



November 28, 2018

Mr. Gualter T. Almeida  
Director  
Office of Court Management | Facilities Management & Capital Planning  
Suffolk County Courthouse  
Three Pemberton Square, Room 106  
Boston, MA 02108

**RE: Springfield Juvenile Court, Acceptance of Mercury Remediation, 80 State Street, Springfield, Massachusetts (EH&E 22707)**

Dear Mr. Almeida:

Environmental Health & Engineering, Inc. (EH&E) provides this report describing interior mercury remediation oversight activities conducted in the Springfield Juvenile Court Building (the Building) located at 80 State Street in Springfield, Massachusetts. EH&E provided technical direction and conducted detailed inspection and sampling of the work area to ensure that remediation activities met the project acceptance criteria.

As described in the following sections, EH&E's observations and measurements indicate that remediation efforts were effective in addressing the mercury-impacted materials identified in holding cell B1 located in the Building. Please note that this report is subject to the limitations in Appendix A.

### SCOPE OF WORK

The remediation work was performed by DEC-TAM Corporation of North Reading, Massachusetts and followed the U.S. Environmental Protection Agency (EPA) recommended guidelines for the removal of mercury-contaminated materials, in addition to their standard practices for the removal, handling, and disposal of mercury-contaminated building materials. Remediation work was completed on November 9 and 15, 2018.

The following procedures were utilized during the removal of mercury containing materials to ensure protection of the occupants and the indoor environment:

- The work area below all padding and wall materials removed was covered using 6-mil fire-retardant polyethylene sheeting.
- Appropriate warning signs were posted at the entrance of the removal and decontamination areas. All doors leading to the work area were monitored to ensure that there was no unauthorized entry.
- A negative air filtration device (AFD) was placed in the work area and exhausted outdoors. The AFD was equipped with a high efficiency particulate air (HEPA) filter and carbon impregnated filter prior to exhausting outdoors.
- The decontamination area was inspected by EH&E prior to commencement of foam and wall removal. Removal did not occur until work area isolation and preparation had been approved and authorization to begin work was provided by EH&E.
- The ceiling air vent was covered and sealed using fire-retardant poly sheeting and duct tape.
- The entrance/doorway into the containment area was covered with a series of overlapping flaps constructed using poly sheeting to allow unidirectional airflow inside of the work area.
- A personnel decontamination area was constructed inside the work area and was used primarily for the removal and disposal of personnel protective equipment.
- All contaminated wall sections were placed into lined 55-gallon drums for disposal.
- The Office of Court Management was responsible for determining appropriate labeling, and disposal in accordance with all applicable regulatory requirements.

## MEASUREMENTS OF MERCURY IN AIR

During the removal of the wall materials real-time monitoring was performed by EH&E to measure the airborne concentrations of mercury. EH&E periodically monitored the mercury vapor concentrations throughout the directly adjacent areas to ensure that the containment and controls were effective in limiting the impact of the remediation work being conducted on adjacent areas.

This survey included obtaining measurements of mercury concentrations in air using a real-time mercury vapor analyzer (Jerome J505). The Jerome J505 is a low-level mercury detection instrument with a detection limit of 50 nanograms per cubic meter (ng/m<sup>3</sup>).

Results of the mercury vapor testing identified a significant reduction in airborne mercury vapor concentrations in holding cell B1. Prior to remediation on November 9, 2018, EH&E measured

mercury vapor concentrations of approximately 10,000 ng/m<sup>3</sup> in holding cell B1. On November 15, 2018, after completion of remediation activities, all measurement results collected in holding cell B1 were less than 300 ng/m<sup>3</sup>. A table indicating locations and concentrations measured in the Building is provided in Appendix B.

## MERCURY SCREENING CRITERIA

EH&E conducted a review of current guidance levels related to mercury vapor exposure to identify relevant criteria for use in this evaluation. The EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) Joint EPA/ATSDR National Mercury Cleanup Policy Work group established action level guidelines for mercury in indoor air.<sup>1</sup>

This group established an acceptable action level for normal occupancy for sensitive individuals in residential settings of less than 1,000 ng/m<sup>3</sup>. For occupational settings during normal occupancy the established action level is less than 3,000 ng/m<sup>3</sup>. The occupational concentration is based on the residential action level of 1,000 ng/m<sup>3</sup> adjusted for a workday (i.e., 24/7 exposure reduced to a 40-hour workweek).

## CONCLUSION

Following removal of mercury contaminated wall materials, EH&E verified that the ambient airborne concentrations of mercury inside holding cell B1 were below 1,000 ng/m<sup>3</sup>. Based on these test results and site observations, there are no re-occupancy restrictions for holding cell B1 and reconstruction of the area can proceed.

If you have any questions, please do not hesitate to contact me at 1-800-TALK EHE (1-800-825-5343).

Sincerely,



Matt A. Fragala, M.S., C.I.H.  
Senior Scientist/Practice Director, Education & Commercial

Appendix A Limitations  
Appendix B Data Table

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<sup>1</sup> [https://www.atsdr.cdc.gov/emergency\\_response/action\\_levels\\_for\\_elemental\\_mercury\\_spills\\_2012.pdf](https://www.atsdr.cdc.gov/emergency_response/action_levels_for_elemental_mercury_spills_2012.pdf)

## Appendix A Limitations

1. The Environmental Health & Engineering, Inc. (EH&E) indoor environmental quality assessment described in the attached report number 22707, *Springfield Juvenile Court, Acceptance of Mercury Remediation, 80 State Street, Springfield, Massachusetts* (hereafter "the Report"), was performed in accordance with generally accepted practices employed by other consultants undertaking similar studies at the same time and in the same geographical area; and EH&E observed that degree of care and skill generally exercised by such other consultants under similar circumstances and conditions. The observations described in the Report were made under the conditions stated therein. The conclusions presented in the Report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services, nor beyond the time and budgetary constraints imposed by the client.
2. Observations were made of the site as indicated within the Report. Where access to portions of the site was unavailable or limited, EH&E renders no opinion as to the condition of that portion of the site.
3. The observations and recommendations contained in the Report are based on limited environmental sampling and visual observation and were arrived at in accordance with generally accepted standards of industrial hygiene practice. The sampling and observations conducted at the site were limited in scope, and therefore cannot be considered representative of areas not sampled or observed.
4. Where sample analyses were conducted by an outside laboratory, EH&E has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
5. The purpose of the Report was to assess the characteristics of the subject site as stated within the Report. No specific attempt was made to verify compliance by any party with all federal, state, or local laws and regulations.

## Appendix B Data Table

**Table B.1** Mercury Vapor Concentrations Measured at Springfield Juvenile Court, 80 State Street, Springfield, Massachusetts, November 9 and 15, 2018

Activity	Time	Location	Concentration (ng/m <sup>3</sup> )
<b>November 9, 2018</b>			
Prior to Remediation	8:15 a.m.	Hall Outside Elevator	650
	8:18 a.m.	Guard Desk Outside Cell	2,050
	8:20 a.m.	Inside Cell B1	10,610
Start of Work Containment Up	9:24 a.m.	Directly Outside Containment Door	70
	9:39 a.m.	Hall Outside Elevator	50
Active Remediation	9:40 a.m. – 7:00 p.m.	Perimeter of Containment	50 – 110
Post Remediation	7:00 – 7:05 p.m.	Inside Cell B1	890 – 1,940
	7:05 – 7:15 p.m.	Areas Directly Outside Work Area	ND <50 – 140
<b>November 15, 2018</b>			
Prior to Remediation	9:20 a.m.	Hall Outside Elevator	110
	9:22 a.m.	Guard Desk Outside Cell	380
	9:25 a.m.	Inside Cell B1	910 – 1,100
Start of Work Containment Up	10:20 a.m.	Directly Outside Containment Door	70
	10:38 a.m.	Start of Remediation Work	ND <50
Active Remediation	10:40 a.m. – 2:45 p.m.	Perimeter of Containment	ND <50
Post Remediation	3:00 – 3:15 p.m.	Inside Cell B1	110 – 230
	3:15 – 3:25 p.m.	Areas Directly Outside Work Area	ND <50
ng/m <sup>3</sup> nanograms per cubic meter of air ND        none detected <         less than			
Measurements were obtained using the Jerome J505 + Mercury Vapor Analyzer.			