MERCURY INVESTIGATION REPORT

Hunterdon Central Regional High School
Auxiliary Gym
84 Route 31
Flemington, New Jersey 08822

PREPARED FOR:
Hunterdon Central Regional High School
84 Route 31
Flemington, New Jersey 08822

PREPARED BY:
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PARS PROJECT NO. 1124-14

PARS ENVIRONMENTAL
a Montrose Environmental Group company

August 2019

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1.0 INTRODUCTION

On August 28, 2019, PARS Environmental, Inc. (PARS) conducted a Mercury Investigation of the Hunterdon Central Regional High School (HCRHS) Field House Gymnasium located at 84 Route 31, Flemington, New Jersey 08822. Section 2.0 describes methodology; Section 3.0 includes findings of the Investigation; and Section 4.0 describes the conclusions and recommendations for HCRHS.

The gymnasium was constructed in the 1960s, and is used frequently by students both during and after school hours for a variety of activities. It was unknown if mercury-containing products were used in the floor's construction. The investigation was conducted to evaluate whether or not mercury vapor was present and if additional precautionary methods would be required in the eventual demolition and replacement of the floor.

The Investigation was completed by PARS Staff Industrial Hygienists Ms. Jessica Perrini and Mr. Corey Pratt.

2.0 METHODOLOGY

2.1 MERCURY VAPOR SCREENING

PARS utilized a Jerome J505 Mercury Vapor Analyzer to collect real-time mercury vapor concentrations within the auxiliary gymnasium. Vapor screening was conducted using a pre-determined grid pattern, with samples collected approximately every ten feet, starting at and including the edges of the space. The grid used to determine approximate sample locations is provided in **Figure 1**.

Some readings slightly deviated from the pre-determined grid, biased to areas likely to give off mercury vapors, i.e. areas where the floor was cracked or damaged, or where penetrations and holes or seams were observed. Readings were also obtained outside the auxiliary gymnasium for comparison.

PARS collected a total of 78 readings were collected, two (2) readings per sample location. The first sample location was approximately six (6) inches off of the floor where the damage/penetration was located, and the second was taken approximately four (4) feet—chest height—off of the ground.

3.0 RESULTS

3.1 MERCURY VAPOR SCREENING

Mercury vapors were detected in very low amounts throughout the gymnasium. The range of readings observed went from non-detect up to 150 nanograms per cubic meter (ng/m^3), which equals 0.00015 milligrams per cubic meter (mg/m^3). The Occupational Safety and Health Administration (OSHA) set a Permissible Exposure Limit (PEL) for mercury at 0.1 mg/m^3 (equal to 100,000 ng/m^3). The American Conference of Governmental Industrial Hygienists (ACGIH) sets a Threshold Limit Value (TLV) at 0.025 mg/m^3 (equal to 25,000 ng/m^3). All readings observed in the Auxiliary gymnasium are well below both of these threshold amounts. Sampling results are provided in **Table 1**.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Site observations showed the Auxiliary Gymnasium to be in good condition with minimal damage noted. Flooring seams and designed penetrations are also present within the flooring.

Based on the results of the investigation, PARS concludes that mercury-based components were used in the construction of the gymnasium floor, but does not consider the mercury-containing flooring material an immediate health hazard to the building occupants or visitors. Existing maintenance procedures for the flooring material should continue to ensure the flooring does not become deteriorated. The space should also maintain adequate air flow/exchange to prevent the buildup of mercury vapors.

PARS recommends six-month periodic surveillances and vapor testing of the Auxiliary Gymnasium to assess the condition of the flooring material and existing mercury vapor concentrations until the flooring has been removed.

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PARS appreciates the opportunity to assist Hunterdon Central Regional High School with this project. Should you have any questions or comments please feel free to contact us at (609) 890-7277.

Respectfully submitted,

PARS ENVIRONMENTAL, INC.

Jessica Perrini
Project Manager

Julian Fernandez-Obregon
Project Industrial Hygienist

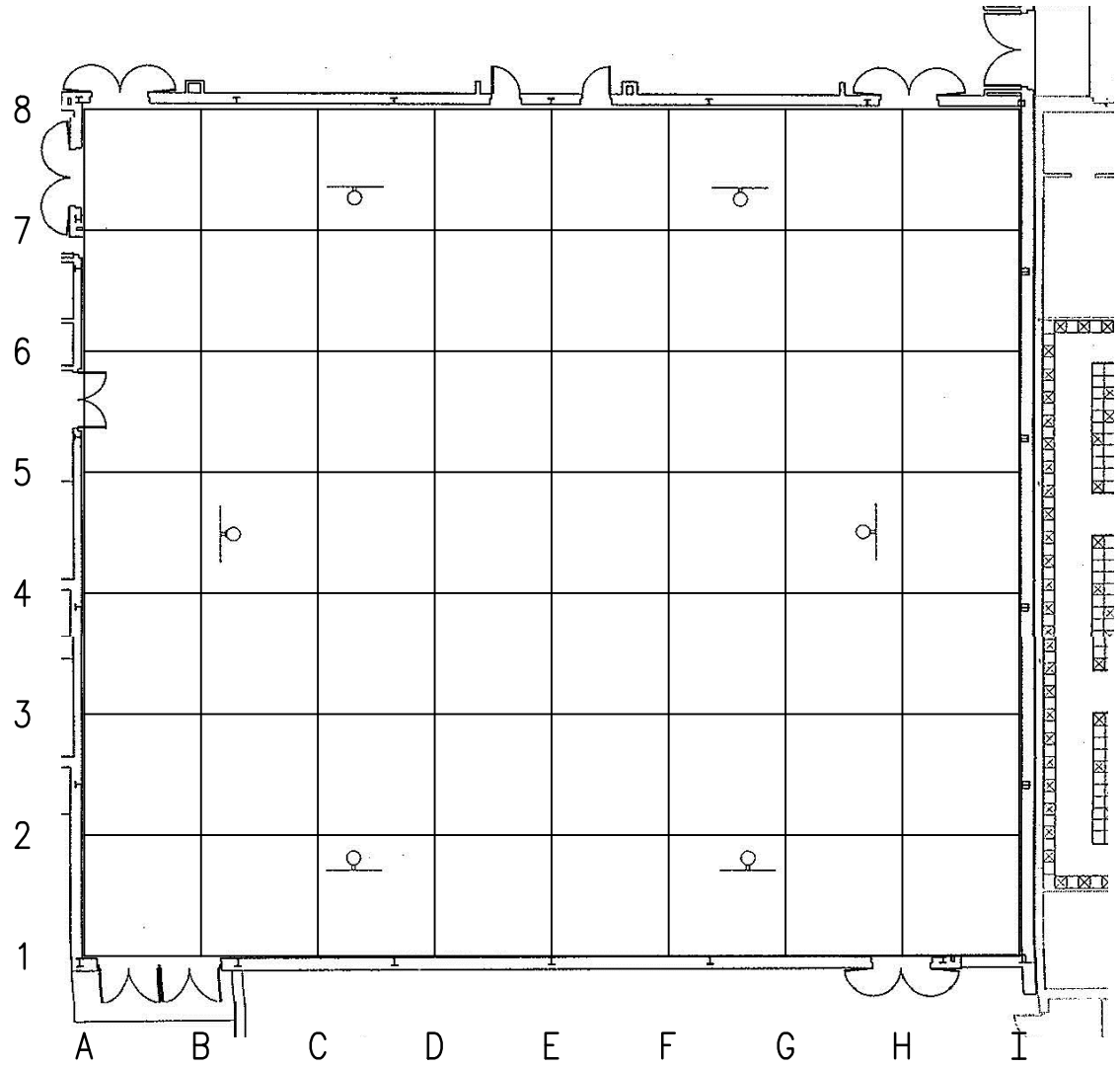
REFERENCES

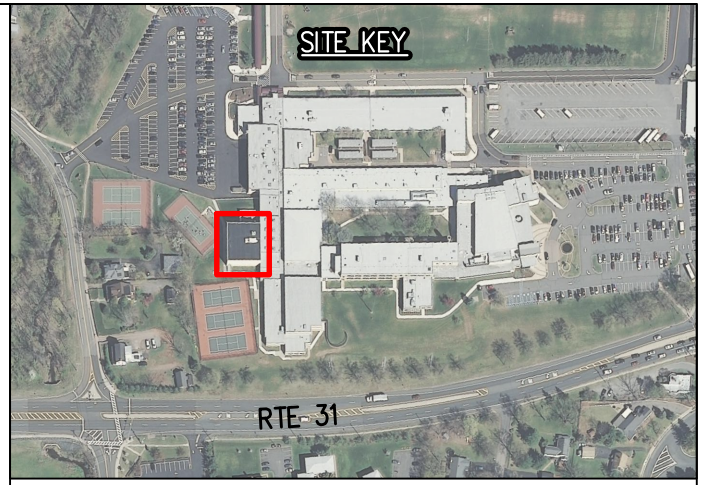
National Institute for Occupational Safety and Health, http://www.cdc.gov/niosh/

Wisconsin Department of Health, *Health Consultation, Evaluation of Health Concerns Associated with Mercury-Containing Polyurethane Gymnasium Floor in a Milwaukee Public School*, dated December 16, 2010.

Ohio Department of Health, Health Assessment Section, *Mercury in Flooring*, October 21, 2010

FIGURE 1
Jerome Sample Location Map





SCALE IN FEET

2.5 0 5 10 15

FIGURE 1
SAMPLE LOCATION MAP
HUNTERDON CENTRAL HIGH SCHOOL
RARITAN, NJ

PARS ENVIRONMENTAL, INC.
500 HORIZON DRIVE SUITE 540 ROBBINSVILLE, NEW JERSEY

DRAWN BY:	MN	JOB NUMBER:	1124-14
CHECKED BY:	JFO	DATE:	9/5/19

TABLE 1
Jerome Sampling Results

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Table 1
Jerome Sampling Results
Hunterdon Central Regional High School
Auxiliary Gymnasium
84 Route 31
Flemington, New Jersey

Date	Reading	Location on Grid	Low Reading (6" Off Floor)	High Reading (Chest Height)
8/28/2019	1	Calibration	N/A	N/A
8/28/2019	2	Outside Hallway	0	0
8/28/2019	3	Outside Gym	0	0
8/28/2019	4	A1	0	0
8/28/2019	5	A2	0	0
8/28/2019	6	A3	0	0
8/28/2019	7	A4	0	0
8/28/2019	8	A5	0	0
8/28/2019	9	A6	0	0
8/28/2019	10	A7	0	0
8/28/2019	11	A8	0	0
8/28/2019	12	B1	0	0
8/28/2019	13	B2	0	20
8/28/2019	14	B3	40	10
8/28/2019	15	B4	10	10
8/28/2019	16	B5	0	20
8/28/2019	17	B6	10	40
8/28/2019	18	B7	140	100
8/28/2019	19	B8	40	20
8/28/2019	20	C1	30	110
8/28/2019	21	C2	0	30
8/28/2019	22	C3	40	20
8/28/2019	23	C4	0	0
8/28/2019	24	C5	20	10
8/28/2019	25	C6	0	10
8/28/2019	26	C7	50	0
8/28/2019	27	C8	0	0
8/28/2019	28	D1	20	0
8/28/2019	29	D2	60	30
8/28/2019	30	D3	0	0
8/28/2019	31	D4	0	30
8/28/2019	32	D5	0	0
8/28/2019	33	D6	50	90
8/28/2019	34	D7	0	50
8/28/2019	35	D8	50	50
8/28/2019	36	E1	0	70
8/28/2019	37	E2	10	30
8/28/2019	38	E3	40	0
8/28/2019	39	E4	30	0
8/28/2019	40	E5	0	0
8/28/2019	41	E6	0	10
8/28/2019	42	E7	30	30
8/28/2019	43	E8	70	80
8/28/2019	44	F1	70	60
8/28/2019	45	F2	80	90
8/28/2019	46	F3	0	10
8/28/2019	47	F4	0	60
8/28/2019	48	F5	40	50

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Date	Reading	Location on Grid	Low Reading (6" Off Floor)	High Reading (Chest Height)
8/28/2019	49	F6	90	0
8/28/2019	50	F7	40	0
8/28/2019	51	F8	30	0
8/28/2019	52	G1	10	0
8/28/2019	53	G2	0	0
8/28/2019	54	G3	0	0
8/28/2019	55	G4	90	20
8/28/2019	56	G5	50	20
8/28/2019	57	G6	0	0
8/28/2019	58	G7	40	0
8/28/2019	59	G8	0	0
8/28/2019	60	H1	40	30
8/28/2019	61	H2	150	0
8/28/2019	62	H3	90	130
8/28/2019	63	H4	50	0
8/28/2019	64	H5	0	80
8/28/2019	65	H6	10	90
8/28/2019	66	H7	40	30
8/28/2019	67	H8	0	40
8/28/2019	68	I1	0	0
8/28/2019	69	I2	0	0
8/28/2019	70	I3	0	0
8/28/2019	71	I4	20	30
8/28/2019	72	I5	80	70
8/28/2019	73	I6	70	10
8/28/2019	74	I7	10	40
8/28/2019	75	I8	0	40