

**Illinois Department of
Public
Health**

Jim Edgar, Governor • John R. Lumpkin, M.D., M.P.H., Director

525-535 West Jefferson Street • Springfield, Illinois 62761-0001

#910169701

December 19, 1997

James E. Sharp, Principal
Beverly Manor School
District 50 Schools
1014 School Street
Washington, IL 61571

Dear Mr. Sharp:

The Illinois Department of Public Health (IDPH) sampled your school for mercury vapor on December 16, 1997 as a follow-up to the mercury spill investigation conducted on October 17, 1997. During the previous investigation, IDPH determined that elevated mercury vapor levels were present in several areas of the school. It was assumed that ventilation and the passing of time would cause the levels to diminish. The follow-up investigation indicated that in some areas, mercury vapor levels have not decreased as expected.

A Jerome Mercury Vapor Analyzer was used to assess the levels of mercury vapor in the school. The areas sampled during the follow-up were those that contained the highest levels during the previous investigation. In each area at least two readings were taken, one at floor level and one at the breathing zone. The results and their comparison to the previous levels are shown in the table below:

Room/Area	Level in Breathing Zone (mg/m ³)	Level at Floor (mg/m ³)	Maximum Level on 10/17/97 (mg/m ³)
12	0.005	0.004	0.011
13	0.003	0.003	0.008
20	0	0.003	0.008
21	0.006	0.005	0.012
23	0	0	0.010
39	0.008	0.008	0.010
41	0.006	0.004	0.008
46	0.015	0.007	0.011

Room/Area	Level in Breathing Zone (mg/m ³)	Level at Floor (mg/m ³)	Maximum Level on 10/17/97 (mg/m ³)
45	0	0.004	0.008
61	0.004	0.004	0.014
Hallway outside 46	0.006	0.006	0.008
Boys Locker	0.008	0.004	0.008
Cafeteria	0.004	0.004	0.008

In the last report, it was explained that no applicable standards of allowable mercury vapor levels exist for schools. The Occupational Safety and Health Administration allows a level of 0.05 mg/m³ as an average exposure over an eight hour work day. This standard is not suitable for a school where children and other sensitive populations are present. IDPH prefers to see levels less than 0.01 mg/m³ following clean-up after a mercury incident. It is assumed, however, that exposures at this level will be of short duration due to the degradation of levels.

Many of the sampled areas have shown marked decreases in mercury vapor levels over the past two months. Three areas sampled, however, still showed mercury contamination above 0.008mg/m³. A number of factors are likely contributing to this trend. The lack of a central heating, ventilation, and air conditioning system limits the amount of fresh, make up air available to dilute the mercury vapor levels in the school. In the heating season, the levels are also likely to be more concentrated due to the tightness of the building. The main question is whether or not the levels found are a health concern.

Two of the areas still elevated are room 46 which is a boys bathroom, and the boys locker room. Due to the minimal amount of time students spend in these rooms on a daily basis, the elevated levels are not a health concern. Room 39, however, is a classroom which greatly increases the amount of exposure occurring to the students and teacher in this room. The level in this room is not high enough to cause acute health effects, but long term exposure to this level is not recommended. The health effects of long-term, low-level exposure to mercury vapor are not well documented, but some studies have shown that effects to the nervous system can occur at chronic low-levels. It is important to note that only eight weeks has passed between the two investigations which is not a sufficient time to allow normal diminishing to occur.

IDPH would like to re-sample the school at a later date with equipment that allows for a more precise measurement of mercury vapor levels. This sampling could be performed after school hours so that students are not disturbed. This will help to better quantify the daily exposures occurring in the school. In the meantime, IDPH recommends that ventilation be increased in room 39. As stated previously, this room does not pose a public health threat at

this time if levels continue to decrease. I will call after the first of the year to choose a convenient time to re-sample the school. If you have any questions prior to that, feel free to contact me at (217) 782-5830.

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Slightom". The signature is fluid and extends to the right with a long, sweeping tail.

Jennifer Slightom

cc: Roger Stevens, District 50 Superintendent
Jennifer Coffey, IDPH Peoria Regional Toxicologist
Frank Alai, IDPH Peoria Regional Engineer