

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
LaFayette High School Mercury Release - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #1**
Initial POLREP
LaFayette High School Mercury Release

LaFayette, GA
Latitude: 34.7200781 Longitude: -85.2578307

To:
From: Matthew Huyser, OSC
Date: 11/16/2010
Reporting Period: 11/12/2010 - 11/13/2010

1. Introduction

1.1 Background

| | | | |
|----------------------------|------------|--------------------------------|----------------|
| Site Number: | B4C9 | Contract Number: | |
| D.O. Number: | | Action Memo Date: | |
| Response Authority: | CERCLA | Response Type: | Emergency |
| Response Lead: | PRP | Incident Category: | Removal Action |
| NPL Status: | Non NPL | Operable Unit: | |
| Mobilization Date: | 11/12/2010 | Start Date: | 11/12/2010 |
| Demob Date: | | Completion Date: | |
| CERCLIS ID: | | RCRIS ID: | |
| ERNS No.: | | State Notification: | |
| FPN#: | | Reimbursable Account #: | |

1.1.1 Incident Category
Emergency

1.1.2 Site Description

A release of mercury occurred at LaFayette High School on or before 10/20/2010 or 10/21/2010 when a student removed a container of mercury from the school's laboratory storage room without permission. The mercury was passed between a small group of 3-4 students and the container was stored in two or more book bags. Over the course of multiple days the mercury was carried between the school and the students' home(s) and was eventually returned to the school faculty when the students were identified. The school science coordinator and other staff discovered mercury had been spilled outside the school on a concrete patio and inside the school within a bathroom. One indoor classroom was identified as a location where mercury might have spilled and two science rooms were identified as locations where it might have leaked as it was removed. On 10/20/2010, school staff utilized a zinc amalgamation compound to bind mercury that was found on the ground and remove it from the patio and the bathroom. School authorities contacted Flynn Supplies Inc, a science laboratory supplier, and obtained several mercury vapor testing strips which were used to determine if mercury vapor was still present in the classrooms. On, or around, 10/21/2010, staff used pipettes to remove beads of mercury that had been left behind and a second sulfur amalgamation compound to remove anything that might've remained. Throughout the process, school staff consulted Flynn Laboratories, the Walker County Health Department, EPA guidance websites, and attempted to contact EPA. On 11/11/2010, staff discovered mercury beads in an unattached mobile classroom and attempted to contact EPA for assistance. EPA ERRB was notified of the incident on 11/12/2010 and mobilized OSC Huyser to respond, assess the extent of the release, and provide support to Walker County Schools.

1.1.2.1 Location

The school is a one-story high school building with a student population of approximately 800. The facility is located outside of downtown LaFayette in a semi-rural neighborhood. Mercury has impacted two classrooms, one bathroom, and one cleaning supplies closet (assessments have been expanded to include all rooms in the high school and several buses; more rooms may be discovered).

The residence is a one bedroom apartment in a low-income neighborhood. The property is owned and managed by the LaFayette Housing Authority (LHA). There is one elderly permanent resident, but there are two teenagers who stay and sleep at the apartment frequently.

1.1.2.2 Description of Threat

Mercury is a CERCLA hazardous substance that can be harmful to humans if ingested or inhaled; it readily vaporizes at room temperature and can easily be transported between locations where it can cross-contaminate indoor spaces or personal belongings. According to ATSDR ToxFAQs (March 2001): "Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems."

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On the afternoon of 11/12/2010, OSC Huyser and Walker County School staff measured for mercury vapor on the bottoms of shoes of approximately 115 students (students that had utilized the affected classrooms) and approximately 95 staff. Eight pairs of shoes (four students and four staff) with mercury vapor readings in excess of 1000 ng/m³ were removed, bagged, and placed in the sun to measure the confined area vapor levels. Of the eight pairs:

- Four pairs had readings between 1000 and 5000 ng/m³ and were returned to their owners with precautionary warnings that they should not be played with by small children/toddlers/infants;
- One pair had a reading of approximately 10,000 ng/m³ and was returned with the same precautionary warning above, as well as a warning that it should not be worn to school again;
- One pair had a reading of approximately 25,000 ng/m³ and the owner was advised that the shoes should be thrown away; and,
- Two pairs had a reading in excess of 50,000 ng/m³ and the owners were advised that the shoes should be thrown away.

For the four students, information regarding the shoes and the readings that were measured will be communicated by school staff to the parents of each student. The school also concluded that as a precautionary measure, none of the eight shoes will be allowed to be worn in the school again (the school may choose to offer a reimbursement to at least one owner for a pair that was recommended to be thrown away).

After the school had been vacated for the day, EPA conducted an initial screening of mercury vapor readings in several areas of the school to assess the level of potential contamination. On 11/12/2010 and 11/13/2010, EPA visited five residences whose occupants (students or faculty) may have come in close contact with the mercury. The results of these efforts are presented in the Operations section of the Initial POLREP.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On the afternoon of 11/12/2010, OSC Huyser and Walker County School staff measured for mercury vapor on the bottoms of shoes of approximately 115 students (students that had utilized the affected classrooms) and approximately 95 staff. Eight pairs of shoes (four students and four staff) with mercury vapor readings in excess of 1000 ng/m³ were removed, bagged, and placed in the sun to measure the confined area vapor levels. Of the eight pairs:

- Four pairs had readings between 1000 and 5000 ng/m³ and were returned to their owners with precautionary warnings that they should not be played with by small children/toddlers/infants;
- One pair had a reading of approximately 10,000 ng/m³ and was returned with the same precautionary warning above, as well as a warning that it should not be worn to school again;
- One pair had a reading of approximately 25,000 ng/m³ and the owner was advised that the shoes should be thrown away; and,
- Two pairs had a reading in excess of 50,000 ng/m³ and the owners were advised that the shoes should be thrown away.

For the four students, information regarding the shoes and the readings that were measured will be communicated by school staff to the parents of each student. The school also concluded that as a precautionary measure, none of the eight shoes will be allowed to be worn in the school again (the school may choose to offer a reimbursement to at least one owner for a pair that was recommended to be thrown away).

After the school had been vacated for the day, EPA conducted an initial screening of mercury vapor readings in several areas of the school to assess the level of potential contamination. Of initial interest were three indoor classrooms, five detached modular classrooms, two bathrooms, one storage room, and an area of the gymnasium. The initial screening levels reported the following:

- Gymnasium: floors and doors near the table-tennis area were assessed but no readings above background were found. A silver plastic bead was discovered which may have incorrectly been reported as mercury;
- Mobile Unit #1: all breathing air zone levels and floor levels were below 100 ng/m³;
- Mobile Unit #2: no entry conducted; levels exceeded 50,000 ng/m³ within 3 feet of the doorway, the measurement was taken while windows were open. The fan was turned on and the room was left for later assessment;
- Mobile Unit #3: all breathing air zone levels and floor levels were below 300 ng/m³;
- Mobile Unit #4: all breathing air zone levels and floor levels were below 100 ng/m³;
- Mobile Unit #5: all breathing air zone levels and floor levels were below 100 ng/m³;

- Room 707: breathing air zone levels range from 1200 to 1400 ng/m3 and floor levels range from 1800 to 1900 ng/m3 with a hotspot of 3000 ng/m3;
- 700 Boys Bathroom: breathing zone levels are approximately 1300 ng/m3 with a peak of 4000 ng/m3, floor levels are approximately 2000 ng/m3 with a peak of 11,000 ng/m3; the highest values occur near the sinks and there is a floor drain in the center of the room where readings directly above it exceed 50,000 ng/m3;
- 700 Girls Bathroom: all breathing air zone levels and floor levels were below *700 ng/m3;
- Room 605 (science room): all breathing air zone levels and floor levels were below 400 ng/m3, but there was a hotspot in excess of 1500 ng/m3 at the drain of the instructor's sink; and,
- Room 604 storage closet: levels immediately around the sealed bags of confiscated materials (jar of mercury, contaminated bookbags, contaminated vacuum, etc.) ranged from 5000 to 10,000 ng/m3.

*Note: levels in Mobile Unit #3 and 700 Girls Bathroom may have reported higher than actual readings due to the intensity of values that were measured in areas (Mobile Unit #2 and floor drain in 700 Boys Bathroom) immediately prior.

The above results were confirmed and expanded by START monitoring on 11/13/2010, which sought to delineate potential hot spots. Also, an additional eight rooms were assessed based on the daily schedules of the students involved in the initial release; results indicated only one hot spot in a cleaning supplies closet but no other impacted classrooms.

After the initial assessment in the rooms of the highschool, OSC Huyser determined that Mobile Unit #2, Room 707, and 700 Boys Bathroom would have to be remediated for ongoing mercury vapor issues, in addition to disposal of the confiscated items in Room 604 storage closet (confiscated items consisted of book bags, mercury jars, shoes, a vacuum cleaner, and other cleaning supplies).

On 11/12/2010 and 11/13/2010, EPA visited five residences whose occupants (students or faculty) may have come in close contact with the mercury. The initial screening levels of homes reported the following:

| Location | Ambient Air (ng/m3) | Floor Readings (ng/m3) | Peak (ng/m3) | Note |
|--|---------------------|------------------------|--------------|--|
| Residence on McLemore Street (a student definitively exposed to the mercury resides at this location) | | | | |
| Kitchen | 3000-4000 | 3000 | 5000 | Book bag that contained mercury was regularly left under the table; but no elevated levels found under the table |
| Washer | 6000 | | 8000 | |
| Dryer | 900 | | 4000 | Peak detected at lint trap |
| Living Room | 5500 | 1300 | 6000 | |
| Bedroom | 5000 | 2800 | 8000 | Book bag also left in corner near window, a peak of 12,000 was detected in the seam of the floor near the window |
| Bathroom | 5500 | 3800 | 7000 | |
| Residence on Chestnut Street (the same student as McLemore Street irregularly spends time at this location) | | | | |
| Bedroom | 1200 | 1100 | | |
| Bathroom | 1100 | 1000 | | |
| Bedroom 2 | 1100 | 1200 | | |
| Kitchen | 950 | 980 | | |
| Washer | 900 | | | |
| Living Room | 1100 | 650 | | |

| Residence on Shinbone Valley Road (a student that may have been exposed to mercury resides at this location) | | | | |
|---|------------|------|-----------|--|
| Bedroom (student) | <100 | <200 | 1000 | Peak found at location where bookbag regularly sits |
| Washer | 200-300 | | | |
| All relevant rooms, chairs, sofas, floors | approx. 50 | | | |
| Residence on Millsap Road (a student that may have been exposed to mercury resides at this location) | | | | |
| Living Room | <100 | <100 | | No peak in location where book bag is usually placed |
| Bedroom (student) | <150 | <150 | 300 | Peak near book bag |
| Book Bag | | | 4000-5000 | Peak of 5000 found inside book bag; parent advised to throw away book bag due to potential for low level cross contamination |
| Washer/Dryer | <200 | | | |
| Clothes | <200 | | | Clothes that had been in book bag for several hours showed no indication yet of cross-contamination |
| Residence on Sunrise Drive (a teacher that regularly conducts classes in one of the impacted rooms resides here) | | | | |
| All relevant rooms, chairs, sofas, floors | <50 | | | |
| Book bag | | | 300-400 | Highest value inside book bag no more than 400 |

OSC Huyser determined that the residence on McLemore Street would have to be remediated to some extent but that the resident could remain at the location for the evening provided that ventilation was conducted throughout the night and next day; also, the residence at Chestnut Street would need a reevaluation due to the fact that the measured levels were very closely near EPA's residential cleanup levels. After it was discovered that one of the affected residences belonged to the LaFayette Housing Authority, OSC Huyser contacted the LHA manager on-duty and informed them of the pending situation. EPA START contractor, OTIE, was told to mobilize beginning on 11/13/2010 to provide technical and assessment support.

2.1.2 Response Actions to Date

EPA and START have assessed potential mercury contamination in nineteen rooms at LaFayette High School and five residential homes. Presently, three rooms at the school and one residence require some level of removal action. EPA mobilized heating and ventilation equipment from the EPA R4 G2 warehouse on 11/13/2010; Walker County Schools mobilized ventilation equipment to the site as well. Initial heating of Mobile Unit #2 and the residence on McLemore Street began on 11/13/2010. Preliminary results from the initial efforts will help to determine the level of further removal measures required for each location.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Walker County Schools has agreed to hire an environmental contractor to perform response removal activities on all school property.

EPA contacted the LHA property manager on 11/12/2010 and informed her of the situation, but was informed that the manager would be unavailable to be at the site until 11/15/2010. EPA has been in close coordination with the tenant and with a member of the LHA Board of Directors. An effort has been initially made, to the extent practicable, to determine whether they can and will perform the necessary removal action promptly and properly.

2.2 Planning Section

2.2.1 Anticipated Activities

Administrative staff with Walker County Schools contacted environmental response contractor, Clean Harbors, who reported that their services would be more cost effective if work began on Monday, 11/15/2010. OSC Huyser agreed that since the rooms were isolated and arrangements had been made to not utilize them until the cleanup was complete, it would be acceptable to begin the remediation on the more convenient day (later discussions revealed that beginning 11/20/2010, the school would be vacated for nine days during which time the remediation could take place without interruption of operations. OSC Huyser therefore agreed that initiating the cleanup 11/20/2010 would be the best choice to protect the students, provided that all of the impacted rooms would be isolated until that time).

2.2.1.1 Planned Response Activities

- Perform comprehensive assessment of mercury vapor and potential mercury sources; (ONGOING)
- Segregate highly contaminated items for disposal;
- Recover spilled elemental mercury, if found;
- Heat and ventilate contaminated items, surfaces, and rooms, as necessary;
- Perform for analytical sampling of materials for disposal;
- Arrange for off-site disposal, treatment, and/or recycling of elemental mercury and mercury contaminated material; and,
- Perform demolition, as necessary, to remove free mercury.

2.2.1.2 Next Steps

See Anticipated Activities and Planned Response Activities above.

2.2.2 Issues

A residential cleanup level of <1000 ng/m³ will be used over an 8-hour time interval to clear the residence for reoccupation.

2.3 Logistics Section

N/A

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

N/A

2.6 Liaison Officer

N/A

2.7 Information Officer

2.7.1 Public Information Officer

Walker County Schools has issued a press release regarding the activities that have been conducted and where to obtain health-related information. Walker County Schools has coordinated with the Walker County Health Department to provide a telephone number to the public that will reach the Health Department to address questions or concerns from the public.

2.7.2 Community Involvement Coordinator

N/A

3. Participating Entities

3.1 Unified Command

N/A

3.2 Cooperating Agencies

EPA
LaFayette Housing Authority
Walker County Schools

4. Personnel On Site

EPA (1)
START (3)
Walker County Schools (5)
LaFayette Housing Authority (1)

5. Definition of Terms

N/A

6. Additional sources of information

6.1 Internet location of additional information/report

N/A

6.2 Reporting Schedule

N/A

7. Situational Reference Materials

N/A