WHITMAN

Creating Solutions. Exceeding Expectations.

MERCURY VAPOR ASSESSMENT
PEMBERTON HIGH SCHOOL
201 ROSELD AVENUE
DEAL, NJ 07723

FOR

STRATEGIC ENVIRONMENTAL CONSULTING, INC.
25 BUTTERNUT AVE.
BAYVILLE, NJ 08721

PERFORMED BY

WHITMAN

July 8, 2019

7 Pleasant Hill Road, Cranbury, NJ 08512
www.whitmanco.com

MERCURY VAPOR ASSESSMENT
PEMBERTON HIGH SCHOOL
PEMBERTON, NEW JERSEY

Table of Contents

APPENDICES

MERCURY VAPOR ASSESSMENT
PEMBERTON HIGH SCHOOL
PEMBERTON, NEW JERSEY

Whitman performed a Mercury Vapor Assessment of the Gymnasiums of Pemberton High School (herein referred to as the "School") located in Pemberton, New Jersey. The Mercury Vapor Assessment took place on June 19, 2019 and was conducted by Ms. Alexa Fiumarelli, Staff Scientist.

1.0 PROJECT BACKGROUND

Mercury vapor assessment of the Gymnasiums was conducted by Whitman on June 19, 2019 after bulk testing (conducted by others) of the poured rubber floor confirmed the presence of mercury. In response to these findings, the Client requested additional air testing for mercury with the ventilation system operational and non-operational was conducted.

2.0 SCREENING METHODOLOGY

In order to determine the presence of airborne mercury vapors within the Gymnasiums of the School, Whitman designed a screening program to conduct periodic real-time mercury vapor monitoring utilizing the following methodology:

- Representative screening locations were tested within each gymnasium of the School; refer to Appendix A for schematic diagrams showing the locations.
- At each location, two (2) 30-second air samples were collected; the first sample was collected at a height of approximately two (2) inches off of the ground, the second sample was collected at a height of approximately five (5) feet off of the ground (the estimated height of student).
- Air monitoring was conducted during the day time, when the school was not in session, minimizing air movement within the gymnasium. In this manner, the highest potential exposures would be measured.

2.1 Mercury Vapor Monitoring Instrumentation

Mercury vapor air monitoring was accomplished by utilizing the Jerome J505 Mercury Vapor Analyzer; which has a detection range of 0.05 $\mu g/m^3$ to 500 $\mu g/m^3$. The instrument uses fluorescence spectroscopy analysis with background correction, which eliminates the effect of interfering impurities.

3.0 MERCURY SCREENING RESULTS DISCUSSION

The summary of Mercury Screening results are presented in Table 1 on the following page. For the Mercury Vapor Screening, sets of data were collected at heights of 2" from the floor and 5' from the floor.

The results indicate that mercury vapor levels within the gymnasiums of the School would be well below the NJ Public Employees Safety and Health (PEOSH) Act permissible exposure limit (PEL) 8-hour time-weighted average (TWA) of 100 µg/m^3. Currently, the State of New Jersey has no specific recommended exposure limits for members of the general public or children in schools for exposure to mercury (in air or on surfaces).

In Minnesota, which is the only state that has issued recommendations concerning schools and gym floors, the Minnesota Department of Health (MDH) recommends that the general public should not be exposed to short-term (acute or one hour) mercury air concentrations above 1.8 µg/m^3. The MDH believes that this air concentration protects all people, including sensitive individuals, such as pregnant women and children. For long-term exposures, MDH recommends that school gym teachers should not be exposed to more than an average of 0.75 µg/m^3 during a 40 hour week averaged over the school year. Since children exercising in the gym will have a greater respiration rate than teachers, the MDH recommends that their exposure should be limited to 0.75 µg/m^3 during 16 hours or less per week averaged over the school year.

Although one reading from the Auxiliary Gymnasium showed a result of 0.85 µg/m^3, subsequent readings with the ventilation system on revealed decreased results. Mercury screening results from the gymnasiums in the School indicate that exposure levels would be well below the 0.75 µg/m^3 recommended standard for teachers and children.

Table 1 - Mercury Vapor Screening Results Summary

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium A – Set #1 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	8:51 am	0.13 µg/m^3		
5' from floor		0.12 µg/m^3		
2" from floor	8:54 am	0.11 µg/m^3		
5' from floor		0.20 µg/m^3		
2" from floor	8:56 am	0.20 µg/m^3		
5' from floor		0.10 µg/m^3		
2" from floor	8:58 am	0.06 µg/m^3		
5' from floor		0.15 µg/m^3		
2" from floor	8:59 am	0.00 µg/m^3		
5' from floor		0.15 µg/m^3		
Gymnasium B – Set #1 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	9:26 am	0.00 µg/m^3		
5' from floor		0.05 µg/m^3		
2" from floor	9:28 am	0.05 µg/m^3		
5' from floor		0.04 µg/m^3		
2" from floor	9:30 am	0.04 µg/m^3		
5' from floor		0.06 µg/m^3		
2" from floor	9:32 am	0.02 µg/m^3		
5' from floor		0.07 µg/m^3		
2" from floor	9:33 am	0.06 µg/m^3		
5' from floor		0.02 µg/m^3		
Auxiliary Gymnasium – Set #1 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	11:25 am	0.28 µg/m^3		
5' from floor		0.42 µg/m^3		
2" from floor	11:26 am	0.27 µg/m^3		
5' from floor		0.42 µg/m^3		
2" from floor	11:28 am	0.27 µg/m^3		
5' from floor		0.41 µg/m^3		
2" from floor	11:29 am	0.29 µg/m^3		
5' from floor		0.43 µg/m^3		
2" from floor	11:31 am	0.35 µg/m^3		
5' from floor		0.85 µg/m^3		
Weight Room – Set #1 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	11:33 am	0.04 µg/m^3		
5' from floor		0.04 µg/m^3		

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium A – Boy's Locker Room Office – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
5' from floor	10:27 am	0.10 µg/m^3		
Gymnasium A – Boy's Locker Room – Ventilation Off				
5' from floor	10:30 am	0.00 µg/m^3		
5' from floor	10:31 am	0.07 µg/m^3		
5' from floor	10:32 am	0.18 µg/m^3		
2" from floor	10:34 am	0.13 µg/m^3		
Gymnasium A – Girl's Locker Room Office – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	10:36 am	0.13 µg/m3		
5' from floor	10:36 am	0.09 µg/m^3		
Gymnasium A – Girl's Locker Room – Ventilation Off				
2" from floor	10:41 am	0.15 µg/m^3		
5' from floor	10:40 am	0.12 µg/m^3		
2" from floor	10:42 am	0.09 µg/m^3		
5' from floor	10:41 am	0.09 µg/m3		
5' from floor	10:42 am	0.13 µg/m^3		
Gymnasium A – Set #2 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	10:46 am	0.25 µg/m^3		
5' from floor		0.16 µg/m^3		
2" from floor	10:48 am	0.39 µg/m^3		
5' from floor		0.14 µg/m^3		
2" from floor	10:49 am	0.16 µg/m^3		
5' from floor		0.14 µg/m^3		
2" from floor	10:51 am	0.13 µg/m^3		
5' from floor		0.11 µg/m^3		
2" from floor	10:52 am	0.02 µg/m^3		
5' from floor		0.21 µg/m^3		

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium B – Set #2 – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	10:53 am	0.14 µg/m^3		
5' from floor		0.01 µg/m^3		
2" from floor	10:55 am	0.00 µg/m^3		
5' from floor		0.01 µg/m^3		
2" from floor	10:56 am	0.01 µg/m^3		
5' from floor		0.10 µg/m^3		
2" from floor	10:57 am	0.06 µg/m^3		
5' from floor		0.06 µg/m^3		
2" from floor	10:59 am	0.01 µg/m^3		
5' from floor		0.01 µg/m^3		
Gymnasium B – Boy's Locker Room Office – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	11:15 am	0.02 µg/m^3		
5' from floor	11:14 am	0.04 µg/m^3		
Gymnasium B – Boy's Locker Room – Ventilation Off				
2" from floor	11:17 am	0.00 µg/m^3		
5' from floor	11:17 am	0.02 µg/m^3		
Gymnasium B – Girl's Locker Room Office – Ventilation Off			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	11:19 am	0.08 µg/m3		
5' from floor	11:18 am	0.01 µg/m^3		
Gymnasium B – Girl's Locker Room – Ventilation Off				
2" from floor	11:20 am	0.01 µg/m^3		
5' from floor	11:20 am	0.10 µg/m^3		
2" from floor	11:21 am	0.04 µg/m^3		
5' from floor	11:22 am	0.04 µg/m3		
2" from floor	11:22 am	0.09 µg/m^3		
5' from floor	11:23 am	0.03 µg/m^3		

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium A – Set #3 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	1:43 pm	0.15 µg/m^3		
5' from floor		0.15 µg/m^3		
2" from floor	1:48 pm	0.22 µg/m^3		
5' from floor		0.28 µg/m^3		
2" from floor	1:50 pm	0.14 µg/m^3		
5' from floor		0.17 µg/m^3		
2" from floor	1:52 pm	0.11 µg/m^3		
5' from floor		0.14 µg/m^3		
2" from floor	1:53 pm	0.07 µg/m^3		
5' from floor		0.23 µg/m^3		
Gymnasium B – Set #3 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	1:55 pm	0.07 µg/m^3		
5' from floor		0.12 µg/m^3		
2" from floor	1:56 pm	0.16 µg/m^3		
5' from floor		0.07 µg/m^3		
2" from floor	1:58 pm	0.04 µg/m^3		
5' from floor		0.08 µg/m^3		
2" from floor	2:00 pm	0.00 µg/m^3		
5' from floor		0.05 µg/m^3		
2" from floor	2:01 pm	0.02 µg/m^3		
5' from floor		0.07 µg/m^3		
Auxiliary Gymnasium – Set #2 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	2:30 pm	0.40 µg/m^3		
5' from floor		0.38 µg/m^3		
2" from floor	2:31 pm	0.42 µg/m^3		
5' from floor		0.38 µg/m^3		
2" from floor	2:33 pm	0.40 µg/m^3		
5' from floor		0.35 µg/m^3		
2" from floor	2:34 pm	0.43 µg/m^3		
5' from floor		0.36 µg/m^3		
2" from floor	2:37 pm	0.49 µg/m^3		
5' from floor		0.41 µg/m^3		
Weight Room – Set #2 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	2:41 pm	0.10 µg/m^3		
5' from floor		0.15 µg/m^3		

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium A – Boy's Locker Room Office – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	2:52 pm	0.16 µg/m^3		
5' from floor	2:52 pm	0.13 µg/m^3		
Gymnasium A – Boy's Locker Room – Ventilation On				
2" from floor	2:54 pm	0.03 µg/m^3		
5' from floor	2:54 pm	0.10 µg/m^3		
Gymnasium A – Girl's Locker Room Office – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	2:57 pm	0.13 µg/m3		
5' from floor	2:57 pm	0.14 µg/m^3		
Gymnasium A – Girl's Locker Room – Ventilation On				
2" from floor	3:00 pm	0.04 µg/m^3		
5' from floor	3:00 pm	0.08 µg/m^3		
Gymnasium B – Boy's Locker Room Office – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	3:02 pm	0.03 µg/m^3		
5' from floor	3:02 pm	0.03 µg/m^3		
Gymnasium B – Boy's Locker Room – Ventilation On				
2" from floor	3:04 pm	0.02 µg/m^3		
5' from floor	3:04 pm	0.06 µg/m^3		
Gymnasium B – Girl's Locker Room Office – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	3:06 pm	0.07 µg/m3		
5' from floor	3:06 pm	0.03 µg/m^3		
Gymnasium B – Girl's Locker Room – Ventilation On				
2" from floor	3:08 pm	0.11 µg/m^3		
5' from floor	3:08 pm	0.06 µg/m^3		
Gymnasium A – Set #4 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	3:26 pm	0.18 µg/m^3		
5' from floor		0.16 µg/m^3		
2" from floor	3:28 pm	0.26 µg/m^3		
5' from floor		0.19 µg/m^3		
2" from floor	3:29 pm	0.19 µg/m^3		
5' from floor		0.15 µg/m^3		
2" from floor	3:31 pm	0.17 µg/m^3		
5' from floor		0.12 µg/m^3		
2" from floor	3:32 pm	0.06 µg/m^3		
5' from floor		0.19 µg/m^3		

Location	Time	Average Result	NJ PEOSH PEL	MDH Recommendation for Schools
Gymnasium B – Set #4 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	3:34 pm	0.14 µg/m^3		
5' from floor		0.10 µg/m^3		
2" from floor	3:35 pm	0.03 µg/m^3		
5' from floor		0.01 µg/m^3		
2" from floor	3:37 pm	0.01 µg/m^3		
5' from floor		0.07 µg/m^3		
2" from floor	3:38 pm	0.06 µg/m^3		
5' from floor		0.08 µg/m^3		
2" from floor	3:39 pm	0.01 µg/m^3		
5' from floor		0.06 µg/m^3		
Auxiliary Gymnasium – Set #3 – Ventilation On			100.0 µg/m^3	1.8 µg/m^3 short-term 0.75 µg/m^3 long-term
2" from floor	3:53 pm	0.41 µg/m^3		
5' from floor		0.37 µg/m^3		
2" from floor	3:54 pm	0.47 µg/m^3		
5' from floor		0.40 µg/m^3		
2" from floor	3:55 pm	0.52 µg/m^3		
5' from floor		0.39 µg/m^3		
2" from floor	3:57 pm	0.56 µg/m^3		
5' from floor		0.41 µg/m^3		
2" from floor	3:58 pm	0.66 µg/m^3		
5' from floor		0.41 µg/m^3		

4.0 MERCURY AIR SAMPLING

In order to assess the potential for mercury exposure over a longer period of time, Whitman installed three pumps fitted with Mixed-Cellulose Ester (MCE) filters within the breathing zone level of Gymnasium A, one at each end and one in the middle. This sampling was initially conducted over 4 hours with the ventilation system non-operational and repeated for a 6-hour period with the ventilation system operational.

Once sampling was completed all of the samples were transported to a NJ-certified laboratory for analysis.

Sample #	Temperature	Relative Humidity	Sample Start Time	Sample End Time	Result mg/m^3
S-1	79º F	58%	7:40 am	11:40 am	0.00026
S-2	79º F	58%	7:41 am	11:41 am	0.00023
S-3	79º F	58%	7:41 am	11:41 am	0.00023
S-4	79º F	65%	11:40 am	3:40 pm	0.00031
S-5	79º F	65%	11:41 am	3:41 pm	0.00026
S-6	79º F	65%	11:41 am	3:41 pm	0.00028
Field Blank	NA	NA	NA	NA	ND
Media Blank	NA	NA	NA	NA	ND

ND – Non-Detect

5.0 CONCLUSIONS AND COMMENDATIONS

5.1 Factors Affecting Mercury Vapor Emission Rates

There are two key factors that can influence the mercury vapor emission rates within a gymnasium that has a rubberized floor containing mercury: Ventilation and floor temperature.

As the temperature of a gymnasium floor and the ventilation rates will vary according to the seasons, so too will mercury vapor concentrations. In the summer and fall, the floor temperature can be much higher. Also, active (mechanical) ventilation may also be limited during these seasons. Due to these factors, the highest mercury vapor concentrations are typically found in the summer and early fall.

5.1.1 Ventilation

Mercury evaporates very slowly from materials that contain mercury. When the ventilation is turned off, mercury vapor concentrations within the gymnasium will slowly increase. After the ventilation is turned on, the mercury vapor concentration decreases relatively rapidly over a 1-2 hour period.

5.1.2 Floor Temperature

Mercury evaporates at a faster rate when it is hot versus when it is cold. An unpublished MDH study has suggested that the emission rate from mercury-containing floors doubles for approximately every 9° F increase in floor temperature.

Whitman measured floor temperature throughout the Screening. Floor temperature within the gymnasiums averaged 82°F throughout the screening period.

5.2 General Discussion

Mercury vapor screening and air sampling results indicate that levels within the Gymnasiums of the School are below the NJ PEOSH regulated exposure level as well as other governmental recommended exposure levels.

Mercury vapor screening results also indicate that the ventilation within both gymnasiums of the School was adequate to control and maintain mercury vapor levels below 0.75 µg/m^3, as recommended by MDH.

In the interest of occupational safety and health, Whitman offers the following recommendations:

- ✓ Consider continuing mercury vapor screening during the spring and fall to determine if seasonal changes or damage to the rubberized flooring produces different results due to the potential for higher levels during these periods.
- ✓ Ventilation within the gymnasium of the School should be maintained at current levels to ensure that average year-round mercury vapor concentrations are less than 0.75 µg/m^3.
- ✓ If changes are made to the HVAC system in the gymnasium of the School, consider conducting another mercury vapor screening.
- ✓ If removal of the mercury-containing floor of the gymnasium is planned, please contact Whitman for information on disposal. A contractor with experience in removing hazardous floorings should be engaged for removal of the flooring. Additionally, appropriate control measures, such as mercury vapor monitoring and ventilation should be taken to ensure that staff and students are not exposed during removal and replacement of the gym floor.

6.0 LIMITATIONS, EXCEPTIONS AND ASSUMPTIONS

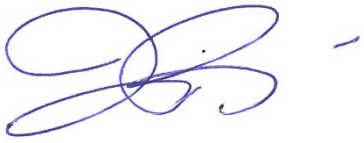
Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of Whitman's site visit, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which Whitman is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions based solely upon Whitman's visual observations of accessible areas, testing data, and current regulatory requirements. These conclusions are intended exclusively for the purpose state herein, at the sites indicated, and for the project indicated.

No expressed or implied representation or warranty is included or intended in our reports, except that our services were performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

Feel free to contact me at 732-390-5858 with any questions or if further clarification is needed.

Sincerely,



John Beaupre
Senior Vice President

Reviewed by

William Kerbel
Certified Industrial Hygienist

Attachments

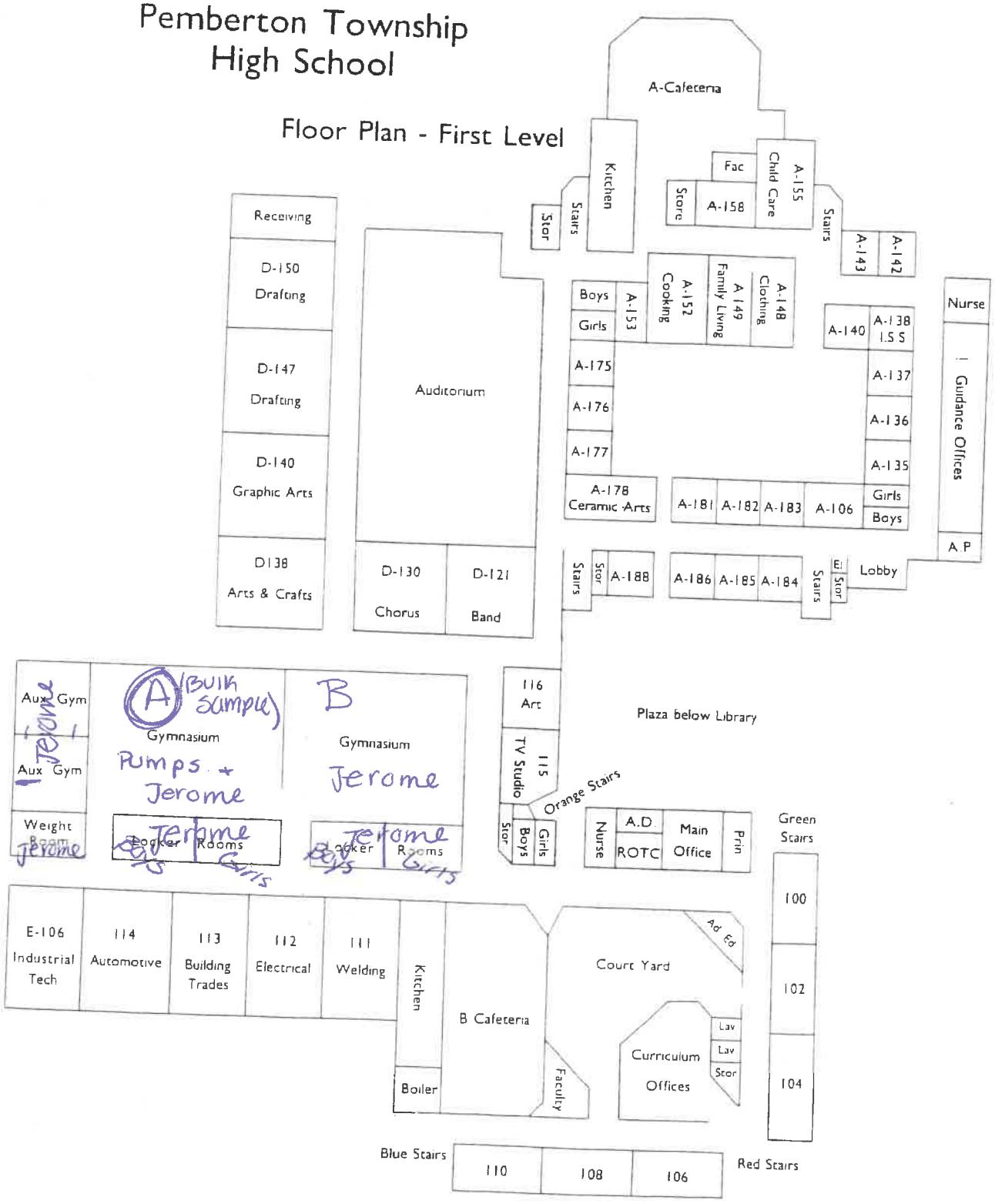
APPENDIX 1

FLOOR PLAN

6/19/19

Pemberton Township High School

Floor Plan - First Level



APPENDIX 2

MERCURY SAMPLE REPORT

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **John Beaupre**
Whitman Companies, Inc.
1606 N. 18th Street,
Rear Building
Allentown, PA 18104
Phone: (484) 542-5697
Fax: (732) 390-9496

6/28/2019

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 6/20/2019. The results are tabulated on the attached data pages for the following client designated project:

Pemberton HS 190531T

The reference number for these samples is EMSL Order #011907621. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry Laboratory Director

AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE
ISO/IEC 17025:2005
www.aihaaccreditedlabs.org

AIHA-LAP, LLC-IHLAP Lab # 100194
NELAP Certification: NJ 03036; NY 10872

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011907621
CustomerID: WHIT53
CustomerPO:
ProjectID:

Attn: **John Beaupre**
Whitman Companies, Inc.
1606 N. 18th Street,
Rear Building
Allentown, PA 18104

Phone: (484) 542-5697
Fax: (732) 390-9496
Received: 06/20/19 9:00 AM

Project: **Pemberton HS 190531T**

Analytical Results

Client Sample Description S1 East Side Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00026	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S2 Middle of Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00023	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S3 West Side Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00023	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S4 East Side Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00031	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S5 Middle of Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0005*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00026	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S6 East Side Gym A — ***Collected:*** 6/19/2019 — ***Lab ID:*** *011907621-0006*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011907621
CustomerID: WHIT53
CustomerPO:
ProjectID:

Attn: **John Beaupre**
Whitman Companies, Inc.
1606 N. 18th Street,
Rear Building
Allentown, PA 18104

Phone: (484) 542-5697
Fax: (732) 390-9496
Received: 06/20/19 9:00 AM

Project: **Pemberton HS 190531T**

Analytical Results

Client Sample Description S6
East Side Gym A
Collected: 6/19/2019 ***Lab ID:*** *011907621-0006*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	0.00028	0.00021	mg/m³	6/26/2019 PV	6/27/2019 PV

Client Sample Description S7
Field Blank
Collected: 6/19/2019 ***Lab ID:*** *011907621-0007*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	ND	0.000010	mg/tube	6/26/2019 PV	6/27/2019 PV

Client Sample Description S8
Media Blank
Collected: 6/19/2019 ***Lab ID:*** *011907621-0008*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*	*Analysis Date & Analyst*
METALS						
NIOSH 6009	Mercury	ND	0.000010	mg/tube	6/26/2019 PV	6/27/2019 PV

Definitions:
MDL - method detection limit
J - Result was below the reporting limit, but at or above the MDLND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Industrial Hygiene
Chain of Custody

EMSL Order Number (Lab Use Only): 011907621

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 858-3502

Report To Contact Name: John Beaupre		Bill To Company: Whitman	Client ID #:
Company Name: Whitman		Attention To: John Beaupre	
Street: 7 Pleasant Hill Road		Street: 7 Pleasant Hill Road	
City: Cranbury	State/Province: NJ	Zip/Postal Code: 08512	City: Cranbury	State/Province: NJ	Zip/Postal Code: 08512
Phone: 484 542 5697	Fax: 732 390 9496	Phone: 732 390 5858	Fax: 732 390 9496
Project Name: Pemberton HS 190531T		Email Results To: Jbeaupre@whitmanco.com	U.S. State where Samples Collected: NJ
# Samples in Shipment: 8	Date of Shipment: 6/19/19	Purchase Order:	Sampled By (Signature): Alexa Fiumarelli

Turnaround Time (TAT) – Please Check: If No Selection Made, Standard 2 Week TAT Will Apply

☐ 2 Week ☒ 1 Week ☐ 4 Day ☐ 3 Day ☐ 2 Day ☐ 1 Day ☐ Other (Call Lab)

Media Type:

Manufacturer/Part #: Lot #:

	Client Sample ID	Sample Date	Location	Description	Sample Type	Flow (lpm)	Sample Time On	Sample Time Off	Air Volume	Analyte Name	Media	Comments
1	S1	6/19/19	East side Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	0740	1140	48L	Hg	Air	
2	S2	6/19/19	middle of Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	0741	1141	48L	Hg	Air	
3	S3	6/19/19	West side Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	0741	1141	48L	Hg	Air	
4	S4	6/19/19	East side Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	1140	1540	48L	Hg	Air	
5	S5	6/19/19	middle of Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	1141	1541	48L	Hg	Air	
6	S6	6/19/19	East side Gym A	NIOSH 6009	☒ Area ☐ Personal	0.2	1141	1541	48L	Hg	Air	
7	B7	6/19/19	Field Blank	Blank	☐ Area ☐ Personal	0	–	–	0			
8	B8	6/19/19	media Blank	Blank	☐ Area ☐ Personal	0	–	–	0			

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By	Date	Received By	Date
Alexa Fiumarelli	6/19/19		6/19/19 5:10pm 6/20 9am

Comments: