



June 6, 2023

Mr. Brian Croyle, Environmental Specialist
Montgomery County Public Schools
Division of Sustainability and Compliance
8301 Turkey Thicket Drive
Gaithersburg, MD 20879

Ref: **Sampling for Asphalt Fumes and Hydrogen Sulfide Gas – 5.24.2023**
Poolesville High School
KCI Job No. 122302497

KCI Technologies Inc. (KCI) is submitting the following letter report detailing the findings of air sampling of Asphalt Fumes (benzene soluble fraction) and Hydrogen Sulfide gas at Poolesville High School located at 17501 W. Willard Rd. Poolesville, MD 20837 (subject site). Baseline sampling was conducted by KCI's Industrial Hygienist, Ms. Brittany Maas, under the oversight of KCI's Certified Industrial Hygienist (CIH), Mr. Jonathan Coale.

Background:

At Poolesville High School, current renovations and construction has raised concerns from student parents. Students and faculty have voiced concerns related to an odor present in the school while the roofing work is occurring. The parents are concerned the students are being exposed to unsafe conditions related to the asphalt fumes being produced during the roofing installation. MCPS contacted KCI to assist them in collecting data on the school's occupants' potential exposure to fumes related to the roofing work being conducted.

Description of the Work Performed:

On May 24, 2023, KCI conducted air sampling for Asphalt Fumes (benzene soluble fraction) and Hydrogen Sulfide gas levels at Poolesville High School. The sampling of Asphalt Fumes (benzene soluble fraction) was done under method: Modified NIOSH 5042. This method will determine the total concentration of total particulate and the soluble fraction to which an individual is exposed. NIOSH has an adopted value of 5 mg/m³ Threshold Limit Value (TLV) -Time-Weighted Average (TWA) for asphalt fumes. NIOSH's definition of TLV-TWA is the "concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect". KCI also utilized a multi-gas meter to collect real time readings of hydrogen sulfide (H₂S), carbon monoxide (CO), and oxygen (O₂) levels in various locations throughout the building and exterior. Direct read data was performed to collect short term "grab" samples to determine if the gas was present and was not intended to collect exposure data.

During the time of the air sampling, construction was being conducted, there was no asphalt smell noted outside of the building. KCI placed six (6) sampling pumps set to approximately 1 liter per minute in locations pre-determined by MCPS. It is KCI's understanding that the sample locations selected by MCPS were where complaints were made from students. After all sampling pumps were placed, KCI took real time readings of the hydrogen sulfide levels at each of these locations every 30 minutes inside and

every 30 minutes outside. A sampling location map can be found in attachment A.

KCI conducted the screening from approximately 07:45 until 14:30. Conditions during the sampling period were clear skies and 59°F - 81°F. Winds were between 0 and 5mph with no gusts from WNW and NNE.

After sampling, the cassettes were sealed, logged, bagged, and shipped as required to Galson Laboratories in East Syracuse, NY, where they were analyzed for Asphalt Fume (benzene soluble fraction) Modified NIOSH Method 5042. Galson Laboratories is accredited by the American Industrial Hygiene Association (#100324).

Results:

Asphalt Fumes (Benzene Soluble Fraction)

Table 1 – Asphalt Fumes Sampling Summary			
Location	Sample Number	Concentration (mg/m ³)	Above TLV-TWA?
Arts Hallway – Outside Room 44	PHS – 01H	<0.28	No
Auditorium Lobby	PHS – 02H	<0.28	No
Outside of Gym Entrance (exterior)	PHS – 03H	<0.28	No
Science Building 1 st Floor – Outside Room 184	PHS – 04H	<0.28	No
Science Building 2 nd Floor – Outside Room 284	PHS – 05H	<0.28	No
West End of Portables	PHS – 06H	<0.28	No
Field Blank	PHS – 07H	N/A	N/A
Lab Blank	PHS – 08H	N/A	N/A

N/A: Not Applicable

Laboratory analysis results are included as Attachment B.

Gas Meter Readings

Table 2 – Multi-Gas Meter Sampling Summary			
Time	Oxygen (O ₂)	Carbon Monoxide (CO)	Hydrogen Sulfide (H ₂ S)
7:45 – 8:15	20.8	0	0
9:15 – 9:45	20.8	0	0
10:45 – 11:15	20.8	0	0
12:30 – 13:00	20.8	0	0
13:45 – 2:30	20.8	0	0

Olfactory Findings

During walkthroughs, KCI noted the following asphalt smells:

Location	Findings		
	Morning	Mid-Day	End of Day
Exterior Outside New Main Office	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Exterior Between Main Building & Science/Tech Addition	No Asphalt Smell	Light Asphalt Smell	Light Asphalt Smell
Exterior By Portables	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Main Lobby	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Art Hallway	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Auditorium Corridor	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Gym Hallway	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Science and Technology Addition	No Asphalt Smell	No Asphalt Smell	No Asphalt Smell
Student Parking Lot	No Asphalt Smell	No Asphalt Smell	Light Asphalt Smell

Conclusion:

In conclusion, the baseline sampling data determined airborne Asphalt Fumes concentrations were below the NIOSH TLV-TWA adopted value during the period of sampling. In addition, H₂S and CO concentrations were not present or at concentrations below the gas meters detectable range. Oxygen levels were at the expected levels.

During sampling, asphalt roofing activities were being performed.

If you have questions or comments regarding this report, please contact me.

Sincerely,
KCI Technologies, Inc



Jonathan S. Coale, CIH, CIEC
Certified Industrial Hygienist
KCI Technologies, Inc.

Attachment A: Sample Locations
Attachment B: Laboratory Certificate of Analysis Report for Air Samples

Attachment A
Field Notes

View



P1	P6
P2	P7
P3	P8
P4	P9
P5	P10
Portables	

PHS - 01H

PHS - 02H

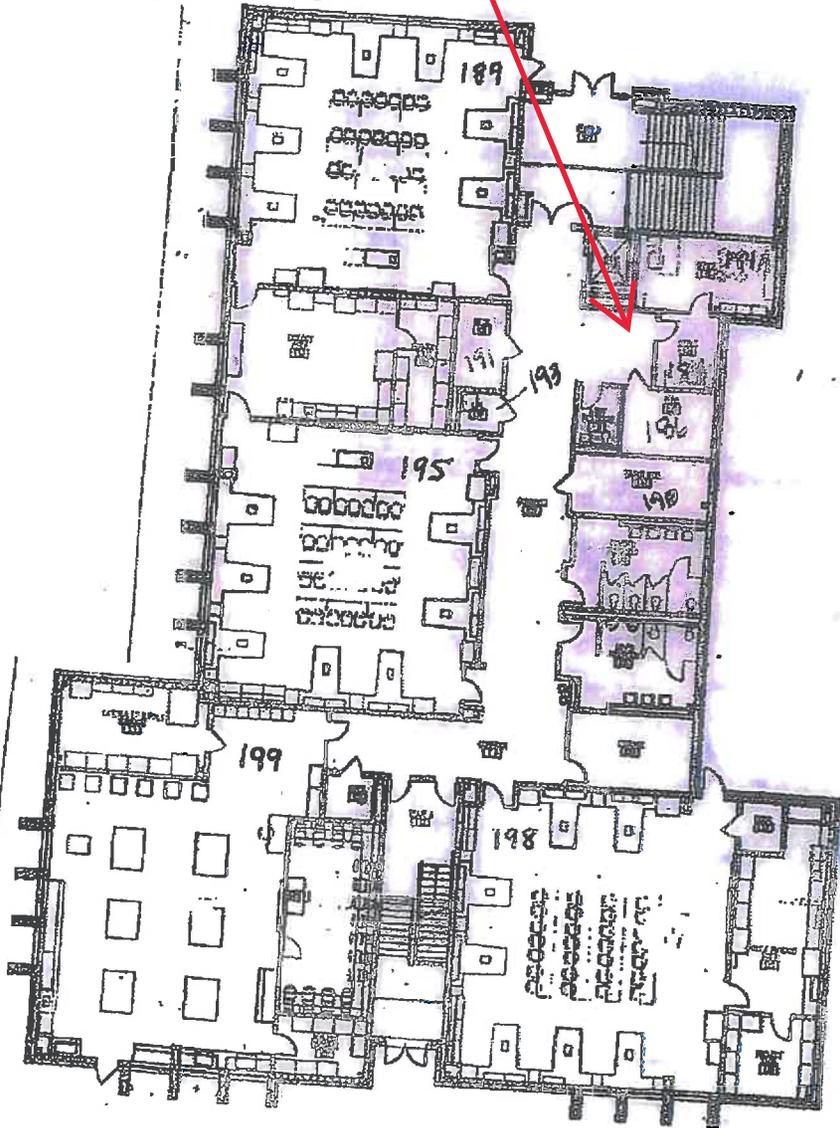
PHS - 03H (exterior)

PHS - 06H (exterior)

X = Room not being used

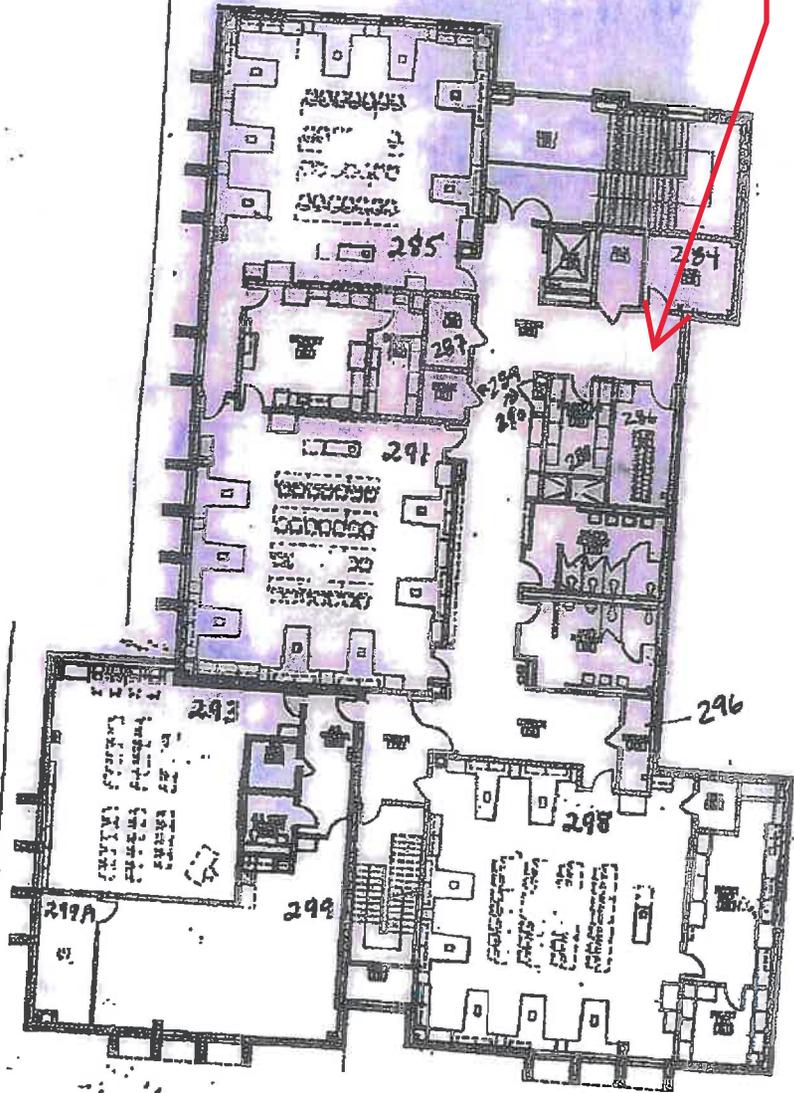
PHS - 04H

PHS - 05H



POOLESVILLE HIGH SCHOOL
Science/Technology Addition

FIRST FLOOR



POOLESVILLE HIGH SCHOOL
Science/Technology Addition

SECOND FLOOR

Attachment B
Laboratory Certificate of Analysis Report for Air Samples

**Jon Coale
KCI Technologies
936 Ridgebrook Road
Sparks Glencoe, MD 21152**

June 05, 2023

Account# 17844

Login# L595141

Dear Jon Coale:

Enclosed are the analytical results for the samples received by our laboratory on May 25, 2023. 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.
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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.sgsgalson.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.sgsgalson.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
Louisiana (LDEQ)	LELAP	Lab ID: 04083	Air Analysis, Solid Chemical Materials

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



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LABORATORY ANALYSIS REPORT

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

Client : KCI Technologies
 Site : POOLESVILLE HIGH SCHOOL
 Project No. : POOLESVILLE HS
 Date Sampled : 24-MAY-23
 Date Received : 25-MAY-23

Account No.: 17844
 Login No. : L595141
 Date Analyzed : 05-JUN-23
 Report ID : 1361615

Asphalt Fumes (Benzene-Soluble Fraction)

<u>Sample ID</u>	<u>Lab ID</u>	<u>Air Vol</u> <u>liter</u>	<u>Total</u> <u>mg</u>	<u>Conc</u> <u>mg/m3</u>
PHS-01H	L595141-1	360	<0.10	<0.28
PHS-02H	L595141-2	360	<0.10	<0.28
PHS-03H	L595141-3	360	<0.10	<0.28
PHS-04H	L595141-4	360	<0.10	<0.28
PHS-05H	L595141-5	360	<0.10	<0.28
PHS-06H	L595141-6	360	<0.10	<0.28
PHS-07H	L595141-7	NA	<0.10	NA
PHS-08H	L595141-8	NA	<0.10	NA

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

Level of Quantitation: 0.10 mg
 Analytical Method : mod. NIOSH 5042; Gravimetric
 Collection Media : PTFE PW 1u 37mm

Submitted by: KGB
 Date : 05-JUN-23
 Supervisor : JGC

Approved by: JGC



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LABORATORY FOOTNOTE REPORT

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

Client Name : KCI Technologies
Site : POOLESVILLE HIGH SCHOOL
Project No. : POOLESVILLE HS

Date Sampled : 24-MAY-23
Date Received: 25-MAY-23
Date Analyzed: 05-JUN-23

Account No.: 17844
Login No. : L595141

L595141 (Report ID: 1361615):

SOPs: ic-asphalt(26)
BSF = Benzene Soluble Fraction

L595141 (Report ID: 1361615):

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.

<u>Parameter</u>	<u>Accuracy</u>	<u>Mean Recovery</u>
Asphalt Fumes (Benzene-Soluble Fraction)	+/-15.7%	93%



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CHAIN OF CUSTODY

Comments :

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in ³ , cm ³ , ft ³ *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
PHS-03 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	360	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PHS-04 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	360	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PHS-05 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	360	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PHS-06 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	360	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PHS-07 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	—	—	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PHS-08 H	5/24/23	37mm 1um PW PTFE, 2pc (black band)	—	—	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	

^ If the method(s) indicated on the COC are not our routine/preferred method(s), we will substitute our routine/preferred methods. If this is not acceptable, check here to have us contact you.

Chain of Custody	Print Name / Signature		Date	Time	Print Name / Signature		Date	Time
Relinquished By:	Brittany Maas	Brittany Maas	5/24/23		Received By:	Kathryn L. Drogo	5/24/23	1416
Relinquished By:					Received By:			

* You must fill in these columns for any samples which you are submitting.
 Samples received after 3pm will be considered as next day's business.

Online COC No. : 271689
 Prep No. : PSY696669
 Account No. : 17844
 Draft : 5/10/2023 2:38:50 PM

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