U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Babb Road Mercury Release - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IV

Subject: **POLREP #3**
Final POLREP
Babb Road Mercury Release

Inman, SC
Latitude: 35.0160000 Longitude: -82.0536111

To:
From: Matthew Huyser, FOSC
Date: 8/29/2011
Reporting Period: 5/26/2011 - 5/27/2011

1. Introduction

1.1 Background

Site Number:	B4J2	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	5/24/2011	**Start Date:**	5/24/2011
Demob Date:	5/27/2011	**Completion Date:**	5/26/2011
CERCLIS ID:	SCN000410696	**RCRIS ID:**	
ERNS No.:		**State Notification:**	5/24/2011
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency

1.1.2 Site Description
On 5/24/2011, the resident at 146 Babb Road in Inman, SC called 911 to report that two of his children had played in mercury that they had found in a grass field adjacent to their home. The children had held the mercury in their hands and may have gotten some on their clothes; they were brought inside to be cleaned. A family member went to the area in the grass and dug with a shovel, finding mercury beads within the soil and placing them in a bag. Inman FD responded and visually identified the mercury, then quarantined the area with wooden stakes and caution tape. Inman EMS responded with 2 ambulances, and transported three of the children to the hospital for evaluation; the children were released from the hospital at approximately 2130hrs on 5/24. SCDHEC responded on 5/24 and reported the incident to EPA. EPA telephone duty officer dispatched R1 OSC Huyser to respond with START and ERRS support. OSC Huyser contacted SCDHEC to gather information about the spill and determine a plan of action for investigation and potential remediation. The home at 146 Babb Road is a 4-bedroom pre-fabricated building occupied by 3 adults and 11 children (ages 2 mo. to 12 years). 5 of the children are below school age and remain home all day with one adult.

The home at 136 Babb Road is a similar building occupied by 2 adults who have frequent visitors of friends/relatives with small children.

1.1.2.1 Location
The impacted residence is located at 146 Babb Road in Inman, SC. The mercury contamination was found in a mowed grassy field in the Duke Power easement (beneath a high voltage transmission line) on 136 Babb Road. The contaminated area is approximately 100ft north of Babb.

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

EPA and START measured initial mercury vapor readings in the home of 1500-2500 ng/m3 under conditions where the air conditioner had been running through the night and occupants had been entering/exiting the home through the morning. Mercury readings at the contamination outside was measured at approximately 18,000 ng/m3 immediately around the contaminated area under conditions of a light breeze and maintaining a safe distance between the instrument and elemental mercury. The outdoor contaminated area contains no distinguishing features which could provide information as to how or why the mercury is in that location. No containers or bottles were found that could have served as the transport mechanism for the mercury. No residents in the area had any knowledge of the mercury and were unaware of persons or events that could have caused the contamination. The resident at 146 Babb Road owns a floor installation contracting business and stores materials in sheds and trailers located in back of the residence; no elevated mercury vapor readings were detected in any of the sheds or trailers or pile of materials on the property. All vehicles owned by the resident were screened and elevated readings exceeding 4000 ng/m3 were detected in the seat of a passenger car where one of the affected children had sat on 5/24/2011. Readings throughout the remaining vehicles were low; the next highest reading was 300 ng/m3 in the cargo area of a utility van that is partially used for the resident's contracting business.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On 5/26/2011 at 0630, START shut down the home heating system at 146 Babb Road and closed all windows and doors to begin an 8-hour clearance procedure of mercury vapor monitoring. Of the 11 rooms measured for separate screening, initial mercury vapor levels ranged from 74 ng/m3 to 243 ng/m3. Six of the 11 rooms reached their maximum recorded screening level at hour 4, while the remaining five rooms reached their peak levels at differing hours of 2, 3, 5, and 6. The maximum level reached for all rooms was 340 ng/m3 in the Master Bedroom during hour 6. Final mercury vapor levels during hour 8 ranged from 145 ng/m3 to 322 ng/m3 and the residence was released to the owner since no levels at or above 1000 ng/m3 were measured throughout the entire 8-hour clearance procedure.

Contaminated personal items belonging to the residents at 146 Babb Road were inventoried and screened. Moderately contaminated items were placed in the sun for several hours, then bagged and measured to determine whether mercury vapor level readings exceeded 1000 ng/m3. Most items were released back to the residents after ventilation. Several items were not released to the resident due to excessive or persistent contamination and were sent off-site for disposal; these items included tools, rugs, shoes, and clothing.

Also on 5/26/2011, ERRS conducted excavation of the surface soil contamination adjacent to the residence and between the residences of 146 Babb Road and 136 Babb Road, in the transmission line right-of-way. The smaller area adjacent to the home was approximately 129 ft2 and required the removal of two small bushes, which were replaced. The larger area between the two residences was approximately 1590 ft2 and was strategically removed to minimize the potential for cross contamination. START conducted air monitoring during removal activities and ERRS sprayed water during excavation activities to minimize dust migration. Upon completion, all excavated areas were re-screened and composite samples were collected from the excavated area for confirmation, in addition to a nearby background sample for comparison. Sod was placed over all excavated areas and the residents at both 146 Babb Road and 136 Babb Road were provided instructions on care and maintenance for the sod.

Off-site screening was conducted on 5/26/2011 to assist in determining the source and/or spread of the contamination. The lawnmowers used by the resident at 136 Babb Road to maintain the affected area were screened but mercury vapor levels remained below 100 ng/m3. The residence at 176 Babb Road was also screened for mercury vapor at the occupant's request, but no elevated readings were found. OSC Huyser visited two nearby properties to screen for mercury vapor as a potential source. One property, located at 570 Lawson Fork Road, consists of two abandoned commercial buildings and two large abandoned private buildings. A second property at 571 Lawson Fork Road consists of one private commercial building with several trailers on-site for storage. No area or object in any of the buildings or storage areas at either property had elevated mercury vapor levels. Observations of the surrounding neighborhood and all nearby roads did not indicate that there were other abandoned or non-residential buildings in the area that could have served as a potential source. No information provided by residents or response personnel was useful in determining the source of the mercury that was found.

Bagged soils and other materials containing mercury beads and/or visual contamination of mercury were placed in a sealed metal drum for hazardous waste disposal. All other debris and excavated wastes were stored in a lined roll-off container that was sampled for waste disposal profiling and disposed of as nonhazardous waste. START and ERRS demobilized from the site on 5/26/2011 (ERRS returned several days later to oversee pickup and transportation of the two containers for disposal). OSC Huyser demobilized from the site on 5/26/2011 and also conducted a debriefing with the SCDHEC Region 2 emergency response group on 5/27/2011.

2.1.2 Response Actions to Date

The Inman FD responded and quarantined the outdoor areas where mercury was spilled.

EPA screened the two children that had played with the mercury while at school.

START conducted an initial and a full screen of 146 Babb Road, 4 vehicles, 4 sheds, 2 storage trailers, a sauna building, several wood piles, playground equipment, lawn maintenance equipment, and various tools. START also completed delineation of ground contamination. Dry HgX decontamination powder was spread

and wetted on the outdoor contaminated areas.

ERRS decontaminated the floor of the front entrance of 146 Babb Road with HgX solution, as well as the clothes washer. The home was heated and vented overnight. START conducted an 8-hour clearance monitoring test at 146 Babb Road prior to releasing the residence to the owner.

ERRS excavated surface soils adjacent to 146 Babb Road and in the area between 136 and 146 Babb Road. Excavated areas were restored with sod and plantings. Contaminated personal items were heated and ventilated; personal items that could not be decontaminated were disposed of.

START also screened 2 ambulances, 4 responders, and lawnmowers of the neighbor at 146 Babb Road. EPA screened buildings and storage areas at 570 Lawson Fork Road, 571 Lawson Fork Road, and 176 Babb Road. No potential source or futher spread of the mercury contamination was found.

A drum of hazardous waste and a roll-off container of nonhazardous waste were sent off-site for disposal.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)
EPA informed the owner that a cleanup would likely be necessary, informed the owner of potential liability, and provided the owner with an opportunity to conduct the cleanup. The owner determined that EPA should conduct the cleanup and provided EPA with home insurance information. The owner was provided with a Notice of Federal Interest Letter and EPA obtained Access Agreements from the owners at 146 Babb Road and 136 Babb Road. Homeowners Insurance information was also collected.

2.1.4 Progress Metrics
n/a

2.2 Planning Section

2.2.1 Anticipated Activities
No further activities are anticipated at the site.

2.2.1.1 Planned Response Activities

- Determine extent of contamination in impacted home(s) and other occupied spaces; (COMPLETE)
- Determine potential source or origination point of the spilled mercury; (COMPLETE)
- Decontaminate impacted home(s) to mercury vapor levels below acceptable residential levels; (COMPLETE)
- Perform 8-hour clearance of impacted home(s) according to standard procedures; (COMPLETE)
- Delineate extent of contamination on exterior surface soils; (COMPLETE)
- Excavate contaminated surface soils; (COMPLETE)
- Collect confirmation samples from excavated areas; and, (COMPLETE)
- Dispose of all wastes at an off-site location. (COMPLETE)

2.2.1.2 Next Steps
n/a

2.2.2 Issues
No potential source or initial storage container has been identified for the elemental mercury.

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
n/a

2.7.2 Community Involvement Coordinator
A community involvement coordinator with EPA was contacted to provide documentation forms for relocation.

3. Participating Entities

3.1 Unified Command
n/a

3.2 Cooperating Agencies

- Inman EMS
- Inman FD
- SCDHEC
- EPA

4. Personnel On Site

All personnel demobilized from the site on 5/26/2011.

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