

July 22, 2022

RIVER22002

Riverside School District
Attention: Brian West, Director of Facilities
300 Davis St.
Taylor, PA 18517

**RE: MERCURY VAPOR EXPOSURE CHARACTERIZATIONS
RIVERSIDE EAST ELEMENTARY SCHOOL MULTIPURPOSE ROOM
MOOSIC, PA**

Dear Mr. West:

Pennoni is providing this report to the **Riverside School District** to document the Mercury Vapor Exposure Characterizations performed at the Riverside East Elementary School in Moosic, PA.

BACKGROUND

Pennoni was contracted by the Riverside School District to provide industrial hygiene consultations during removal of a rubberized gymnasium flooring from the East Elementary School's Multipurpose Room. Testing of the flooring facilitated by Pennoni confirmed the presence of Mercury in concentrations ranging from 8.3 to 49 parts per million (ppm). As a part of this project, Pennoni was requested by the District to characterize potential occupant exposures to Mercury vapors during representative conditions within the room.

The exposure characterizations were performed using guidelines and criteria established by the U.S. Environmental Protection Agency (USEPA), the Pennsylvania Department of Health (PA DOH), the U.S. Department of Health and Human Services, Agency for Toxic Substance and Disease Registry (ATSDR) and the New Jersey Department of Health (NJ DOH). The exposure characterization consisted of collection of air samples within the targeted Multipurpose Room and an adjacent area (Stage). Details on the collection activities, findings and recommendations are provided in this report.

MERCURY VAPOR EXPOSURE CHARACTERIZATION

Pennoni representative Mike Baltrusaitis, CHMM, CSP conducted the exposure characterization on July 15, 2022. Pennoni was escorted by Riverside personnel during all onsite activities. The results identified from this characterization are based on the monitored timeframe. Modifications to activities, ventilation settings, and environmental conditions such as temperature and humidity may result in varying exposures. The following conditions were identified during the monitored timeframe:

- Occupancy during the monitoring period was limited to maintenance and office staff in other areas of the building. The Multipurpose Room is currently being used as a staging area for desks, chairs and school supplies during the annual classroom cleaning protocols.
- Monitoring occurred during an eight-hour timeframe during first shift hours (e.g. approximately 8:00AM to 4:30PM) under reportedly typical seasonal operating conditions.
- Measured ambient temperatures within the Multipurpose Room were 76-78°Fahrenheit (°F) and 40-44% relative humidity.
- A review of the Multipurpose Room did not identify any further potential sources of mercury (i.e. broken thermostat ampoules, thermometers, etc.).

- Flooring material within the Multipurpose Room was in serviceable condition with minimal signs of deterioration (cracks, wear, holes); however, some bubbling or delamination was observed reportedly due to excessive moisture collecting under the floor system. Flooring does not extend into adjoining areas (Kitchen, Stage, Hallways).

A floor plan depicting the Multipurpose Room and adjoining areas is provided in Appendix A.

Air samples were collected in accordance with the National Institute for Occupational Safety and Health (NIOSH) Method 6009 at heights representing the greatest potential exposure to students (e.g. approximately 36 inches). The samples were collected using Gillian personal air sampling pumps, associated collection devices (low flow adapters), and laboratory-supplied collection media (sorbent tube, SKC, Inc. 226-17-1A). All sampling pumps were calibrated with a BIOS International DryCal DC-Lite (Model Number DCLT 5K) primary calibration device prior to sample collection and verified at the completion of sample collection to document flow rate in accordance with the respective analytical method.

All samples were submitted to SGS Galson Laboratories, East Syracuse, New York, for analysis. SGS Galson Laboratories is an American Industrial Hygiene Association (AIHA) Accredited Industrial Hygiene Laboratory (LQAP #100324) for the above-referenced method. Results of samples were compared to the public/occupational criteria summarized in Table 1.

Table 1 Public Health/Occupational Mercury Exposure Criteria		
Entity	Source/Name	Criteria
USEPA	Action Level/School Air Quality Guidelines	1 µg/m ³
PA DOH	School Air Quality Guidelines	1 µg/m ³
NJ DOH	NJAC 8:50 ¹	0.8 µg/m ³
ATSDR	Action Level for Schools	1 µg/m ³
OSHA	Permissible Exposure Limit	100 µg/m ³
NIOSH	Recommended Exposure Limit	50 µg/m ³
	Ceiling Value	100 µg/m ³
ACGIH	Threshold Limit Value	25 µg/m ³

USEPA: U.S. Environmental Protection Agency

PA DOH: Pennsylvania Department of Health

OSHA: Occupational Safety and Health Administration

NIOSH: National Institute of Occupational Safety and Health

µg/m³ : Micrograms per cubic meter

¹*Protective level for children as young as three years old, based on an exposure frequency of 8-hours per day for 180 days.*

In accordance with the referenced analytical method and standard industrial hygiene practices, a field blank sample was collected at the onset of sampling activities and submitted for analysis in accordance with standard industrial hygiene practices. The analytical results from this sample did not indicate the necessity for blank adjustment.

Analytical results from this characterization are summarized in Table 2. Laboratory Analytical Reports and the associated chain of custody form are provided in Appendix B.

Table 2- Analytical Results Mercury Vapor via NIOSH 6009 Riverside School District: East Elementary School Multipurpose Room July 15, 2022				
Sample ID	Location	Type	Run Time	Results
RIVER-071522-01	Multipurpose Room @ Middle, Kitchen Side	Area	8:13AM-4:26PM	<0.30 µg/m ³
RIVER-071522-02	Multipurpose Room @ Middle, Stage Side	Area	8:15AM-4:34PM	<0.32 µg/m ³
RIVER-071522-03	Stage, Center	Area	8:18AM-4:35PM	<0.29 µg/m ³
RIVER-071522-04	Field Blank	Blank	----	<0.03 µg

µg/m³ : Micrograms per cubic meter

<: Not detected above laboratory/method reporting limit

CONCLUSIONS AND RECOMMENDATIONS

Analytical results of samples collected during representative conditions on July 15, 2022 in the Riverside East Elementary School identified Mercury Vapor concentrations below referenced public health and occupational exposure criteria.

Pennoni maintains our recommendation to remove the mercury-containing flooring in accordance with an established work plan that includes provisions for site controls, protection removal practices and transport/disposal in accordance with U.S. Department of Transportation (DOT) and Pennsylvania Department of Environmental Protection (PA DEP) regulations.

Maintain this report indefinitely per the PA Right-to-Know Act, 34 PA Code 301-323. Notify employees annually of their rights to access this information.

If you have any questions concerning this report or if you require additional information, please feel free to contact us.

Sincerely,

PENNONI ASSOCIATES INC.


Mike Baltrusaitis, CHMM, CSP
Sr. Health and Safety Professional


Rocco DiPietro, CSP
Sr. Health and Safety Professional

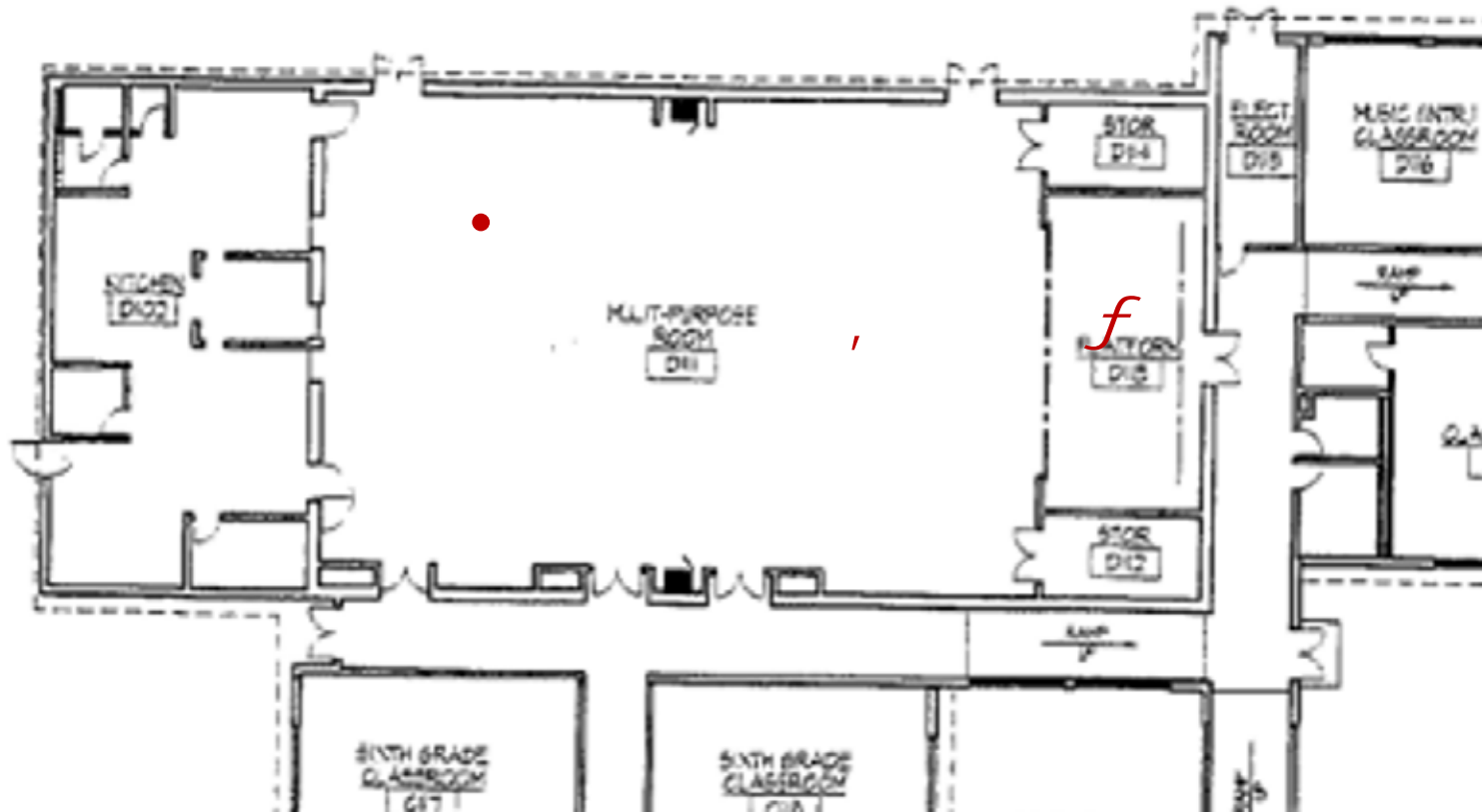
Attachments

Appendix A – Floor Plan

Appendix B – Laboratory Analytical Report and Chain of Custody

APPENDIX A

Floor Plan



•	RIVER-071522-01
,	RIVER-071522-02
<i>f</i>	RIVER-071522-03



Pennoni
1337 Veterans Memorial Drive
Jessup, PA 18434

Gymnasium Mercury Flooring Replacement Project

Riverside School District
East Elementary School, Moosic, PA



Job No. RIVER22002

Date of Update: July 15, 2022

Mercury Exposure Characterization

APPENDIX B

Laboratory Analytical Report and Chain of Custody



GALSON

Mr. Mike Baltrusaitis
Pennoni
1337 Veterans Memorial Drive
Jessup, PA 18434

July 21, 2022

Account# 37668

Login# L569593

Dear Mike Baltrusaitis:

Enclosed are the analytical results for the samples received by our laboratory on July 18, 2022. 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



LABORATORY ANALYSIS REPORT

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

Client : Pennoni
 Site : RIVERSIDE EAST ELEMENTARY
 Project No. : RIVER22002
 Date Sampled : 15-JUL-22
 Date Received : 18-JUL-22

Account No.: 37668
 Login No. : L569593
 Date Analyzed : 21-JUL-22
 Report ID : 1310545

Mercury, Vapor

<u>Sample ID</u>	<u>Lab ID</u>	<u>Air Vol</u> liter	<u>Total</u> ug	<u>Conc</u> mg/m3
RIVER-071522-01	L569593-1	101.1	<0.030	<0.00030
RIVER-071522-02	L569593-2	94.81	<0.030	<0.00032
RIVER-071522-03	L569593-3	101.9	<0.030	<0.00029
RIVER-071522-04	L569593-4	NA	<0.030	NA

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

Level of Quantitation: 0.030 ug
 Analytical Method : mod. NIOSH 6009; CVAA TUBE
 Collection Media : 226-17-1A

Submitted by: BJP/EJB
 Date : 21-JUL-22
 Supervisor : KEG

Approved by: JJL



GALSON

LABORATORY FOOTNOTE REPORT

Client Name : Pennoni
Site : RIVERSIDE EAST ELEMENTARY
Project No. : RIVER22002
Date Sampled : 15-JUL-22
Date Received : 18-JUL-22
Date Analyzed : 21-JUL-22
Account No. : 37668
Login No. : L569593

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

L569593 (Report ID: 1310545):

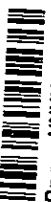
For applicable NYS sampling events, laboratory accreditation through NYSDOH applies only to Lead results.
Reported results reflect elemental analysis of the requested metals. Certain compounds may not be solubilized during digestion, resulting in data that is biased low.
SOPs: MT-SOP-20(17), im-hgair (30)

L569593 (Report ID: 1310545):

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
Mercury, Vapor	+/-17.2%	96%

777397264523
 Date: 07/18/22
 Shipper: FEDEX
 Initials: MAK



Prep: UNKNOWN

LS64543

Tel: (315) 432-5227
 Fax: (315) 437-0571
 www.galsonlabs.com

Invoice To: --SAME--

Report To: Pennoni
 1337 Veterans Memorial Drive
 Jessup, PA 18434
 Phone No.: 570-291-0030
 Cell No.:
 Email Results to: Mike Baltrusaitis
 Email address: mbaltrusaitis@pennoni.com



Phone No.:
 Email:
 P.O. No.:
 Credit Card: Card on file Call for Credit Card Info.

Need Results By: (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

Site Name: Riverside East Elementary Project: RIVER22002 Sampled by: Mike Baltrusaitis

Comments: Prep No. PSY661538

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

State samples were collected in (e.g., NY) PA
 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.)*
RIVER-071522-01	07/15/22	226-17-1A	101.1	L	Mercury Vapor	NIOSH 6009	-
RIVER-071522-02	07/15/22	226-17-1A	94.81	L	Mercury Vapor	NIOSH 6009	-
RIVER-071522-03	07/15/22	226-17-1A	101.9	L	Mercury Vapor	NIOSH 6009	-
RIVER-071522-04	07/15/22	226-17-1A	0	L	Mercury Vapor CFed Blank	NIOSH 6009	-

*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:	Received by:	Date	Time
Relinquished by:	Mike Baltrusaitis / MB	7/15/22	5:50 PM				
Relinquished by:				Michelle Krause	Michelle Krause	7/18/22	10:11

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.