KCI TECHNOLOGIES

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

May 24, 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**
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, Mr. Tyler McCleaf, CSP, 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 15, 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/m^3 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 mulit-gas meter to collect real time readings of hydrogen sulfide (H_2S), carbon monoxide (CO), and oxygen (O_2) 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 determined by location of roofing activities and proximity to occupied spaces. After all sampling pumps were placed, KCI took real time readings of the hydrogen sulfide levels at each of these locations at spaced intervals. A sampling location map can be found in Attachment A.

KCI conducted the screening from approximately 08:15 until 14:20. Conditions during the sampling period were partly cloudy and 56°F - 73°F. Winds were between 0 and 8mph with no gusts from N and WNW.

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?**
Hallway – Outside Room 46	PH – 01E	<0.28	No
Auditorium Hallway	PH – 02E	<0.28	No
Hallway – Outside New Gym	PH – 03E	<0.28	No
Science Building - Exterior	PH – 04E	<0.28	No
Science Building 2nd Floor – Outside Room 284	PH – 05E	<0.28	No
Portables - Exterior	PH – 06E	<0.28	No
Field Blank	PH – FBE	N/A	N/A
Lab Blank	PH – LBE	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_2S)**
0815 – 0835	20.8	0	0
0910 – 0930	20.8	0	0
1015 – 1035	20.8	0	0
1100 – 1120	20.8	0	0
1230 – 1250	20.8	1ppm – Staff Parking	0
1310 – 1330	20.8	1ppm – Staff Parking	0
1410 – 1420	20.8	0	0

Olfactory Findings

During walkthroughs, KCI noted the following asphalt smells:

Table 3 – Olfactory Investigation Summary	
Location	**Findings**
Exterior Outside New Main Office	No Asphalt Smell
Exterior Between Main Building & Science/Tech Addition	Noticeable Asphalt Smell
Exterior By Portables	No Asphalt Smell
Main Lobby	No Asphalt Smell
Art Hallway	No Asphalt Smell

Table 3 – Olfactory Investigation Summary	
Location	**Findings**
Auditorium Corridor	Light Asphalt Smell
Gym Hallway	No Asphalt Smell
Science and Technology Addition	No Asphalt Smell
Staff Parking Lot	No 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, H_2S concentrations were not present or at concentrations below the gas meters detectable range. CO levels were detected a low levels in the Staff Parking area, assumed to be caused by idling busses and passing cars. Oxygen levels were at the expected levels.

During sampling, no asphalt roofing activities were being performed. Light tar smell could be attributed to sealing windows with what appeared to be mastic prior to brick laying activities.

If you have questions or comments regarding this report, please contact myself or Jonathan Coale at Jonathan.coale@kci.com.

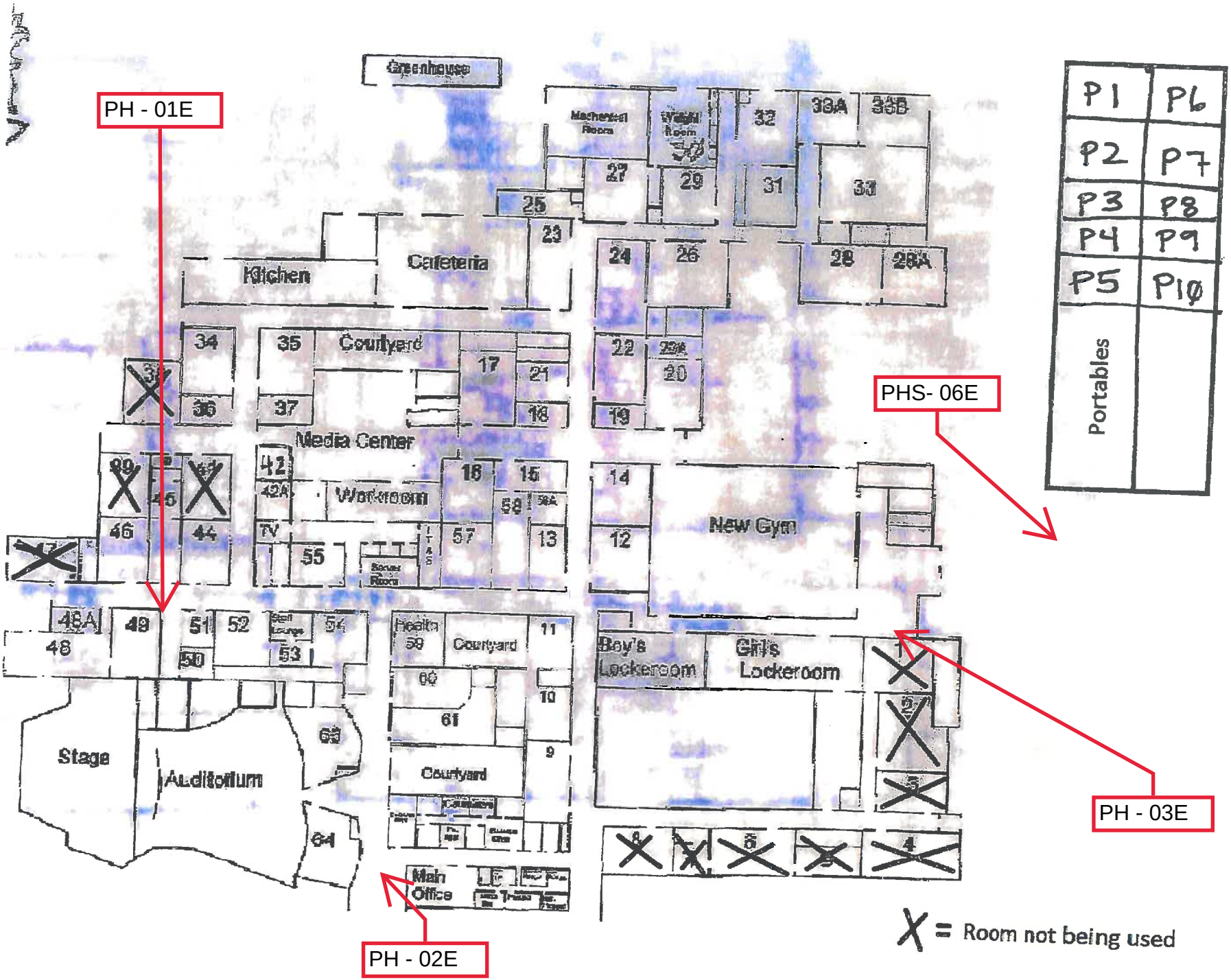
Sincerely,
KCI Technologies, Inc

Tyler McCleaf

Tyler McCleaf, CSP, RMP
Certified Safety Professional
KCI Technologies, Inc.

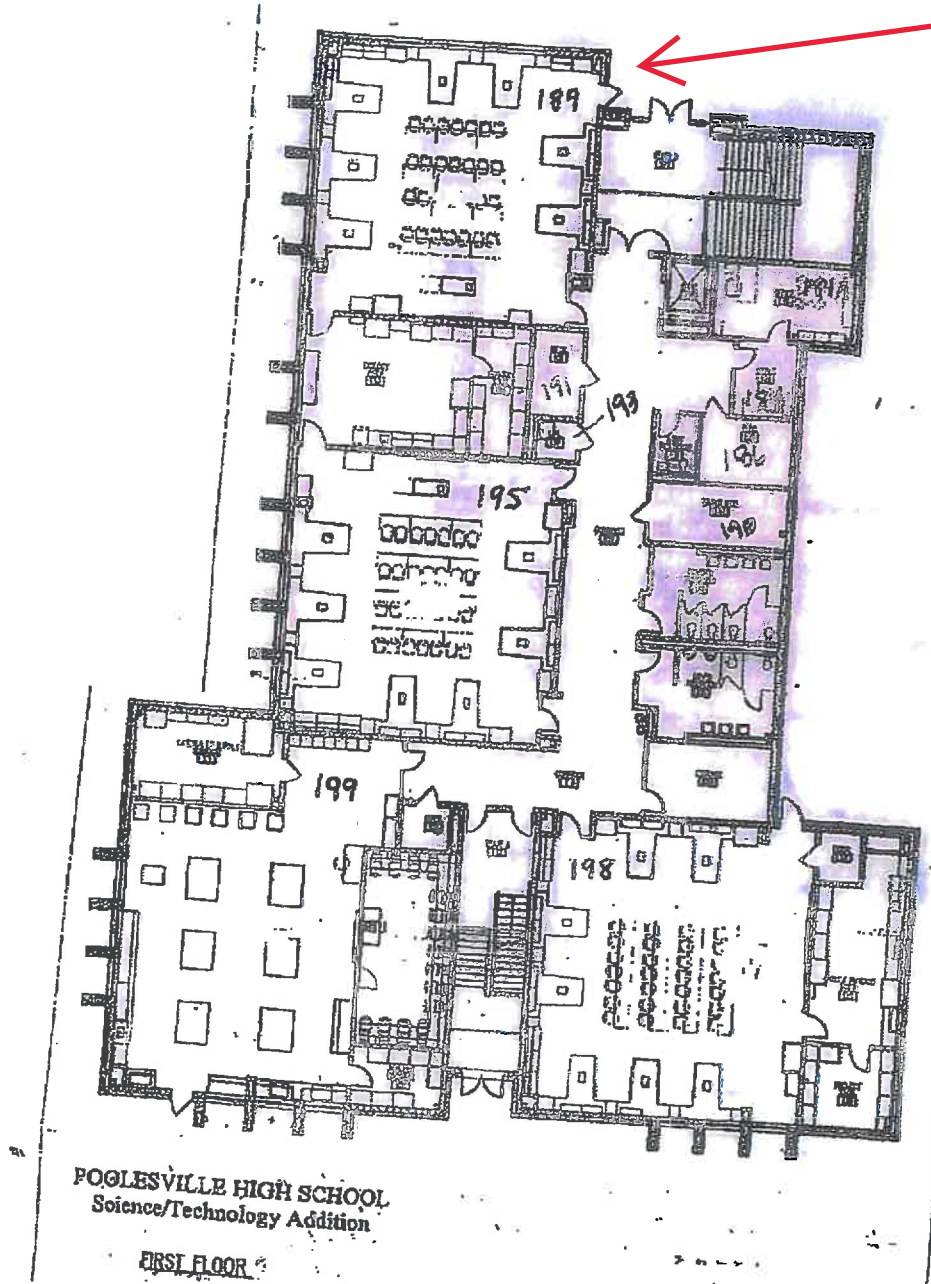
Attachment A: Sample Locations
Attachment B: Laboratory Certificate of Analysis Report for Air Samples

Attachment A
Sample Locations

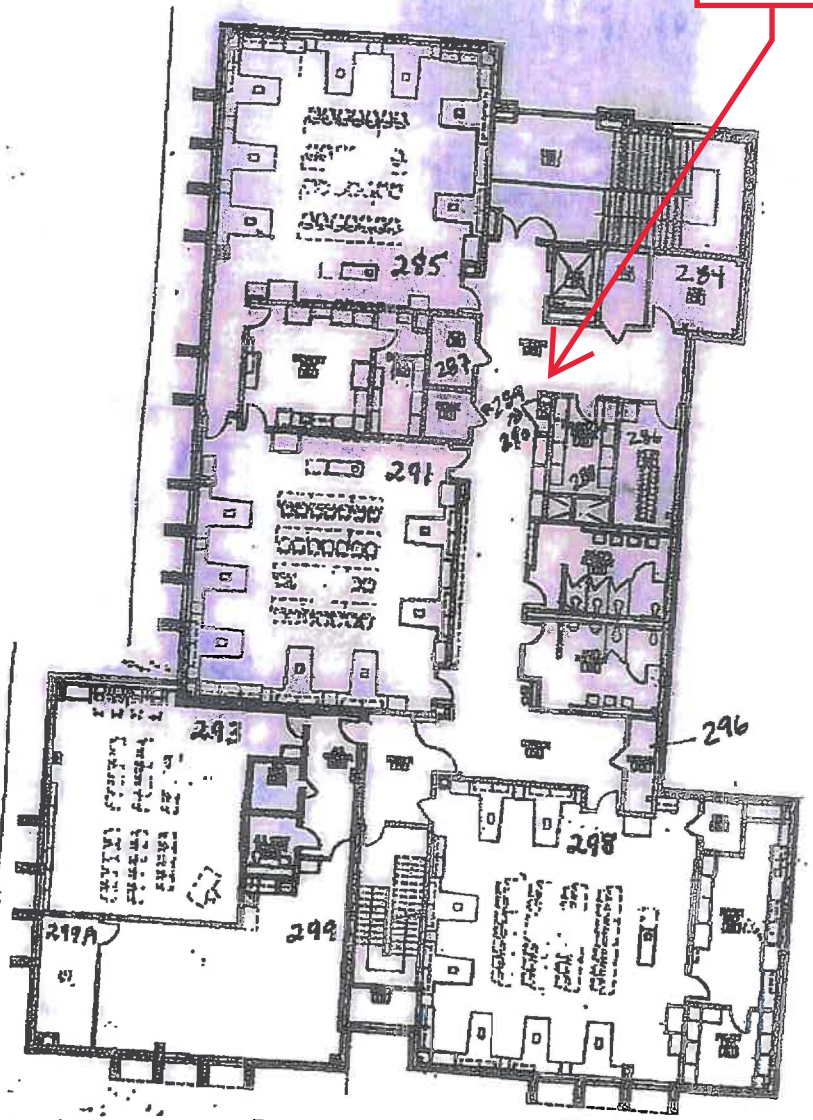

PH - 01E
PHS- 06E
PH - 03E
PH - 02E
Greenhouse
Kitchen
Cafeteria
Courtyard
Media Center
Workroom
New Gym
Boy's Locker room
Girl's Locker room
Stage
Auditorium
Courtyard
Main Office
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
Portables
X = Room not being used

PH - 04E
(Exterior)

PHS - 05E



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

SGS GALSON

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

May 23, 2023

Account# 17844

Login# L594282

Dear Jon Coale:

Enclosed are the analytical results for the samples received by our laboratory on May 16, 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.

- 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.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

SGS GALSON

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY ANALYSIS REPORT

Client : KCI Technologies
Site : NS
Project No. : POOLESVILLE HS
Date Sampled : 15-MAY-23
Date Received : 16-MAY-23

Account No.: 17844
Login No. : L594282

Date Analyzed : 23-MAY-23
Report ID : 1359598

Asphalt Fumes (Benzene-Soluble Fraction)

Sample ID	Lab ID	Air Vol liter	Total mg	Conc mg/m3
PH-01E	L594282-1	360	<0.10	<0.28
PH-02E	L594282-2	358	<0.10	<0.28
PH-03E	L594282-3	357	<0.10	<0.28
PH-04E	L594282-4	358	<0.10	<0.28
PH-05E	L594282-5	358	<0.10	<0.28
PH-06E	L594282-6	356	<0.10	<0.28
PH-LBE	L594282-7	NA	<0.10	NA
PH-FBE	L594282-8	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 : 23-MAY-23
Supervisor : JGC

Approved by: JGC

SGS GALSON

6601 Kirkville Road
East Syracuse, NY 13057
(315) 432-5227
FAX: (315) 437-0571
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LABORATORY FOOTNOTE REPORT

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

Date Sampled : 15-MAY-23
Date Received: 16-MAY-23
Date Analyzed: 23-MAY-23

Account No.: 17844
Login No. : L594282

L594282 (Report ID: 1359598):
SOPs: ic-asphalt(26)
BSF = Benzene Soluble Fraction

L594282 (Report ID: 1359598):
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
Asphalt Fumes (Benzene-Soluble Fraction)	+/-15.7%	93%

398334488849
Date:05/16/23
Shipper:FEDEX
Initials:AMF
Prep:UNKNOWN

L594282

105

GALSON CHAIN OF CUSTODY

Turnaround Time (TAT):	(surcharge)
☒ Standard	0%
☐ 4 Business Days	35%
☐ 3 Business Days	50%
☐ 2 Business Days	75%
☐ Next Day by 6pm	100%
☐ Next Day by Noon	150%
☐ Same Day	200%

☐ Samples submitted using the FreePumpLoan™ Program

☐ Samples submitted using the FreeSamplingBadges™ Program

You may edit and complete this COC electronically by logging in to your Client Portal account at https://portal.galsonlabs.com/

Client Acct No.: 17844

Original Prep No.: PSY696673

CS Rep: TLANCASTER

Online COC No.: 271699

Report To :	Jon Coale
Company Name :	KCI Technologies
Address 1 :	936 Ridgebrook Road
Address 2 :	
City, State Zip :	Sparks Glencoe, MD 21152
Phone No. :	410 - 891 - 1843
Cell No. :	
Email reports to :	Jonathan.Coale@kci.com
Email EDD to :	Jonathan.Coale@kci.com
Comments :	

Invoice To :	Accounts Payable
Company Name :	KCI TECHNOLOGIES INC
Address 1 :	936 Ridgebrook Road
Address 2 :	
City, State Zip :	Sparks, MD 21152
Phone No. :	410 - 316 - 0818
Email Address :	ap@kci.com
Comments :	
P.O. No. :	
Payment info. :	☐ I will call SGS Galson to provide credit card info ☐ Card on File (enter the last five digits on the line below)

Comments : total dust not needed

State Sampled : MD

Please indicate which OEL(s) this data will be used for :
☐ OSHA PEL ☒ ACGIH TLV ☐ MSHA ☐ Cal OSHA
☐ IAQ : _____ Specify Limit(s) ☐ Other : _____ Specify Other

Site Name :

Project : Poolesville HS

Sampled By : Tyler McClellan

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

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in², cm², ft² *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
PH-01E (Hvd Lab)	5/15/23	37mm 1um PW PTFE, 2pc (black band)	360	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-02E (Hvd Lab)	5/15/23	37mm 1um PW PTFE, 2pc (black band)	358	L	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 :	Tyler McClellan	5/15/23	1600	Received By :	Ava Ferreira	5/16/23	1110
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. : 271699
Prep No. : PSY696673
Account No. : 17844
Draft : 5/10/2023 2:59:47 PM

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/en/Terms-and-Conditions.aspx

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SGS GALSON CHAIN OF CUSTODY

Comments :

Sample ID * (Maximum of 20 Characters)	Date Sampled *	Collection Medium	Sample Volume Sample Time Sample Area *	Liters Minutes in², cm², ft² *	Analysis Requested	Method Reference ^	Hexavalent Chromium Process (e.g., welding, plating, painting, etc.)
PH-03E (6hr+Hr)	5/10/23	37mm 1um PW PTFE, 2pc (black band)	357	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-04E (last 8hr)		37mm 1um PW PTFE, 2pc (black band)	355	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-05E (s/r 2hr)		37mm 1um PW PTFE, 2pc (black band)	358	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-06E (full shift)		37mm 1um PW PTFE, 2pc (black band)	356	L	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-LBE		37mm 1um PW PTFE, 2pc (black band)	NA	NA	Asphalt Fume (Benzene Soluble Fraction)	mod. NIOSH 5042; Gravimetric	
PH-FBE	0	37mm 1um PW PTFE, 2pc (black band)	NA	NA	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 :	[signature]	5/15/23		Received By :	Ana Ferreira [signature]	5/16/23	1210
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. : 271699
Prep No. : PSY696673
Account No. : 17844
Draft : 5/10/2023 2:59:47 PM

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