	103	25.26	103	87-127	0	25	ug/M3	
n-Heptane	<0.8193	20.48	20.97	102	20.97	102	90-110	0	25	ug/M3	
Hexachlorobutadiene	<2.132	53.30	48.19	90	47.65	89	83-126	1	25	ug/M3	
n-Hexane	<14.09	17.61	17.93	102	17.90	102	84-114	0	25	ug/M3	
2-Hexanone (MBK)	<2.047	20.47	18.96	93	18.96	93	68-133	0	25	ug/M3	
Isopropylbenzene	<0.9827	24.57	24.13	98	24.03	98	88-117	0	25	ug/M3	
Methylene Chloride	<13.89	17.36	14.86	86	14.65	84	63-130	2	25	ug/M3	
4-Methyl-2-Pentanone (MIBK)	<2.047	20.47	18.80	92	18.75	92	78-115	0	25	ug/M3	
Methyl-t-Butyl Ether	<0.3604	18.02	18.60	103	18.52	103	86-109	0	25	ug/M3	
Naphthalene	<0.5240	26.20	34.84	133	34.58	132	65-129	1	25	ug/M3	H
Propylene	<1.720	8.602	6.985	81	6.658	77	58-129	5	25	ug/M3	
n-Propylbenzene	<0.9828	24.57	24.42	99	24.18	98	86-121	1	25	ug/M3	
Styrene	<4.258	21.29	24.10	113	23.93	112	86-137	1	25	ug/M3	
1,1,2,2-Tetrachloroethane	<1.373	34.31	32.73	95	32.53	95	88-119	0	25	ug/M3	
Tetrachloroethene	<1.356	33.90	31.73	94	31.53	93	86-107	1	25	ug/M3	
Tetrahydrofuran	<0.5895	14.74	14.21	96	14.12	96	80-117	0	25	ug/M3	
Toluene	<0.3767	18.83	18.95	101	18.87	100	91-106	1	25	ug/M3	

Project Name ACPS IAQ Testing  
PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 187107

Matrix: Air

Prep Method: TO-15P

Date Prep: 08/26/21

MB Sample Id: 87457-1-BLK

LCS Sample Id: 87457-1-BKS

LCSD Sample Id: 87457-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
1,2,4-Trichlorobenzene	<1.484	37.09	42.66	115	42.36	114	75-126	1	25	ug/M3	
1,1,1-Trichloroethane	<1.091	27.27	24.55	90	24.38	89	81-109	1	25	ug/M3	
1,1,2-Trichloroethane	<1.091	27.27	24.87	91	25.04	92	83-111	1	25	ug/M3	
Trichloroethene	<1.074	26.86	24.98	93	25.09	93	88-106	0	25	ug/M3	
Trichlorofluoromethane	<1.123	28.08	24.38	87	24.09	86	78-109	1	25	ug/M3	
1,1,2-Trichlorotrifluoroethane	<1.532	38.31	35.39	92	34.78	91	84-107	1	25	ug/M3	
1,2,4-Trimethylbenzene	<0.9828	24.57	26.14	106	26.00	106	86-130	0	25	ug/M3	
1,3,5-Trimethylbenzene	<0.9828	24.57	24.72	101	24.52	100	87-122	1	25	ug/M3	
2,2,4-Trimethylpentane	<0.9339	23.35	21.85	94	21.85	94	78-107	0	25	ug/M3	
Vinyl acetate	<1.760	17.60	16.72	95	16.61	94	76-119	1	25	ug/M3	
Bromoethene	<0.8746	21.86	22.00	101	21.78	100	77-117	1	25	ug/M3	
Vinyl chloride	<0.5110	12.78	11.63	91	11.45	90	72-116	1	25	ug/M3	
m&p-Xylene	<0.8681	43.41	45.62	105	45.40	105	88-122	0	25	ug/M3	
o-Xylene	<0.4341	21.70	22.44	103	22.40	103	89-120	0	25	ug/M3	
<b>Surrogate</b>	<b>MB %Rec</b>	<b>MB Flag</b>	<b>LCS Result</b>	<b>LCS Flag</b>	<b>LCSD Result</b>	<b>LCSD Flag</b>	<b>Limits</b>		<b>Units</b>		
4-Bromofluorobenzene	103		102		102		87-120		%		

F = RPD exceeded the laboratory control limits  
X = Recovery of MS, MSD or both outside of QC Criteria  
H= Recovery of BS,BSD or both exceeded the laboratory control limits  
L = Recovery of BS,BSD or both below the laboratory control limits

Project Name ACPS IAQ Testing

PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 187107

Matrix: Air

CCV Sample Id: CCV-01

Analyzed Date: 08/26/21 06:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	11.87	9.950	84	70-130	ug/M3	
Benzene	15.97	15.03	94	70-130	ug/M3	
Benzyl Chloride	25.87	24.99	97	70-130	ug/M3	
Bromodichloromethane	33.49	29.65	89	70-130	ug/M3	
Bromoform	51.67	49.18	95	70-130	ug/M3	
Bromomethane	19.41	18.85	97	70-130	ug/M3	
1,3-Butadiene	11.06	10.18	92	70-130	ug/M3	
2-Butanone (MEK)	14.74	13.36	91	70-130	ug/M3	
Carbon Disulfide	15.56	14.61	94	70-130	ug/M3	
Carbon Tetrachloride	31.45	27.50	87	70-130	ug/M3	
Chlorobenzene	23.01	23.10	100	70-130	ug/M3	
Chloroethane	13.19	12.87	98	70-130	ug/M3	
Chloroform	24.40	22.06	90	70-130	ug/M3	
Chloromethane	10.32	8.433	82	70-130	ug/M3	
Allyl Chloride (3-Chloropropene)	15.64	14.34	92	70-130	ug/M3	
Cyclohexane	17.20	17.26	100	70-130	ug/M3	
Dibromochloromethane	42.58	37.91	89	70-130	ug/M3	
1,2-Dibromoethane	38.40	36.08	94	70-130	ug/M3	
1,2-Dichlorobenzene	30.05	27.03	90	70-130	ug/M3	
1,3-Dichlorobenzene	30.05	27.50	92	70-130	ug/M3	
1,4-Dichlorobenzene	30.05	27.18	90	70-130	ug/M3	
Dichlorodifluoromethane	24.72	22.07	89	70-130	ug/M3	
1,1-Dichloroethane	20.23	18.80	93	70-130	ug/M3	
1,2-Dichloroethane	20.23	17.88	88	70-130	ug/M3	
1,1-Dichloroethene	19.82	18.91	95	70-130	ug/M3	
cis-1,2-Dichloroethene	19.82	19.43	98	70-130	ug/M3	
trans-1,2-dichloroethene	19.82	19.22	97	70-130	ug/M3	
1,2-Dichloropropane	23.10	21.11	91	70-130	ug/M3	
cis-1,3-Dichloropropene	22.68	22.53	99	70-130	ug/M3	
trans-1,3-dichloropropene	22.68	22.11	97	70-130	ug/M3	
1,2-Dichlorotetrafluoroethane	34.94	31.55	90	70-130	ug/M3	
1,4-Dioxane (P-Dioxane)	18.01	19.11	106	70-130	ug/M3	
Ethyl Acetate	18.01	19.35	107	70-130	ug/M3	
Ethylbenzene	21.70	23.88	110	70-130	ug/M3	
4-Ethyltoluene	24.57	25.27	103	70-130	ug/M3	
n-Heptane	20.48	21.08	103	70-130	ug/M3	
Hexachlorobutadiene	53.30	42.57	80	70-130	ug/M3	
n-Hexane	17.61	18.07	103	70-130	ug/M3	
2-Hexanone (MBK)	20.47	19.27	94	70-130	ug/M3	
Isopropylbenzene	24.57	24.41	99	70-130	ug/M3	
Methylene Chloride	17.36	15.02	87	70-130	ug/M3	
4-Methyl-2-Pentanone (MIBK)	20.47	19.17	94	70-130	ug/M3	
Methyl-t-Butyl Ether	18.02	18.92	105	70-130	ug/M3	
Naphthalene	26.20	24.75	94	70-130	ug/M3	
Propylene	8.602	6.671	78	70-130	ug/M3	
n-Propylbenzene	24.57	24.47	100	70-130	ug/M3	
Styrene	21.29	24.06	113	70-130	ug/M3	
1,1,2,2-Tetrachloroethane	34.31	31.84	93	70-130	ug/M3	
Tetrachloroethene	33.90	31.83	94	70-130	ug/M3	
Tetrahydrofuran	14.74	14.24	97	70-130	ug/M3	
Toluene	18.83	18.98	101	70-130	ug/M3	

Project Name ACPS IAQ Testing  
PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 187107

Matrix: Air

CCV Sample Id: CCV-01

Analyzed Date: 08/26/21 06:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
1,2,4-Trichlorobenzene	37.09	31.94	86	70-130	ug/M3	
1,1,1-Trichloroethane	27.27	24.80	91	70-130	ug/M3	
1,1,2-Trichloroethane	27.27	24.99	92	70-130	ug/M3	
Trichloroethene	26.86	25.52	95	70-130	ug/M3	
Trichlorofluoromethane	28.08	25.00	89	70-130	ug/M3	
1,1,2-Trichlorotrifluoroethane	38.31	35.85	94	70-130	ug/M3	
1,2,4-Trimethylbenzene	24.57	25.55	104	70-130	ug/M3	
1,3,5-Trimethylbenzene	24.57	24.52	100	70-130	ug/M3	
2,2,4-Trimethylpentane	23.35	21.92	94	70-130	ug/M3	
Vinyl acetate	17.60	16.32	93	70-130	ug/M3	
Bromoethene	21.86	22.29	102	70-130	ug/M3	
Vinyl chloride	12.78	11.58	91	70-130	ug/M3	
<b>Surrogate</b>		<b>CCV Result</b>		<b>Limits</b>	<b>Units</b>	<b>Flag</b>
4-Bromofluorobenzene		82		50-150	%	



Project Name ACPS IAQ Testing

PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 185968

Matrix: Air

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 07/15/21 13:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	11.87	10.66	90	70-130	ug/M3	
Benzene	15.97	15.51	97	70-130	ug/M3	
Benzyl Chloride	25.87	27.08	105	70-130	ug/M3	
Bromodichloromethane	33.49	32.04	96	70-130	ug/M3	
Bromoform	51.67	53.22	103	70-130	ug/M3	
Bromomethane	19.41	19.17	99	70-130	ug/M3	
1,3-Butadiene	11.06	10.68	97	70-130	ug/M3	
2-Butanone (MEK)	14.74	14.29	97	70-130	ug/M3	
Carbon Disulfide	15.56	15.20	98	70-130	ug/M3	
Carbon Tetrachloride	31.45	30.48	97	70-130	ug/M3	
Chlorobenzene	23.01	22.75	99	70-130	ug/M3	
Chloroethane	13.19	12.91	98	70-130	ug/M3	
Chloroform	24.40	23.55	97	70-130	ug/M3	
Chloromethane	10.32	9.584	93	70-130	ug/M3	
Allyl Chloride (3-Chloropropene)	15.64	15.43	99	70-130	ug/M3	
Cyclohexane	17.20	18.31	106	70-130	ug/M3	
Dibromochloromethane	42.58	41.98	99	70-130	ug/M3	
1,2-Dibromoethane	38.40	38.46	100	70-130	ug/M3	
1,2-Dichlorobenzene	30.05	29.90	100	70-130	ug/M3	
1,3-Dichlorobenzene	30.05	30.07	100	70-130	ug/M3	
1,4-Dichlorobenzene	30.05	30.27	101	70-130	ug/M3	
Dichlorodifluoromethane	24.72	23.21	94	70-130	ug/M3	
1,1-Dichloroethane	20.23	19.62	97	70-130	ug/M3	
1,2-Dichloroethane	20.23	19.32	96	70-130	ug/M3	
1,1-Dichloroethene	19.82	19.75	100	70-130	ug/M3	
cis-1,2-Dichloroethene	19.82	20.37	103	70-130	ug/M3	
trans-1,2-dichloroethene	19.82	19.79	100	70-130	ug/M3	
1,2-Dichloropropane	23.10	22.40	97	70-130	ug/M3	
cis-1,3-Dichloropropene	22.68	23.89	105	70-130	ug/M3	
trans-1,3-dichloropropene	22.68	23.53	104	70-130	ug/M3	
1,2-Dichlorotetrafluoroethane	34.94	33.51	96	70-130	ug/M3	
1,4-Dioxane (P-Dioxane)	18.01	19.14	106	70-130	ug/M3	
Ethyl Acetate	18.01	19.17	106	70-130	ug/M3	
Ethylbenzene	21.70	23.79	110	70-130	ug/M3	
4-Ethyltoluene	24.57	26.79	109	70-130	ug/M3	
n-Heptane	20.48	22.37	109	70-130	ug/M3	
Hexachlorobutadiene	53.30	47.13	88	70-130	ug/M3	
n-Hexane	17.61	18.94	108	70-130	ug/M3	
2-Hexanone (MBK)	20.47	21.03	103	70-130	ug/M3	
Isopropylbenzene	24.57	25.34	103	70-130	ug/M3	
Methylene Chloride	17.36	16.17	93	70-130	ug/M3	
4-Methyl-2-Pentanone (MIBK)	20.47	21.14	103	70-130	ug/M3	
Methyl-t-Butyl Ether	18.02	19.55	108	70-130	ug/M3	
Naphthalene	26.20	21.32	81	70-130	ug/M3	
Propylene	8.602	8.112	94	70-130	ug/M3	
n-Propylbenzene	24.57	26.87	109	70-130	ug/M3	
Styrene	21.29	24.28	114	70-130	ug/M3	
1,1,2,2-Tetrachloroethane	34.31	32.86	96	70-130	ug/M3	
Tetrachloroethene	33.90	34.26	101	70-130	ug/M3	
Tetrahydrofuran	14.74	15.47	105	70-130	ug/M3	
Toluene	18.83	20.13	107	70-130	ug/M3	

Project Name ACPS IAQ Testing

PSS Project No.: 21082523

**Analytical Method: EPA TO-15**

Seq Number: 185968

Matrix: Air

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 07/15/21 13:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
1,2,4-Trichlorobenzene	37.09	33.48	90	70-130	ug/M3	
1,1,1-Trichloroethane	27.27	26.75	98	70-130	ug/M3	
1,1,2-Trichloroethane	27.27	26.47	97	70-130	ug/M3	
Trichloroethene	26.86	26.83	100	70-130	ug/M3	
Trichlorofluoromethane	28.08	26.66	95	70-130	ug/M3	
1,1,2-Trichlorotrifluoroethane	38.31	37.18	97	70-130	ug/M3	
1,2,4-Trimethylbenzene	24.57	27.23	111	70-130	ug/M3	
1,3,5-Trimethylbenzene	24.57	26.05	106	70-130	ug/M3	
2,2,4-Trimethylpentane	23.35	23.79	102	70-130	ug/M3	
Vinyl acetate	17.60	18.06	103	70-130	ug/M3	
Bromoethene	21.86	21.66	99	70-130	ug/M3	
Vinyl chloride	12.78	12.23	96	70-130	ug/M3	
m&p-Xylene	43.41	46.74	108	70-130	ug/M3	
o-Xylene	21.70	23.49	108	70-130	ug/M3	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	103	50-150	%	

X = Recovery outside of QC Criteria







# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM TO-15

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www.phaseonline.com

email: info@phaseonline.com

<b>1</b> *CLIENT: Total Environmental Concepts, Inc. *OFFICE LOC.: Lorton *PROJECT MGR: Karl Ford EMAIL: kford@teci.pro *PHONE NO.: (703) 567-4346 *PROJECT NAME: ACPS IAQ testing PROJECT NO.: 4920002 SITE LOCATION: Samuel Tucker Elementary P.O. NO.: SAMPLER(S):						PSS Work Order #: <b>21082523</b>				PAGE <u>2</u> OF <u>2</u>						
						* 3	Can ID *	Sample Reg. ID *	Canister Pressure * in field ("Hg) Start	Canister Pressure * in field ("Hg) Stop	Incoming Canister Pressure ("Hg) Lab	Soil Gas / Subslab *	Indoor/Ambient Air *	TO-15 Full List	Special List	REMARKS
2	LAB #	*SAMPLE IDENTIFICATION	*DATE START	*Time Start (24hr clock)	*DATE STOP	*Time Stop (24hr clock)										
	9	ST-Storage 200	8/24/21	16:15	8/24/21	20:23	597	3911 ✓	32.0	0.0				✓		
	10	ST-208 Class	8/24/21	16:21	8/24/21	20:34	3944	10228 ✓	31.0	0.0	0			✓		
	11	ST-214 Class	8/24/21	16:26	8/24/21	20:40	4275	4687 ✓	32.0	0.0	0			✓		
	12	ST-218 Class	8/24/21	16:35	8/24/21	20:45	4279	14366 ✓	31.0	0.0	0			✓		
	13	ST-Hall 229	8/24/21	16:39	8/24/21	20:55	4263	10512 ✓	33.0	1.0	0			✓		
	14	ST-Media Assembly	8/24/21	16:45	8/24/21	20:59	4280	4706 ✓	31.0	0.0	0			✓		
	<del>15</del>	ST-Hall 202-204	8/24/21	16:52	8/24/21									✓		
	<del>16</del>	ST-Outdoor	8/24/21	16:06	8/24/21	21:07	3052	14367 ✓	31.0	0.0				✓		
<b>5</b> Relinquished By: (1) <i>[Signature]</i> Relinquished By: (2) Relinquished By: (3) Relinquished By: (4)			Date 8/25/21	Time 5:35	Received By: <i>B. Colson</i>			<b>4</b> *Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other				Shipping Carrier: CLIENT				
Data Deliverables Required:						Special Instructions:										

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. \* = REQUIRED

### Sample Receipt Checklist

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

<b>Client Name</b>	Total Environmental Concepts - Lortc	<b>Received By</b>	Betsy Colson
<b>Disposal Date</b>	09/29/2021	<b>Date Received</b>	08/25/2021 05:35:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Amber Confer

**Shipping Container(s)**

No. of Coolers 0

Custody Seal(s) Intact? N/A  
 Seal(s) Signed / Dated? N/A

Ice N/A  
 Temp (deg C)  
 Temp Blank Present No

**Documentation**

COC agrees with sample labels? No  
 Chain of Custody Yes

Sampler Name Not Provided  
N/A

**Sample Container**

Appropriate for Specified Analysis? Yes  
 Intact? Yes  
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable  
 Seal(s) Signed / Dated Not Applicable

**Holding Time**

All Samples Received Within Holding Time(s)? Yes

Total No. of Samples Received 15  
 Total No. of Containers Received 15

**Preservation**

Total Metals (pH<2) N/A  
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A  
 Orthophosphorus, filtered within 15 minutes of collection N/A  
 Cyanides (pH>12) N/A  
 Sulfide (pH>9) N/A  
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A  
 TOX, TKN, NH3, Total Phos (pH<2) N/A  
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A  
 Do VOA vials have zero headspace? N/A  
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A  
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

**Sample Receipt Checklist**

Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082523

<b>Client Name</b>	Total Environmental Concepts - Lortc	<b>Received By</b>	Betsy Colson
<b>Disposal Date</b>	09/29/2021	<b>Date Received</b>	08/25/2021 05:35:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Amber Confer

**Comments: (Any "No" response must be detailed in the comments section below.)**

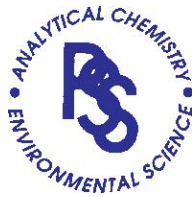
For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Soil gas/indoor air not indicated on COC; samples are indoor air.  
 Canister IDs listed on COC are incorrect for following samples: 003, 005, 007, and 008; canister IDs corrected on COC.  
 Container label for COC sample 008 reads PO5281; logged in according to COC. Sampling times listed on container label match COC.  
 Incoming pressures not taken for samples 001, 002, 004, 006, 007, 008, 009, 015.

Samples Inspected/Checklist Completed By:	<u>Amber Confer</u>	Date:	<u>08/26/2021</u>
	Amber Confer		
PM Review and Approval:	<u>Lynn Jackson</u>	Date:	<u>08/26/2021</u>
	Lynn Jackson		







# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM TO-15

**PHASE SEPARATION SCIENCE, INC.**

www.phaseonline.com  
email: info@phaseonline.com

<b>1</b> *CLIENT: _____ *OFFICE LOC.: _____						PSS Work Order #: _____				PAGE _____ OF _____				
*PROJECT MGR: _____						<b>3</b> * (3) Can ID * Sample Reg. ID * Canister Pressure * in field ("Hg) Start Canister Pressure * in field ("Hg) Stop Incoming Canister Pressure ("Hg) Lab Soil Gas / Subslab * Indoor/Ambient Air * TO-15 Full List Special List				REMARKS				
EMAIL: _____			*PHONE NO: ( _____ )											
*PROJECT NAME: _____			PROJECT NO.: _____											
SITE LOCATION: _____			P.O. NO.: _____											
SAMPLER(S): _____														
<b>2</b>	LAB #	*SAMPLE IDENTIFICATION	*DATE START	*Time Start (24hr clock)	*DATE STOP	*Time Stop (24hr clock)								
<b>5</b>	Relinquished By: (1)	Date	Time	Received By:		<b>4</b> *Requested TAT (One TAT per COC) <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other						Shipping Carrier:		
	Relinquished By: (2)	Date	Time	Received By:		<b>Data Deliverables Required:</b>								
	Relinquished By: (3)	Date	Time	Received By:		<b>Special Instructions:</b>								
	Relinquished By: (4)	Date	Time	Received By:										

## **Appendix D: Formaldehyde Analytical Results**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082534

September 3, 2021

**Karl Ford**  
**Total Environmental Concepts - Lorton**  
8382 Terminal Road, Suite B  
Lorton, VA 22079



Reference: PSS Project No: **21082534**  
Project Name: ACPS IAQ Testing  
Project Location: Samuel Tucker  
Project ID.: 4920002

Dear Karl Ford:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **21082534**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 29, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or [info@phaseonline.com](mailto:info@phaseonline.com).

Sincerely,

  
**Dan Prucnal**

Laboratory Manager



Project Name: ACPS IAQ Testing

PSS Project No.: 21082534

**Project ID: 4920002**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/25/2021 at 05:35 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
21082534-001	ST-Reception	AIR	08/24/21 00:00
21082534-002	ST-Cafeteria	AIR	08/24/21 00:00
21082534-003	ST-Library	AIR	08/24/21 00:00
21082534-004	ST-Gym	AIR	08/24/21 00:00
21082534-005	ST-123 Class	AIR	08/24/21 00:00
21082534-006	ST-115 Class	AIR	08/24/21 00:00
21082534-007	ST-130 Class	AIR	08/24/21 00:00
21082534-008	ST-106 Class	AIR	08/24/21 00:00
21082534-009	ST-Storage 200	AIR	08/24/21 00:00
21082534-010	ST-208 Class	AIR	08/24/21 00:00
21082534-011	ST-214 Class	AIR	08/24/21 00:00
21082534-012	ST-218 Class	AIR	08/24/21 00:00
21082534-013	ST-Hall 229	AIR	08/24/21 00:00
21082534-014	ST-Media Assembly	AIR	08/24/21 00:00
21082534-015	ST-Hall 202-204	AIR	08/24/21 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

## Explanation of Qualifiers

Project Name: ACPS IAQ Testing

PSS Project No.: 21082534

---

### Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

### Certifications:

NELAP Certifications: PA 68-03330, VA 460156  
State Certifications: MD 179, WV 303  
Regulated Soil Permit: P330-12-00268  
NSWC USCG Accepted Laboratory  
LDBE MWAA LD1997-0041-2015



**GALSON**

Ms. Amber Confer  
Phase Separation Science, Inc.  
6630 Baltimore National Pike  
Baltimore, MD 21228

September 02, 2021

Account# 15354

Login# L545215

Dear Amber Confer:

Enclosed are the analytical results for the samples received by our laboratory on August 27, 2021. All samples on the chain of custody were received in good condition unless otherwise noted. Any additional observations will be noted on the chain of custody.

Please contact client services at (888) 432-5227 if you would like any additional information regarding this report. Thank you for using SGS Galson.

Sincerely,

SGS Galson

Lisa Swab  
Laboratory Director

Enclosure(s)

**Terms and Conditions & General Disclaimers**

- This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
- Any holder of this document is advised that information contained herein reflects the Company’s findings at the time of its intervention only and within the limits of Client’s instructions, if any. The Company’s sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**Analytical Disclaimers**

- Unless otherwise noted within the report, all quality control results associated with the samples were within established control limits or did not impact reported results.
- Note: The findings recorded within this report were drawn from analysis of the sample(s) provided to the laboratory by the Client (or a third party acting at the Client’s direction). The laboratory does not have control over the sampling process, including but not limited to the use of field equipment and collection media, as well as the sampling duration, collection volume or any other collection parameter used by the Client. The findings herein constitute no warranty of the sample's representativeness of any sampled environment, and strictly relate to the samples as they were presented to the laboratory. For recommended sampling collection parameters, please refer to the Sampling and Analysis Guide at [www.sgs.com](http://www.sgs.com).
- Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.
- The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).
- Unless otherwise noted within the report, results have not been blank corrected for any field blank or method blank data.

**Accreditations** SGS Galson holds a variety of accreditations and recognitions. Our quality management system conforms with the requirements of ISO/IEC 17025. Where applicable, samples may also be analyzed in accordance with the requirements of ELAP, NELAC, or LELAP under one of the state accrediting bodies listed below. Current Scopes of Accreditation can be viewed at <http://www.sgs.com> in the accreditations section of the "About" page. To determine if the analyte tested falls under our scope of accreditation, please visit our website or call Client Services at (888) 432-5227.

National/International	Accreditation/Recognition	Lab ID#	Program/Sector
AIHA-LAP, LLC - IHLAP, ELLAP, EMLAP	ISO/IEC 17025 and USEPA NLLAP	Lab ID 100324	Industrial Hygiene, Environmental Lead, Environmental Microbiology

State	Accreditation/Recognition	Lab ID#	Program/Sector
New York (NYSDOH)	ELAP and NELAC (TNI)	Lab ID: 11626	Air Analysis, Solid and Hazardous Waste
New Jersey (NJDEP)	NELAC (TNI)	Lab ID: NY024	Air Analysis
Louisiana (LDEQ)	LELAP	Lab ID: 04083	Air Analysis, Solid Chemical Materials
Texas	Texas Dept. of Licensing and Regulation	Lab ID: 1042	Mold Analysis Laboratory license

**Legend**

< - Less than	mg - Milligrams	MDL - Method Detection Limit	ppb - Parts per Billion
> - Greater than	ug - Micrograms	NA - Not Applicable	ppm - Parts per Million
l - Liters	m3 - Cubic Meters	NS - Not Specified	ppbv - ppb Volume
LOQ - Limit of Quantitation	kg - Kilograms	ND - Not Detected	ppmv - ppm Volume
ft2 - Square Feet	cm2 - Square Centimeters	in2 - Square Inches	ng - Nanograms





LABORATORY ANALYSIS REPORT

6601 Kirkville Road  
 East Syracuse, NY 13057  
 (315) 432-5227  
 FAX: (315) 437-0571  
 www.sgsgalson.com

Client : Phase Separation Science, Inc. Account No.: 15354  
 Site : SAMUEL TUCKER Login No. : L545215  
 Project No. : ACPS IAQ TESTING-4920002  
 Date Sampled : 24-AUG-21 Date Analyzed : 30-AUG-21  
 Date Received : 27-AUG-21 Report ID : 1262669

**Formaldehyde**

Sample ID	Lab ID	Time minutes	Total ug	Conc mg/m3	Conc ppm
ST-RECEPTION	L545215-1	240	<0.4	<0.01	<0.01
ST-CAFETERIA	L545215-2	240	<0.4	<0.01	<0.01
ST-LIBRARY	L545215-3	240	<0.4	<0.01	<0.01
ST-GYM	L545215-4	240	<0.4	<0.01	<0.01
ST-123 CLASS	L545215-5	240	<0.4	<0.01	<0.01
ST-115 CLASS	L545215-6	240	<0.4	<0.01	<0.01
ST-130 CLASS	L545215-7	241	<0.4	<0.01	<0.01
ST-106 CLASS	L545215-8	245	<0.4	<0.01	<0.01
ST-STORAGE 200	L545215-9	248	<0.4	<0.01	<0.01
ST-208 CLASS	L545215-10	253	<0.4	<0.01	<0.01
ST-214 CLASS	L545215-11	254	<0.4	<0.01	<0.01
ST-218 CLASS	L545215-12	250	<0.4	<0.01	<0.01
ST-HALL 229	L545215-13	256	<0.4	<0.01	<0.01
ST-MEDIA ASSEMBLY	L545215-14	254	<0.4	<0.01	<0.01
ST-HALL 202-204	L545215-15	219	<0.4	<0.02	<0.01

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 0.4 ug  
 Analytical Method : mod. OSHA 1007; HPLC/UV  
 Collection Media : Assay 581

Submitted by: JLL  
 Date : 02-SEP-21  
 Supervisor : MWJ

Approved by: MLN

Client Name : Phase Separation Science, Inc.  
Site : SAMUEL TUCKER  
Project No. : APCS IAQ TESTING-4920002  
Date Sampled : 24-AUG-21  
Date Received : 27-AUG-21  
Date Analyzed : 30-AUG-21

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.sgsgalson.com

Account No.: 15354  
Login No. : 1545215

**L545215 (Report ID: 1262669) :**

Total ug corrected for a desorption efficiency of 96%.  
FORMALDEHYDE results have been corrected for the average background found on the media:  
0.1178 ug for lot #4B21 (samples 1-15).  
SOPs: LC-SOP-4(23)

**L545215 (Report ID: 1262669) :**

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated accuracy applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process. The accuracy is based solely on spike recovery data from internal quality control samples. Where N/A appears below, insufficient data is available to provide statistical accuracy and mean recovery values for the associated analyte.

Parameter	Accuracy	Mean Recovery
Formaldehyde	+/-12.1%	95.3%

LS45215 21082534



New Client?  Report To\*: Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228

Invoice To\*: Phase Separation Science

Client Account No.\*: \_\_\_\_\_

1Z2313E40166972748

Date: 08/27/21

Shipper: UPS

Initials: MAK

Phone No.\*: 410-747-8770

Phone No.: 410-747-8770

Cell No.: \_\_\_\_\_

Email: invoicing@phaseonline.com

P.O. No.: ODC.4920002-001

17-18

Prep: UNKNOWN

Email Results to: Amber Confer

Credit Card:  Card on File  Call for Credit Card Info.

ASD

Samples submitted using the FreePumpLoan™ Program

Samples submitted using the FreeSamplingBadges™ Program

Site Name: Samuel J. Walker Project: ACPS IAQ testing - 4920002 Sampled by: Karl Ford

Comments:

Dosimeter cartridge # noted in the (Hexavalent Chromium Process) column

List description of industry or Process/Interferences present in sampling area:

Public grade school building

State samples were collected in (e.g., NY) VA

Please indicate which OEL this data will be used for:  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Need Results By:	(surcharge)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml, min, in, 2, cm, 2, ft, 2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.) <sup>1</sup>
<input checked="" type="checkbox"/> Standard	0%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4218
<input type="checkbox"/> 4 Business Days	35%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4316
<input type="checkbox"/> 3 Business Days	50%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4252
<input type="checkbox"/> 2 Business Days	75%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4058
<input type="checkbox"/> Next Day by 6pm	100%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4165
<input type="checkbox"/> Next Day by Noon	150%	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4209
<input type="checkbox"/> Same Day	200%	08/24/21	Assay N581 Aldehyde Badge	241	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD5040
Sample Identification* (Maximum of 20 Characters)		08/24/21	Assay N581 Aldehyde Badge	245	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD5281
ST - Reception		08/24/21	Assay N581 Aldehyde Badge	248	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4744
ST - Cafeteria		08/24/21	Assay N581 Aldehyde Badge	253	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4229
ST - Library		08/24/21	Assay N581 Aldehyde Badge	254	Min	Formaldehyde	mod. OSHA 1007: TPLCOUV	PD4231
ST - Gym								
ST - 123 Class								
ST - 115 Class								
ST - 130 Class								
ST - 106 Class								
ST - Storage 200								
ST - 208 Class								
ST - 214 Class								

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*: ;

Chain of Custody	Print Name/Signature	Date	Time	Print Name/Signature	Date	Time
Relinquished by:	Client	8/25/21	1735	Amber Confer	8/27/21	1117
Relinquished by:	Amber Confer			Michelle Krause	8/27/21	1117

Samples received after 3pm will be considered as next day's business  
Galson Laboratories may result in a delay in processing samples being processed.

21082534

**SGS GALSON**

6601 Kirkville Rd  
East Syracuse, NY 13057  
Tel: (315) 432-5227  
888-432-LABS (5227)

www.sgsgalson.com

New Client? Report To\*: Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228

Client Account No.\*:

Phone No.\*: 410-747-8770

Cell No.:

Email Results to: Amber Confer

Email address: reporting@phaseonline.com

Invoice To\*: Phase Separation Science

Phone No.: 410-747-8770

Email: invoicing@phaseonline.com

P.O. No.: ODC 4920002-001

Credit Card:  Card on File  Call for Credit Card Info.

Samples submitted using the FreePumpLoan™ Program  Samples submitted using the FreeSamplingBadges™ Program

Site Name: Somer Tucker Project: ACPS IAQ testing - 4920002 Sampled by: Karl Ford

Comments:

Dosimeter cartridge # noted in the (Hexavalent Chromium Process) column

List description of industry or Process/interferences present in sampling area:

Public grade school building

State samples were collected in (e.g., NY) VA

Please indicate which OEL this data will be used for:  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Need Results By:	(surcharge)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units* L, ml, min, in2, cm2, ft2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
<input checked="" type="checkbox"/> Standard	0%	08/24/21	Assay N581 Aldehyde Badge	250	Min	Formaldehyde	mod. OSHA 1007: TPLCUV	PD4214
<input type="checkbox"/> 4 Business Days	35%	08/24/21	Assay N581 Aldehyde Badge	256	Min	Formaldehyde	mod. OSHA 1007: TPLCUV	PD4510
<input type="checkbox"/> 3 Business Days	50%	08/24/21	Assay N581 Aldehyde Badge	254	Min	Formaldehyde	mod. OSHA 1007: TPLCUV	PD4304
<input type="checkbox"/> 2 Business Days	75%	08/24/21	Assay N581 Aldehyde Badge	219	Min	Formaldehyde	mod. OSHA 1007: TPLCUV	PD4797
<input type="checkbox"/> Next Day by 6pm	100%		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLCUV	
<input type="checkbox"/> Next Day by Noon	150%		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLCUV	
<input type="checkbox"/> Same Day	200%		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLCUV	

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*:

Chain of Custody	Print Name/Signature	Date	Time	Received by:	Print Name/Signature	Date	Time
Relinquished by:	<u>Client</u>	<u>8/25/21</u>	<u>1735</u>	Received by:	<u>Amber Confer</u>	<u>8/27/21</u>	<u>1117</u>
Relinquished by:	<u>Amber Confer</u>			Received by:	<u>Michelle Kase</u>		

Samples received after 3pm will be considered as next day's business  
\* Required fields. Failure to complete these fields may result in a delay in report samples being processed.  
Page 6 of 7 Report Reference: Generated: 02-SEP-21 10:35



# Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc  
 6630 Baltimore National Pike  
 Baltimore, MD 21228  
 Phone: (410) 747-8770  
 Fax: (410) 788-8723

W.O. No.: **21082534**  
 Project Location: Samuel Tucker  
 Project Number: 4920002  
 Report To LOD: No

Samples Transferred To:  
 SGS North America - NY  
 6601 Kirkville Road  
 East Syracuse, NY 13057  
 Old SGS Galson Labs. bsc  
 Phone: 315-432-5227

For Questions or issues please contact: Amber Confer

**Report Due On : 09/03/21 05:00**

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
21082534-001	ST-Reception	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-002	ST-Cafeteria	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-003	ST-Library	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-004	ST-Gym	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-005	ST-123 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-006	ST-115 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-007	ST-130 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-008	ST-106 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-009	ST-Storage 200	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-010	ST-208 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-011	ST-214 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-012	ST-218 Class	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-013	ST-Hall 229	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-014	ST-Media Assembly	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON
21082534-015	ST-Hall 202-204	08/24/21	00:00	Air	Formaldehyde (mod. OSHA 1007; HPLC/UV)	VARIOUS	NONSC	NON

**Data Deliverables Required: COA**

**Perform Q.C. on Sample :**

**Send Report Attn :** reporting@phaseonline.com

**Send Invoice Attn :** invoicing@phaseonline.com

Airbill No.: \_\_\_\_\_ Carrier: **UPS**

Condition Upon Receipt: \_\_\_\_\_

Comments:

Samples Relinquished By: Amber Confer Date: \_\_\_\_\_

Samples Received By: \_\_\_\_\_

Samples Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Samples Received By: \_\_\_\_\_

Samples Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_

Page 7 of 7, Report Reference: 1 Generated: 02/19/25  
 Samples Received By: Michelle Korman

8/27/21 11:17

## Case Narrative

Project Name: ACPS IAQ Testing

PSS Project No.: 21082534

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

### **Sample Receipt:**

All sample receipt conditions were acceptable.

21082534: Analyses associated with analyst code 4051 were performed by  
SGS North America - NY, 6601 Kirkville Road, East Syracuse, NY 13057 - NY 11626

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**



21082534



6601 Kirkville Rd  
East Syracuse, NY 13057  
Tel: (315) 432-5227  
888-432-LABS (5227)

www.ssgalson.com

New Client? Report To\*: Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228

Phone No.\*: 410-747-8770  
Cell No.:  
Email Results to: Amber Confer  
Email address: reporting@phaseonline.com

Invoice To\*: Phase Separation Science  
Phone No.: 410-747-8770  
Email: invoicing@phaseonline.com  
P.O. No.: ODC 4920002-001  
Credit Card:  Card on File  Call for Credit Card Info.

Need Results By:	(surcharge)
<input checked="" type="checkbox"/> Standard	0%
<input type="checkbox"/> 4 Business Days	35%
<input type="checkbox"/> 3 Business Days	50%
<input type="checkbox"/> 2 Business Days	75%
<input type="checkbox"/> Next Day by 6pm	100%
<input type="checkbox"/> Next Day by Noon	150%
<input type="checkbox"/> Same Day	200%

Site Name: Samuel J Miller  
Project: ACPs IAQ testing - 4920002  
Sampled by: Karl Ford

Comments:  
Dosimeter cartridge # noted in the (Hexavalent Chromium Process) column

List description of industry or Process/interferences present in sampling area:

Public grade school building

State samples were collected in (e.g., NY) VA

Please indicate which OEL this data will be used for:  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml, min, in <sup>2</sup> , cm <sup>2</sup> , ft <sup>2</sup>	Analysis Requested*	Method Reference <sup>A</sup>	Hexavalent Chromium Process (e.g., welding plating, painting, etc.) <sup>B</sup>
ST - Reception	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4218
ST - Cafeteria	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4316
ST - Library	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4252
ST - Gym	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4058
ST - 123 Class	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4165
ST - 115 Class	08/24/21	Assay N581 Aldehyde Badge	240	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4209
ST - 130 Class	08/24/21	Assay N581 Aldehyde Badge	241	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD5040
ST - 106 Class	08/24/21	Assay N581 Aldehyde Badge	245	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD5281
ST - Storage 200	08/24/21	Assay N581 Aldehyde Badge	248	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4744
ST - 208 Class	08/24/21	Assay N581 Aldehyde Badge	253	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4229
ST - 214 Class	08/24/21	Assay N581 Aldehyde Badge	254	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4231

<sup>A</sup>Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\*:

Chain of Custody	Print Name/Signature	Date	Time	Received by:	Print Name/Signature	Date	Time
Relinquished by:	Client	8/25/21	1735	Received by:	Amber Confer		
Relinquished by:	Client			Received by:			

\* Required fields, failure to complete these fields may result in a delay in your samples being processed.



21082534

**SGS GALSON**

6601 Kirkville Rd  
East Syracuse, NY 13057  
Tel: (315) 432-5227  
888-432-LABS (5227)

www.ssgalson.com

New Client? Report To\* : Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228

Client Account No.\*:

Phone No.\* : 410-747-8770

Cell No. :

Email Results to : Amber Confer

Email address: reporting@phaseonline.com

Invoice To\* : Phase Separation Science

Phone No.: 410-747-8770

Email : invoicing@phaseonline.com

P.O. No. : ODC 4920002-001

Credit Card :  Card on File  Call for Credit Card Info.

Need Results By:	(surcharge)
<input checked="" type="checkbox"/> Standard	0%
<input type="checkbox"/> 4 Business Days	35%
<input type="checkbox"/> 3 Business Days	50%
<input type="checkbox"/> 2 Business Days	75%
<input type="checkbox"/> Next Day by 6pm	100%
<input type="checkbox"/> Next Day by Noon	150%
<input type="checkbox"/> Same Day	200%

Samples submitted using the FreePumpLoan™ Program

Samples submitted using the FreeSamplingBadges™ Program

Site Name : *Somerset* Project : ACPS IAQ testing - 4920002 Sampled by : Karl Ford

Comments :

Dosimeter cartridge # noted in the (Hexavalent Chromium Process) column

List description of industry or Process/interferences present in sampling area :

Public grade school building

State samples were collected in (e.g., NY) VA

Please indicate which OEL this data will be used for :  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml,min,in <sup>2</sup> ,cm <sup>2</sup> ,ft <sup>2</sup>	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
ST - 218 Class	08/24/21	Assay N581 Aldehyde Badge	250	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4214
ST - Hall 229	08/24/21	Assay N581 Aldehyde Badge	256	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4510
ST - Media Assembly	08/24/21	Assay N581 Aldehyde Badge	254	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4304
ST - Hall 202-204	08/24/21	Assay N581 Aldehyde Badge	219	Min	Formaldehyde	mod. OSHA 1007: TPLC/UV	PD4797
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge			Formaldehyde	mod. OSHA 1007: TPLC/UV	

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\* :

Chain of Custody	Print Name/Signature	Date	Time	Received by:	Print Name/Signature	Date	Time
Relinquished by:	<i>Client</i>	<i>08/24/21</i>	<i>1735</i>	<i>Amber Confer</i>	<i>Amber Confer</i>		
Relinquished by:	<i>Amber Confer</i>						

\* Required fields, failure to complete these fields may result in a delay in your samples being processed.

### Sample Receipt Checklist

Project Name: ACPS IAQ Testing

PSS Project No.: 21082534

<b>Client Name</b>	Total Environmental Concepts - Lortc	<b>Received By</b>	Amber Confer
<b>Disposal Date</b>	09/29/2021	<b>Date Received</b>	08/25/2021 05:35:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Amber Confer

**Shipping Container(s)**

No. of Coolers 0

Custody Seal(s) Intact? N/A  
 Seal(s) Signed / Dated? N/A

Ice N/A  
 Temp (deg C)  
 Temp Blank Present No

**Documentation**

COC agrees with sample labels? Yes  
 Chain of Custody Yes

Sampler Name Karl Ford  
 MD DW Cert. No. N/A

**Sample Container**

Appropriate for Specified Analysis? Yes  
 Intact? Yes  
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable  
 Seal(s) Signed / Dated Not Applicable

**Holding Time**

All Samples Received Within Holding Time(s)? Yes

Total No. of Samples Received 15  
 Total No. of Containers Received 15

**Preservation**

Total Metals (pH<2) N/A  
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A  
 Orthophosphorus, filtered within 15 minutes of collection N/A  
 Cyanides (pH>12) N/A  
 Sulfide (pH>9) N/A  
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A  
 TOX, TKN, NH3, Total Phos (pH<2) N/A  
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A  
 Do VOA vials have zero headspace? N/A  
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A  
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

**Comments: (Any "No" response must be detailed in the comments section below.)**

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Amber Confer  
 Amber Confer

Date: 08/26/2021

PM Review and Approval:

Lynn Jackson  
 Lynn Jackson  
 Page 14 of 14

Date: 08/26/2021





## **Appendix E: 4-PCH Analytical Results**

Project Name: ACPS IAQ Testing  
PSS Project No.: 21082535

September 3, 2021

**Karl Ford**  
**Total Environmental Concepts - Lorton**  
8382 Terminal Road, Suite B  
Lorton, VA 22079



Reference: PSS Project No: **21082535**  
Project Name: ACPS IAQ Testing  
Project Location: Samuel Tucker  
Project ID.: 4920002

Dear Karl Ford:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **21082535**.


All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 29, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

  
Dan Prucnal

Laboratory Manager





Project Name: ACPS IAQ Testing  
 PSS Project No.: 21082535

**Project ID: 4920002**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/25/2021 at 05:35 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
21082535-001	ST-Reception	AIR	08/24/21 00:00
21082535-002	ST-Cafeteria	AIR	08/24/21 00:00
21082535-003	ST-Library	AIR	08/24/21 00:00
21082535-004	ST-Gym	AIR	08/24/21 00:00
21082535-005	ST-123 Class	AIR	08/24/21 00:00
21082535-006	ST-115 Class	AIR	08/24/21 00:00
21082535-007	ST-130 Class	AIR	08/24/21 00:00
21082535-008	ST-106 Class	AIR	08/24/21 00:00
21082535-009	ST-Storage 200	AIR	08/24/21 00:00
21082535-010	ST-208 Class	AIR	08/24/21 00:00
21082535-011	ST-214 Class	AIR	08/24/21 00:00
21082535-012	ST-218 Class	AIR	08/24/21 00:00
21082535-013	ST-Hall 229	AIR	08/24/21 00:00
21082535-014	ST-Media Assembly	AIR	08/24/21 00:00
21082535-015	ST-Hall 202-204	AIR	08/24/21 00:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.



## Explanation of Qualifiers

Project Name: ACPS IAQ Testing

PSS Project No.: 21082535

---

### Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

### Certifications:

NELAP Certifications: PA 68-03330, VA 460156  
State Certifications: MD 179, WV 303  
Regulated Soil Permit: P330-12-00268  
NSWC USCG Accepted Laboratory  
LDBE MWAA LD1997-0041-2015

**Ms. Amber Confer  
Phase Separation Science, Inc.  
6630 Baltimore National Pike  
Baltimore, MD 21228**

**September 02, 2021**

**Account# 15354**

**Login# L545208**


**Dear Amber Confer:**

**Enclosed are the analytical results for the samples received by our laboratory on August 27, 2021. All samples on the chain of custody were received in good condition unless otherwise noted. Any additional observations will be noted on the chain of custody.**

**Please contact client services at (888) 432-5227 if you would like any additional information regarding this report. Thank you for using SGS Galson.**

**Sincerely,**

**SGS Galson**



**Lisa Swab  
Laboratory Director**

**Enclosure(s)**

**Terms and Conditions & General Disclaimers**

- This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
- Any holder of this document is advised that information contained herein reflects the Company’s findings at the time of its intervention only and within the limits of Client’s instructions, if any. The Company’s sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**Analytical Disclaimers**

- Unless otherwise noted within the report, all quality control results associated with the samples were within established control limits or did not impact reported results.
- Note: The findings recorded within this report were drawn from analysis of the sample(s) provided to the laboratory by the Client (or a third party acting at the Client’s direction). The laboratory does not have control over the sampling process, including but not limited to the use of field equipment and collection media, as well as the sampling duration, collection volume or any other collection parameter used by the Client. The findings herein constitute no warranty of the sample’s representativeness of any sampled environment, and strictly relate to the samples as they were presented to the laboratory. For recommended sampling collection parameters, please refer to the Sampling and Analysis Guide at [www.sgs.com](http://www.sgs.com).
- Unrounded results are carried through the calculations that yield the final result and the final result is rounded to the number of significant figures appropriate to the accuracy of the analytical method. Please note that results appearing in the columns preceding the final result column may have been rounded and therefore, if carried through the calculations, may not yield an identical final result to the one reported.
- The stated LOQs for each analyte represent the demonstrated LOQ concentrations prior to correction for desorption efficiency (if applicable).
- Unless otherwise noted within the report, results have not been blank corrected for any field blank or method blank data.

**Accreditations** SGS Galson holds a variety of accreditations and recognitions. Our quality management system conforms with the requirements of ISO/IEC 17025. Where applicable, samples may also be analyzed in accordance with the requirements of ELAP, NELAC, or LELAP under one of the state accrediting bodies listed below. Current Scopes of Accreditation can be viewed at <http://www.sgs.com> in the accreditations section of the "About" page. To determine if the analyte tested falls under our scope of accreditation, please visit our website or call Client Services at (888) 432-5227.

National/International	Accreditation/Recognition	Lab ID#	Program/Sector
AIHA-LAP, LLC - IHLAP, ELLAP, EMLAP	ISO/IEC 17025 and USEPA NLLAP	Lab ID 100324	Industrial Hygiene, Environmental Lead, Environmental Microbiology

State	Accreditation/Recognition	Lab ID#	Program/Sector
New York (NYSDOH)	ELAP and NELAC (TNI)	Lab ID: 11626	Air Analysis, Solid and Hazardous Waste
New Jersey (NJDEP)	NELAC (TNI)	Lab ID: NY024	Air Analysis
Louisiana (LDEQ)	LELAP	Lab ID: 04083	Air Analysis, Solid Chemical Materials
Texas	Texas Dept. of Licensing and Regulation	Lab ID: 1042	Mold Analysis Laboratory license

**Legend**

< - Less than	mg - Milligrams	MDL - Method Detection Limit	ppb - Parts per Billion
> - Greater than	ug - Micrograms	NA - Not Applicable	ppm - Parts per Million
l - Liters	m3 - Cubic Meters	NS - Not Specified	ppbv - ppb Volume
LOQ - Limit of Quantitation	kg - Kilograms	ND - Not Detected	ppmv - ppm Volume
ft2 - Square Feet	cm2 - Square Centimeters	in2 - Square Inches	ng - Nanograms



# GALSON

## LABORATORY ANALYSIS REPORT

6601 Kirkville Road  
 East Syracuse, NY 13057  
 (315) 432-5227  
 FAX: (315) 437-0571  
 www.sgsgalson.com

Client : Phase Separation Science, Inc. Account No.: 15354  
 Site : SAMUEL TUCKER Login No. : L545208  
 Project No. : ACPS IAQ TESTING-4920002  
 Date Sampled : 24-AUG-21 Date Analyzed : 01-SEP-21  
 Date Received : 27-AUG-21 Report ID : 1262969

### 4-Phenylcyclohexene (4PCH low LOQ)

Sample ID	Lab ID	Air Vol liter	Front ug	Back ug	Total ug	Conc mg/m3	ppm
ST-RECEPTION	L545208-1	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-CAFETERIA	L545208-2	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-LIBRARY	L545208-3	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-GYM	L545208-4	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-123 CLASS	L545208-5	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-115 CLASS	L545208-6	48	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-130 CLASS	L545208-7	48.2	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-106 CLASS	L545208-8	49	<0.2	<0.2	<0.2	<0.004	<0.0007
ST-STORAGE 200	L545208-9	49.6	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-208 CLASS	L545208-10	50.6	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-214 CLASS	L545208-11	50.8	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-218 CLASS	L545208-12	50	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-HALL 229	L545208-13	51.2	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-MEDIA ASSEMBLY	L545208-14	50.8	<0.2	<0.2	<0.2	<0.004	<0.0006
ST-HALL 202-204	L545208-15	43.8	<0.2	<0.2	<0.2	<0.005	<0.0007

COMMENTS: Please see attached lab footnote report for any applicable footnotes.

Level of Quantitation: 0.2 ug  
 Analytical Method : mod. NIOSH 1501; GC/PID  
 Collection Media : 226-01

Submitted by: BDK  
 Date : 02-SEP-21  
 Supervisor : KAG

Approved by: MLN



# GALSON

LABORATORY FOOTNOTE REPORT

6601 Kirkville Road  
East Syracuse, NY 13057  
(315) 432-5227  
FAX: (315) 437-0571  
www.ssggalson.com

Client Name : Phase Separation Science, Inc.  
Site : SAMUEL TUCKER  
Project No. : ACPS IAQ TESTING-4920002

Date Sampled : 24-AUG-21      Account No.: 15354  
Date Received: 27-AUG-21      Login No. : L545208  
Date Analyzed: 01-SEP-21

L545208 (Report ID: 1262969):

Total ug corrected for a desorption efficiency of 97%.  
SOPs: GC-SOP-16(26), GC-SOP-8(27), GC-SOP-12(20)

L545208 (Report ID: 1262969):

Accuracy and mean recovery data presented below is based on a 95% confidence interval (k=2). The estimated accuracy applies to the media, technology, and SOP referenced in this report and does not account for the uncertainty associated with the sampling process. The accuracy is based solely on spike recovery data from internal quality control samples. Where N/A appears below, insufficient data is available to provide statistical accuracy and mean recovery values for the associated analyte.

Parameter	Accuracy	Mean Recovery
4-Phenylcyclohexene (4PCH low LOQ)	+/-18%	88.2%

LS45208

21082535

**SGS GALSON**

New Client?

Report To\* : Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228

Invoice To\* : Phase Separation Science

16

Client Account No.\*:

Phone No.\* : 410-747-8770

Phone No.: 410-747-8770

Email : invoicing@phaseonline.com

Cell No.:

P.O. No. : ODC 4920002-001

Email Results to : Amber Confer

Credit Card :  Card on File  Call for Credit Card Info.

Email address: reporting@phaseonline.com

Samples submitted using the FreePumpLoan™ Program

Samples submitted using the FreeSamplingBadges™ Program

Need Results By: (surcharge)

Project : ACPS IAQ testing - 4920002 Sampled by : Karl Ford

<input checked="" type="checkbox"/>	Standard	0%
<input type="checkbox"/>	4 Business Days	35%
<input type="checkbox"/>	3 Business Days	50%
<input checked="" type="checkbox"/>	2 Business Days	75%
<input type="checkbox"/>	Next Day by 6pm	100%
<input type="checkbox"/>	Next Day by Noon	150%
<input type="checkbox"/>	Same Day	200%

Site Name : Samuel Tucker

Comments :

All media is 226-01. KLD 8/27/21

List description of industry or Process/interferences present in sampling area :

Public grade school building

State samples were collected in (e.g., NY)

VA

Please indicate which OEL this data will be used for :

OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml,min,in2,cm2,ft2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
ST - Reception	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Cafeteria	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Library	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Gym	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 123 Class	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 115 Class	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 130 Class	08/24/21	Assay N581 Aldehyde Badge	48.2	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 106 Class	08/24/21	Assay N581 Aldehyde Badge	49.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Storage 200	08/24/21	Assay N581 Aldehyde Badge	49.6	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 208 Class	08/24/21	Assay N581 Aldehyde Badge	50.6	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 214 Class	08/24/21	Assay N581 Aldehyde Badge	50.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\* :

Chain of Custody	Print Name/Signature	Date	Time	Print Name/Signature	Date	Time
Relinquished by:	<i>Client</i>	8/25/21	1735	Received by: <i>Amber Confer</i>	8/27/21	1157
Relinquished by:	<i>Amber Confer</i>			Received by: <i>Michelle Krause</i>		

Samples received after 3pm will be considered as next day's business

Page 1 of 2

\* Required fields failure to complete these fields may result in a delay in your samples being processed.

Page 5 of 7 Report Reference: 1 Generated: 02 SEP 21 12:07

21082535



6601 Kirkville Rd  
East Syracuse, NY 13057  
Tel: (315) 432-5227  
888-432-LABS (5227)

www.sgsgalson.com

New Client? Report To\* : Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228  
Client Account No.\*: \_\_\_\_\_  
Phone No.\* : 410-747-8770  
Cell No. : \_\_\_\_\_  
Email Results to : Amber Confer  
Email address: reporting@phaseonline.com

Invoice To\* : Phase Separation Science  
Phone No.: 410-747-8770  
Email : invoicing@phaseonline.com  
P.O. No. : ODC 4920002-001  
Credit Card :  Card on File  Call for Credit Card Info.  
 Samples submitted using the FreePumpLoan™ Program  Samples submitted using the FreeSamplingBadges™ Program

Need Results By:	(surcharge)
<input checked="" type="checkbox"/> Standard	0%
<input type="checkbox"/> 4 Business Days	35%
<input type="checkbox"/> 3 Business Days	50%
<input type="checkbox"/> 2 Business Days	75%
<input type="checkbox"/> Next Day by 6pm	100%
<input type="checkbox"/> Next Day by Noon	150%
<input type="checkbox"/> Same Day	200%

Site Name : Samuel Tucker Project : ACPS IAQ testing - 4920002 Sampled by : Karl Ford

Comments :  
List description of industry or Process/interferences present in sampling area :  
Public grade school building  
State samples were collected in (e.g., NY) : VA  
Please indicate which OEL this data will be used for :  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify):

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units* L, ml, min, in2, cm2, ft2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
ST - 218 Class	08/24/21	Assay N581 Aldehyde Badge	50.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Hall 229	08/24/21	Assay N581 Aldehyde Badge	51.2	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Media Assembly	08/24/21	Assay N581 Aldehyde Badge	50.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Hall 202-204	08/24/21	Assay N581 Aldehyde Badge	43.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\* :

Chain of Custody	Print Name/Signature	Date	Time	Print Name/Signature	Date	Time
Relinquished by :	Client	8/25/21	1735	Amber Confer	8/27/21	1117
Relinquished by :	Amber Confer			Michelle K...		

Samples received after 3pm will be considered as next day's business  
\* Required for... Report Reference... Generated: 02-SEP-21 12:07





# Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc  
6630 Baltimore National Pike  
Baltimore, MD 21228  
Phone: (410) 747-8770  
Fax: (410) 788-8723

W.O. No. : 21082535  
Project Location : Samuel Tucker  
Project Number : 4920002  
Report To LOD : No

Samples Transferred To:  
SGS North America - NY  
6601 Kirkville Road  
East Syracuse, NY 13057

Old SGS Galson Labs. bsc  
Phone : 315-432-5227

For Questions or issues please contact: Amber Confer

Report Due On : **09/03/21 05:00**

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
21082535-001	ST-Reception	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-002	ST-Cafeteria	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-003	ST-Library	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-004	ST-Gym	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-005	ST-123 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-006	ST-115 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-007	ST-130 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-008	ST-106 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-009	ST-Storage 200	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-010	ST-208 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-011	ST-214 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-012	ST-218 Class	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-013	ST-Hall 229	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-014	ST-Media Assembly	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON
21082535-015	ST-Hall 202-204	08/24/21	00:00	Air	4-Phenylcyclohexene	VARIOUS	NONSC	NON

Data Deliverables Required: COA

Perform Q.C. on Sample : \_\_\_\_\_

Send Report Attn : reporting@phaseonline.com

Send Invoice Attn : invoicing@phaseonline.com

Airbill No.: \_\_\_\_\_ Carrier : UPS

Condition Upon Receipt : \_\_\_\_\_

Comments : \_\_\_\_\_

Samples Relinquished By: Amber Confer Date: \_\_\_\_\_ Time: \_\_\_\_\_ Samples Received By: \_\_\_\_\_

Samples Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Samples Received By: \_\_\_\_\_

Samples Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Samples Received By: \_\_\_\_\_

Page 7 of 7 Report Reference: 1 Generated: 02-SEP-21 14:25:07 Michelle K...

11<sup>17</sup> 8/27/21

## Case Narrative

Project Name: ACPS IAQ Testing

PSS Project No.: 21082535

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

### **Sample Receipt:**

All sample receipt conditions were acceptable.

21082535: Analyses associated with analyst code 4051 were performed by  
SGS North America - NY, 6601 Kirkville Road, East Syracuse, NY 13057 - NY 11626

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**

21082535



New Client? Report To\* : Phase Separation Science  
 6630 Baltimore National Pike  
 Baltimore, MD 21228  
 Client Account No.\*: \_\_\_\_\_  
 Phone No.\* : 410-747-8770  
 Cell No. : \_\_\_\_\_  
 Email Results to : Amber Confer  
 Email address: reporting@phaseonline.com

Invoice To\* : Phase Separation Science  
 \_\_\_\_\_  
 Phone No.: 410-747-8770  
 Email : invoicing@phaseonline.com  
 P.O. No. : ODC 4920002-001  
 Credit Card :  Card on File  Call for Credit Card Info.

6601 Kirkville Rd  
 East Syracuse, NY 13057  
 Tel: (315) 432-5227  
 888-432-LABS (5227)  
 www.sgsgalson.com

Samples submitted using the FreePumpLoan™ Program  Samples submitted using the FreeSamplingBadges™ Program

Need Results By:	(surcharge)
<input checked="" type="checkbox"/> Standard	0%
<input type="checkbox"/> 4 Business Days	35%
<input type="checkbox"/> 3 Business Days	50%
<input type="checkbox"/> 2 Business Days	75%
<input type="checkbox"/> Next Day by 6pm	100%
<input type="checkbox"/> Next Day by Noon	150%
<input type="checkbox"/> Same Day	200%

Site Name : Samuel Tucker Project : ACPS IAQ testing - 4920002 Sampled by : Karl Ford

Comments : \_\_\_\_\_

List description of industry or Process/interferences present in sampling area :  
 Public grade school building  
 State samples were collected in (e.g., NY) : VA  
 Please indicate which OEL this data will be used for :  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify): \_\_\_\_\_

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml,min,in2,cm2,ft2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
ST - Reception	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Cafeteria	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Library	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Gym	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 123 Class	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 115 Class	08/24/21	Assay N581 Aldehyde Badge	48.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 130 Class	08/24/21	Assay N581 Aldehyde Badge	48.2	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 106 Class	08/24/21	Assay N581 Aldehyde Badge	49.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Storage 200	08/24/21	Assay N581 Aldehyde Badge	49.6	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 208 Class	08/24/21	Assay N581 Aldehyde Badge	50.6	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - 214 Class	08/24/21	Assay N581 Aldehyde Badge	50.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	

^Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\* :

Chain of Custody	Print Name/Signature	Date	Time	Print Name/Signature	Date	Time
Relinquished by :	<i>[Signature]</i>	8/25/21	1735	Received by :		
Relinquished by :	<i>[Signature]</i>			Received by :		

Samples received after 3pm will be considered as next day's business  
 \* Required fields, failure to complete these fields may result in a delay in your samples being processed. Page 1 of 2



21082535



New Client? Report To\* : Phase Separation Science  
6630 Baltimore National Pike  
Baltimore, MD 21228  
 Client Account No.\*: \_\_\_\_\_  
 Phone No.\* : 410-747-8770  
 Cell No. : \_\_\_\_\_  
 Email Results to : Amber Confer  
 Email address: reporting@phaseonline.com

Invoice To\* : Phase Separation Science  
 Phone No.: 410-747-8770  
 Email : invoicing@phaseonline.com  
 P.O. No. : ODC 4920002-001  
 Credit Card :  Card on File  Call for Credit Card Info.

6601 Kirkville Rd  
 East Syracuse, NY 13057  
 Tel: (315) 432-5227  
 888-432-LABS (5227)  
 www.sgsgalson.com

Samples submitted using the FreePumpLoan™ Program  Samples submitted using the FreeSamplingBadges™ Program

Need Results By:	(surcharge)	Site Name : <b>Samuel Tucker</b>	Project : <b>ACPS IAQ testing - 4920002</b>	Sampled by : <b>Karl Ford</b>
------------------	-------------	----------------------------------	---	-------------------------------

<input checked="" type="checkbox"/> Standard	0%
<input type="checkbox"/> 4 Business Days	35%
<input type="checkbox"/> 3 Business Days	50%
<input type="checkbox"/> 2 Business Days	75%
<input type="checkbox"/> Next Day by 6pm	100%
<input type="checkbox"/> Next Day by Noon	150%
<input type="checkbox"/> Same Day	200%

Comments : \_\_\_\_\_  
 List description of industry or Process/interferences present in sampling area :  
**Public grade school building**  
 State samples were collected in (e.g., NY) : **VA**  
 Please indicate which OEL this data will be used for :  
 OSHA PEL  ACGIH TLV  Cal OSHA  
 MSHA  Other (specify): \_\_\_\_\_

Sample Identification* (Maximum of 20 Characters)	Date Sampled	Collection Medium	Sample Volume Sample Time Sample Area*	Sample Units*: L, ml,min,in2,cm2,ft2	Analysis Requested*	Method Reference^	Hexavalent Chromium Process (e.g., welding plating, painting, etc.)*
ST - 218 Class	08/24/21	Assay N581 Aldehyde Badge	50.0	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Hall 229	08/24/21	Assay N581 Aldehyde Badge	51.2	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Media Assembly	08/24/21	Assay N581 Aldehyde Badge	50.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
ST - Hall 202-204	08/24/21	Assay N581 Aldehyde Badge	43.8	L	4-Phenylcyclohexene	mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	
		Assay N581 Aldehyde Badge				mod. OSHA 1007: TPLC/UV	

\*Galson Laboratories will substitute our routine/preferred method if it does not match the method listed on the COC unless this box is checked:  Use method(s) listed on COC

For metals analysis: if requesting an analyte with the option of a lower LOQ, please indicate if the lower LOQ is required (only available for certain analytes - see SAG):

For crystalline silica: form(s) of silica needed must be indicated (Quartz, Cristobalite, and/or Tridymite)\* :

Chain of Custody	Print Name/Signature	Date	Time	Print Name/Signature	Date	Time
Relinquished by :	<i>Client</i>	8/25/21	1735	Received by : <i>Amber Confer</i>		
Relinquished by :	<i>Amber Confer</i>			Received by :		

Samples received after 3pm will be considered as next day's business  
 \* Required fields, failure to complete these fields may result in a delay in your samples being processed. Page 1 of 2

### Sample Receipt Checklist

Project Name: ACPS IAQ Testing

PSS Project No.: 21082535

<b>Client Name</b>	Total Environmental Concepts - Lortc	<b>Received By</b>	Amber Confer
<b>Disposal Date</b>	09/29/2021	<b>Date Received</b>	08/25/2021 05:35:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Amber Confer

**Shipping Container(s)**

No. of Coolers 0

Custody Seal(s) Intact? N/A  
 Seal(s) Signed / Dated? N/A

Ice N/A  
 Temp (deg C)  
 Temp Blank Present No

**Documentation**

COC agrees with sample labels? Yes  
 Chain of Custody Yes

Sampler Name Karl Ford  
 MD DW Cert. No. N/A

**Sample Container**

Appropriate for Specified Analysis? Yes  
 Intact? Yes  
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable  
 Seal(s) Signed / Dated Not Applicable

**Holding Time**

All Samples Received Within Holding Time(s)? Yes

Total No. of Samples Received 15  
 Total No. of Containers Received 15

**Preservation**

Total Metals (pH<2) N/A  
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A  
 Orthophosphorus, filtered within 15 minutes of collection N/A  
 Cyanides (pH>12) N/A  
 Sulfide (pH>9) N/A  
 TOC, DOC (field filtered), COD, Phenols (pH<2) N/A  
 TOX, TKN, NH3, Total Phos (pH<2) N/A  
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A  
 Do VOA vials have zero headspace? N/A  
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A  
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

**Comments: (Any "No" response must be detailed in the comments section below.)**

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Amber J Confer  
 Amber Confer

Date: 08/26/2021

PM Review and Approval:

Lynn Jackson  
 Lynn Jackson  
 Page 14 of 14

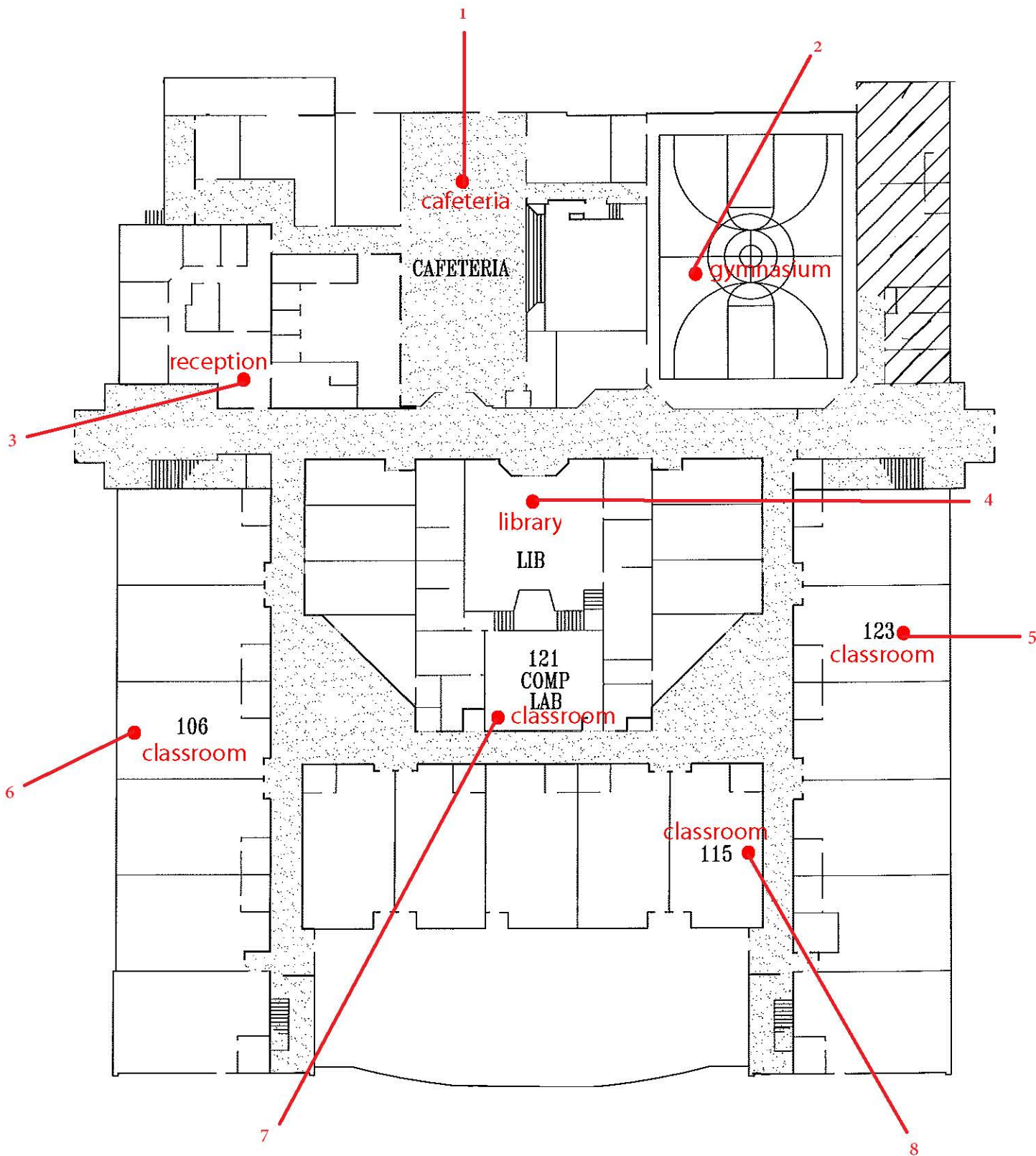
Date: 08/26/2021







## **Appendix F: Sampling Locations**



**LEGEND**

- Sample Location Analyzed For:
- Mold                    4-polycyclohexene
- Radon                    Formaldehyde
- VOC's (TO+15)

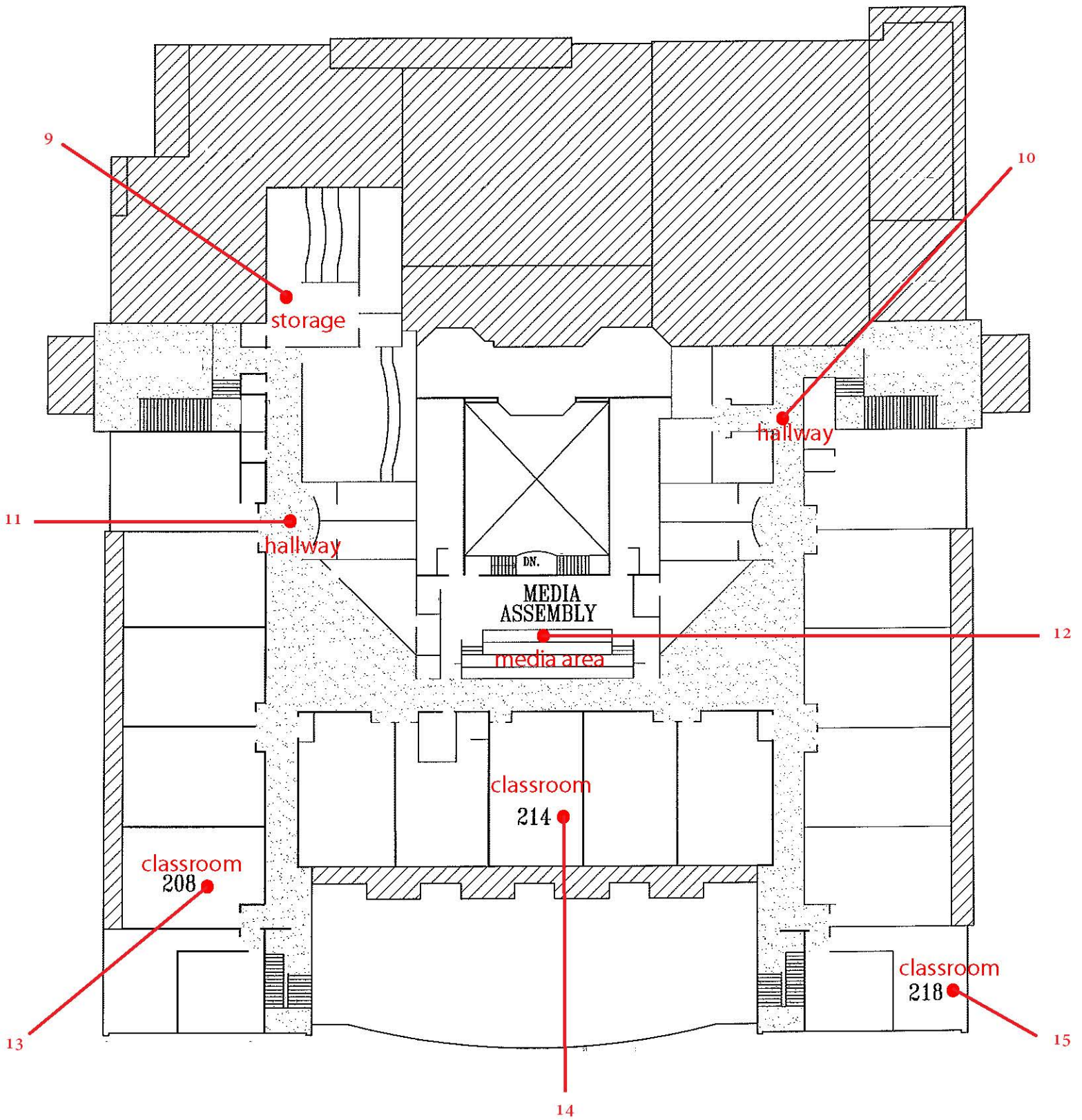
**Samuel W. Tucker Elementary**

435 Ferdinand Day Drive  
Alexandria, Va 22304

| 1ST FLOOR PLAN |



8382 Territorial Road, Suite B  
Lorton, VA 22079  
Phone: 703-567-4346  
Fax: 703-567-3487



**LEGEND**

- Sample Location Analyzed For:
- Mold
- Radon
- VOC's (TO+15)
- 4-polycyclohexene
- Formaldehyde

**Samuel W. Tucker Elementary**  
 435 Ferdinand Day Drive  
 Alexandria, Va 22304  
 | 2ND FLOOR PLAN |

*Total Environmental Concepts, Inc.*  
 8382 Terminal Road, Suite B  
 Lorton, VA 22079  
 Phone: 703-567-4346  
 Fax: 703-567-3487

## **Appendix G: Photographs**

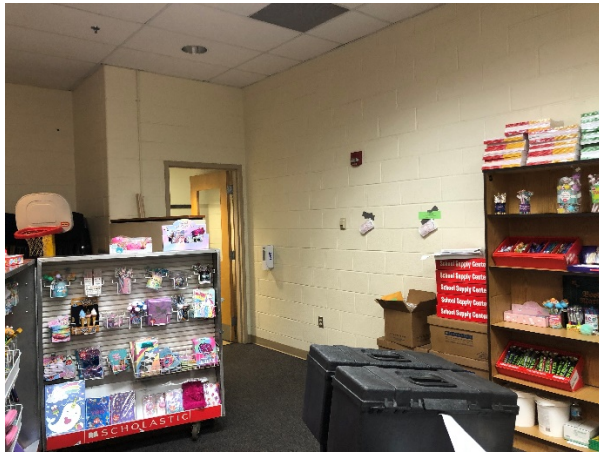




Samuel W Tucker, Media Center



Samuel W Tucker, Cafeteria



Samuel W Tucker, Media Assembly



Samuel W Tucker, Classroom



Samuel W Tucker, Gym



Samuel W Tucker, Main Office