

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Sullivan, WI Mercury Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** POLREP #4  
Progress  
Sullivan, WI Mercury Spill  
C5JT  
Sullivan, WI  
Latitude: 43.0136259 Longitude: -88.6133907

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**Date:** 11/16/2017

**Reporting Period:** 11/10/2017-11/16/2017

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	C5JT	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	11/2/2017	<b>Start Date:</b>	11/3/2017
<b>Demob Date:</b>	11/15/2017	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Emergency Response/Time-Critical Removal Action

#### 1.1.2 Site Description

Response to remediate an elemental mercury spill at a residence.

##### 1.1.2.1 Location

W Hwy 18, Sullivan, WI 53178

##### 1.1.2.2 Description of Threat

Elemental mercury at documented levels are toxic to residents. Mercury is a hazardous material.

#### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On October 31, 2017 The Wisconsin Department of Health Services was notified of a residential mercury spill in Sullivan, WI. The spill occurred in the garage of the home while the homeowner was transferring mercury from one storage container to another. The homeowner indicated it had happened 8 days prior to notification. WDHS conducted an initial screening of the home but were unable to obtain reliable results due to malfunctioning meter. Northshore Environmental was mobilized to the site on November 1, 2017 to complete the screen. Results of that screening showed elevated level of mercury throughout the house and the garage (75,000 to 200,000 ng/m<sup>3</sup>). The homeowners have been relocated to temporary housing.

EPA and START contractors responded on 11/2/2017 to assess the release, breathing zone readings exceeded 25,000 ng/m<sup>3</sup> throughout the residence and above 60,000 ng/m<sup>3</sup> in the first floor bedroom. Visible beads were noticed in the garage, initially estimated at 1 pound of elemental mercury. Discussions

with WDNr, WDHS, the residents and their insurance company verified there was no mechanism for either the agencies, the resident or the insurance company to afford to remediate the spill, therefore, EPA initiated an emergency response action and activated ERRS.

On 11/3/2017, EPA, START and ERRS met at the house to initiate the action.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

EPA and their START and ERRS contractors initiated a cleanup of elemental mercury at a residence in Sullivan, WI

#### 2.1.2 Response Actions to Date

Please see POLREP #1 through POLREP #3 for actions prior to 11/10/17.

11/10/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Began heat/vent cycle of personal items to attempt to clear them to return to the residents
- Screened entire house with Lumex
- Sealed 1st floor bedroom, bathroom, and garage floor with concrete sealant
- Applied HgX solution to kitchen, 2nd floor bathroom, and 1st floor hallway floors
- Dusted inside of ductwork from 2nd floor vents
- Removed custom box spring from 1st floor bedroom to be heated and vented
- Vacuumed additional beads located in garage

Lumex readings on the second and third floors were approximately 2,500 ng/m<sup>3</sup> and the 1st floor readings were slightly over 2,000 ng/m<sup>3</sup>. Readings were taken with the house at 73 degrees and no ventilation overnight. Floor vents were removed to be screened due to high levels of mercury vapors being detected within the heating ducts.

11/11/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Screened house with Lumex after heat was running overnight and no ventilation.
- Heated and vented 2nd floor
- Re-screened bagged personal items and continued heating and venting
- Moved large items (tool boxes, treadmill, table saws) back into garage
- Applied Selsun Blue to carpet in living room and 3rd floor hallway
- Custom box spring returned to bedroom after it was cleared

Lumex readings throughout the house were approximately 1,800 ng/m<sup>3</sup> with elevated readings on the carpet in the living room and 3rd floor hallway. The house was screened at 70 degrees with no ventilation overnight to simulate living conditions. Selsun Blue shampoo was applied twice to hot spots located on carpeting and within the 1st floor shower. Heaters were placed throughout the house during the day and negative air machines were used to ventilate the house. The custom box spring for an electric adjustable bed was able to be heated and vented and cleared to return.

11/12/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Heated and vented bagged personal items throughout the day
- Screened house with Lumex after heat was running overnight and no ventilation.
- Applied Selsun Blue to carpets again and to stairs
- Applied HgX solution to concrete floors and 1st floor
- Heated and vented house throughout the day and overnight
- Collected sample for waste disposal characterization
- Removed carpet from living room and 3rd floor hallway

Lumex readings once again averaged 1,800 ng/m<sup>3</sup> throughout the house in the morning at 70 degrees with no ventilation overnight. A clothes hamper with clothes, vacuum, and a garbage bag of clothes were found with elevated readings and were removed from the house to be heated and vented. Several attempts were made to lower mercury vapor levels in the living room carpet and 3rd floor hallway by applying Selsun Blue. Average readings in the carpet were 2,000 ng/m<sup>3</sup> with high traffic areas averaging 4,000 ng/m<sup>3</sup>. Levels decreased only slightly after cleaning, and readings of 26,000 ng/m<sup>3</sup> were observed on the living room carpet near a chair. EPA decided to remove the carpet in the living room and 3rd floor hallway. Floor readings in the living room decreased to an average of 850 ng/m<sup>3</sup>, with high traffic areas averaging 1,200 ng/m<sup>3</sup>.

11/13/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Completed ambient mercury vapor level screening with Lumex.
- Heated and vented house throughout the day.
- Heated and vented bagged personal bagged items.

Ventilation of the house was completed overnight and shut off upon arrival at the site. Ambient mercury vapor levels were screened approximately 3 hours after turning ventilation off. Ambient breathing zone levels on the 1st floor averaged 1,200 ng/m<sup>3</sup> and levels on the 2nd and 3rd floors was approximately 1,000 ng/m<sup>3</sup>. Readings from the floor vents were approximately 1,200 ng/m<sup>3</sup>. Heating and venting of the house resumed after screening.

11/14/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Completed ambient mercury vapor level screening with Lumex.
- Heated and vented house throughout the day.
- Heated and vented bagged personal bagged items. Re-screened all bagged items.

All ventilation was shut off overnight, and the heat was set to 70 degrees to simulate the living conditions of

the residents prior to screening in the morning. Ambient levels were approximately 1,100 ng/m3 on the 2nd and 3rd floors and approximately 1,200 ng/m3 on the 1st floor. The breathing zone level in the garage was 1,600 ng/m3. Heating and venting of the house resumed after screening. Bagged personal items were re-screened and bags showing readings greater than 10,000 ng/m3 were split into multiple bags to isolate the more contaminated.

11/15/17

EPA, ERRS and START met on site and performed the following tasks:

- Site safety briefing
- Completed ambient mercury vapor level screening with Lumex.
- Heated and vented house throughout the day.
- Heated and vented bagged personal items. Re-screened all bagged items.
- received clearance from ATSDR, the Wisconsin Department of Health Services and the Jefferson County Health Department to allow residents to return.
- Met with residents, returned screened items that were below 10,000 ng/m3. Discussed disposal of other items that failed to meet that screening level.
- EPA, ERRS and START then demobilized.

All ventilation was shut off overnight, but heat was accidentally set to 79 degrees (i.e. 9 degrees higher than it should have been) prior to screening in the morning. Ambient levels were approximately 920 - 960 ng/m3 on the 2nd floor, 940 - 960 ng/m3 on the 3rd floor, and approximately 910 - 980 ng/m3 on the 1st floor, except the storage room which was at approximately 1,150 ng/m3, and the stairwell adjacent to the storage room which was at 1040 ng/m3. The breathing zone level in the garage was approximately 1,600 ng/m3. Due to the elevated reading in the storage room, heating and venting of the storage room in the house resumed after screening until ATSDR, the Wisconsin Department of Health Services and the Jefferson County Health Department could be consulted.

After discussion, ATSDR, The Wisconsin Department of Health Services and the Jefferson County Health Department concurred that the house was clear for occupancy. After receiving this information, the OSC contacted the residents and told them they could return to their home. Heating and venting of the house ended and EPA met with the property owners to discuss the cleanup and return cleared personal property items to them. EPA and its contractors then demobilized personnel and equipment from the site.

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

Resident owner is the responsible party.

### 2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

- Arrange for floor coverings to be replaced.
- Demob port-a-johns.
- Coordinate for roll-off box to be picked up for disposal.

#### 2.2.1.1 Planned Response Activities

Dispose of mercury-contaminated items in roll-off box

#### 2.2.1.2 Next Steps

WI DHS will continue working with Jefferson County Health Department to monitor the resident's exposure to mercury.

### 2.2.2 Issues

None.

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

### 2.4.1 Narrative

See table below for cost information

### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$59,000.00	\$44,000.00	\$15,000.00	25.42%
TAT/START	\$20,000.00	\$16,000.00	\$4,000.00	20.00%
<b>Intramural Costs</b>				
<b>Total Site Costs</b>	<b>\$79,000.00</b>	<b>\$60,000.00</b>	<b>\$19,000.00</b>	<b>24.05%</b>

\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

## **2.5 Other Command Staff**

### **2.5.1 Safety Officer**

ERRS RM

### **2.5.2 Liaison Officer**

EPA OSC

### **2.5.3 Information Officer**

EPA OSC

## **3. Participating Entities**

### **3.1 Unified Command**

EPA

### **3.2 Cooperating Agencies**

WI Department of Health Services

WI Department of Natural Resources

Jefferson County Health Department

## **4. Personnel On Site**

EPA - 1

START - 1 (2 on 11/10/17)

ERRS - 4

## **5. Definition of Terms**

ATSDR - Agency for Toxic Substances and Disease Registry

EPA - United States Environmental Protection Agency

ER - Emergency Response

ERRS - Emergency and Rapid Response Services (EPA Contractor)

Hg - Mercury

ng/m3 - nanograms per cubic meter

OSC - On Scene Coordinator

POLREP - Pollution Report

RP - Responsible Party

PRP - Potentially Responsible Party

RM - Response Manager

START - Superfund Technical Assessment Team (EPA Contractor)

U.S. DOI - United States Department of Interior

WDHS - Wisconsin Department of Health Services

WDNR - Wisconsin Department of Natural Resources

WI - Wisconsin

## **6. Additional sources of information**

### **6.1 Internet location of additional information/report**

[response.epa.gov/sullivanhgspill](https://response.epa.gov/sullivanhgspill)

### **6.2 Reporting Schedule**

A final POLREP will be issued after the roll-off box of waste has been profiled and disposed of.

## **7. Situational Reference Materials**

No information available at this time.