

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mercury-Emerald Meadow Drive - Removal Polrep
Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region VII

Subject: POLREP #3
Mercury-Emerald Meadow Drive
B7R1
Arnolds Park, IA
Latitude: (b) (6) Longitude: (b) (6)

To: Heath Smith, EPA Region 7

From: Eric Nold, On-Scene Coordinator

Date: 10/18/2024

Reporting Period: 10/8/2024-10/11/2024

1. Introduction

1.1 Background

Site Number:	B7R1	Contract Number:	
D.O. Number:		Action Memo Date:	10/8/2024
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	10/3/2024	Start Date:	10/4/2024
Demob Date:	10/10/2024	Completion Date:	10/10/2024
CERCLIS ID:	IAN000741151	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Fund-Lead Emergency Response for residential mercury release. An U.S. Environmental Protection Agency removal assessment was conducted from September 25-27, 2024. An EPA Fund-Lead Removal Action was started on October 3, 2024, and was completed on October 11, 2024. Concurrently, a PRP lead removal was started on October 7, 2024, and completed on October 10, 2024.

1.1.2 Site Description

On September 20th, the Iowa Department of Natural resources (IDNR) made an informational call to the U.S. Environmental Protection Agency Region 7 spill line regarding a residential mercury spill in Arnolds Park, Iowa. On September 24, an EPA OSC mobilized to assess the residence and determined a risk to human health. On October 3, the EPA received an RFA from IDNR to conduct a removal action. An Emergency Response Action Memorandum was signed on October 8, 2024.

1.1.2.1 Location

The mercury release impacted a residential unit of a triplex at (b) (6) Arnolds Park, Iowa 51331. Due to potential for tracking and migration, two other residences, the vehicles and equipment of a remodeling company stored at a third location, were assessed for potential mercury spread.

1.1.2.2 Description of Threat

On-Scene Coordinators(OSC) arrived at the residence on September 25 to confirm presence of mercury. Real time air monitoring readings with a mercury vapor analyzer in the residence exceeded 50,000 ng/m³ and visible microbeads were observed in the basement of the residence.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

OSC investigation determined that the impacted residence, (b) (6) had recently been sold before the spill was discovered. The former owner had moved from the residence and the new owner was preparing to move in and had hired contractors to remodel part of the home. The contractors located the mercury spill under carpet and on top of padding being removed from the basement. An interview with the former owner revealed mercury had been spilled from an antique clock the previous year which he cleaned up the best he could, and a possible second spill in 2002 of uncertain size may have occurred from a different clock when it was moved into the residence.

Using a Lumex to screen the (b) (6) residence found levels exceeding 10,000ng/m³ in the garage, and 14,000 ng/m³ in the entry way of the home. Levels beyond the entry way consistently exceeded the instrument's detection range of 50,000 ng/m³. Visible mercury microbeads were identified in the basement.

Screening the adjacent residence, (b) (6) found levels of 400 ng/m³ on the first floor, and 600 ng/m³ in the basement.

Screening of gear owned by the carpet contractors found detections on shoes and vehicle floor mats. One set of shoes was saturated and unsalvageable. Floor mats were removed from the vehicle that had elevated readings, and the vehicle then screened below actionable levels.

An OSC screened the belongings of the former owner at his new residence and no elevated mercury vapors were detected.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The initial assessment determined mercury concentrations presented a significant health risk. Spread of the mercury contamination was initially limited, but the ongoing presence of elemental mercury could be spread by future activity in the residence. The flooring contractors who discovered the spill were sent in for mercury exposure testing by the remodeling company. The former residents of the home also went in for mercury exposure testing. A Removal Action was initiated to reduce vapor levels and allow time for PRP contractors to mobilize.

2.1.2 Response Actions to Date

October 3, 2024: Two OSCs mobilized back to Arnold Park, Iowa.

October 4, 2024: Two OSCs returned to (b) (6) with contractor support to begin engineered ventilation of the residence, and to re-screen the neighboring residence of the triplex.

Re-screening of the neighboring residence of the triplex determined upper floor mercury vapor levels of 1,400 ng/m³ and levels of 2,400 ng/m³ in the basement, more than double the readings in the same location 7 days previous.

The engineered ventilation system included filtration of the mercury vapors before expelling air into the atmosphere through a basement window. After placement of the negative air unit with a carbon filter on the main floor and the larger negative air unit in the basement with special mercury filtration, the exhaust air was screened at 6,000 ng/m³. One hour after ventilation began the exhaust air measured 1,400 ng/m³. Three hours after ventilation was installed the exhaust air measured 500 ng/m³ and air within the residence was below the threshold for respiratory protection throughout the home except for the immediate area of visible microbeads.

October 5, 2024: Rescreening of the exhaust and readings throughout the house confirmed the engineered ventilation was functioning as designed and did not require any modifications. ERRS and START demobilized from the site as the property owner confirmed hiring a cleanup contractor who would initiate cleanup activities by October 8, 2024.

The former home owner was then interviewed and confirmed a history of two mercury spills at the impacted residence. One spill, a smaller spill from a grandmother clock was estimated to have occurred in the last two years. Another spill may have occurred from a larger grandfather clock between 10-22 years ago. Monitoring of engineered ventilation continued periodically.

The EPA was made aware that (b) (6) revealed (b) (6) and a (b) (6) has been submitted (b) (6). (b) (6) also had (b) (6) and also submitted (b) (6).

October 7, 2024: OSCs met with the PRPs contractor team to tour the impacted residence to describe history of spills and explain layout.

October 8, 2024: PRP contractors initiated the mercury cleanup. The PRP contractors removed carpet and padding remaining in the basement and from the basement stairs of the residence, and lower drywall section along the most impacted wall. The contractors used a mercury vacuum throughout the basement focusing on the major floor cracks in the area where mercury had previously been observed. Frequent screening was conducted to verify proper respiratory protection levels and to identify any potential source hot spots. The PRPs contractor conducted representative sampling of the roll-off box materials in the driveway to submit for TCLP analysis to determine appropriate disposal. A third OSC mobilized to the site with an additional MVA to assist with screening and clearance sampling.

Re-screening of the neighboring middle unit home revealed screening values of 40 ng/m³ upstairs, and 50ng/m³ downstairs, significantly lower than the readings prior to initiating the engineered ventilation system.

October 9, 2024: PRP contractors continued cleanup efforts. The contractors cleaned the floors of the basement and kitchen with a sulfur-based mercury absorbent agent and removed remodeling floor covering (Ram Board) in areas of high foot traffic. OSCs screened indoor vapor levels between cleaning operations. OSCs disconnected engineered ventilation system and installed a blower fan in the basement for air circulation. PRP contractors then applied a contaminant barrier sealant to basement floor, concrete seams and wooden steps. Floor treatment was allowed to cure overnight.

October 10, 2024: OSCs entered home with two calibrated lumexs for initial screening. Early morning

screening of the upstairs detected vapor levels below 500 ng/m³, and basement vapor levels below 800 ng/m³. After initial screening, the air filtration units from the engineered ventilation system were decontaminated and physically removed from the house. The two lumexs were then set for clearance sampling.

One mercury vapor meter was placed in the kitchen, and the other on a step stool in the basement room where the mercury beads were discovered (see attached photos). Both meters ran continually for 6 hours. At the end of 6 hours, the time weighted average for the continuous readings of each meter was determined. The upstairs clearance sample was below 1,000 ng/m³ and the basement clearance sample was below 1400 ng/m³. The primary living space of the residence in the main and upper floor rooms. The basement room where the spill was discovered is primarily a storage area and not anticipated for heavy occupancy. The current residents are a couple not of childbearing years and not expecting children to be present in the home. Based on the clearance sample results and consultation with an ATSDR toxicologist, it was determined that no further removal action would not be necessary at this time.

October 11, 224: The two OSCs de-mobilized from that site.

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

The current owner of the (b) (6) residence and the former owner are both identified as PRPs. The current owner made arrangements to hire a cleanup contractor competent to address the spill and the mercury cleanup was initiated on the morning of October 8, 2024. The PRP contracted cleanup progressed under EPA oversight until the cleanup was completed on October 10,2024.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Mercury vapors	indoor air	0.00001 pounds		ionized carbon filtration	EPA discharge to atmosphere

2.2 Planning Section

2.2.1 Anticipated Activities

No further Removal Action is anticipated at this time.

2.2.1.1 Planned Response Activities

No further Removal Actions are planned at this time.

2.2.1.2 Next Steps

Enforcement actions are being evaluated.

2.2.2 Issues

None

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

2.4.1 Narrative

Budgeted finances reflect potential cost of a full fund lead removal if the PRP/PRP contractors walk away from the cleanup. Costs to date are estimates.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$119,000.00	\$11,545.85	\$107,454.15	90.30%
TAT/START	\$34,000.00	\$4,000.00	\$30,000.00	88.24%
Intramural Costs				
USEPA - Direct	\$183,000.00	\$24,000.00	\$159,000.00	86.89%
USEPA - InDirect	\$86,300.00	\$9,600.00	\$76,700.00	88.88%
Total Site Costs				
	\$422,300.00	\$49,145.85	\$373,154.15	88.36%

* 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

A safety tailgate meeting was conducted with PRP prior to making level C entry. Respiratory protection was worn while agitating mercury during cleanup.

2.5.2 Liaison Officer

2.5.3 Information Officer

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

IDNR submitted a RFA to EPA on 10/3/24. The EPA has been in contact with the Dickinson County Health Department and the Arnold Park voluntary fire department.

4. Personnel On Site

3- EPA OSC

4 - PRP Cleanup Contractors

5. Definition of Terms

OSC- On-Scene Coordinator

IDNR - Iowa Department of Natural Resources.

6. Additional sources of information

6.1 Internet location of additional information/report

6.2 Reporting Schedule

This is the final PolRep for the EPA Fund-Lead Removal Action.

7. Situational Reference Materials

No information available at this time.