



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

**\$250,000 Emergency Action Memorandum**

**SUBJECT:** Action Memorandum for a Removal Action at the Babb Road Mercury Release site pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104.

**FROM:** Matthew J. Huyser, OSC  
Emergency Response and Removal Branch

**THRU:** Matt Taylor, Chief  
Emergency Response Section

**TO:** Site File

**I. Purpose**

The purpose of this memorandum is to document the decision to initiate emergency response actions described herein for the Babb Road Mercury Release Site located in Inman, Spartanburg County, South Carolina pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104.

**II. Site Information**

**A. Site Description**

Site Name:	Babb Road Mercury Release Site
Superfund Site ID (SSID):	B4J2
NRC Case Number:	977305
CERCLIS Number:	SCN000410696
Site Location:	146 Babb Road, Inman, Spartanburg County, South Carolina
Lat/Long:	N35.0160000, W082.0536111
Potentially Responsible Party (PRP):	Property owners at 146 Babb Road and 136 Babb Road
NPL Status:	Non-NPL
Removal Start Date:	May 25, 2011

## B. Site Background

### 1. Removal Site Evaluation

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.

### 2. Physical location and Site characteristics

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.

### 3. Release or threatened release into the environment of a hazardous substance, pollutant or contaminant.

EPA and START measured initial mercury vapor readings in the home of 1500-2500 ng/m<sup>3</sup> 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/m<sup>3</sup> 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/m<sup>3</sup> 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/m<sup>3</sup> in the cargo area of a utility van that is partially used for the resident's contracting business.

### **III. Threats to Public Health Welfare or the Environment**

#### **A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants.**

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."

#### **B. Check applicable factors (from 40 CFR 300.415) which were considered in determining the appropriateness of a removal action:**

- X Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)].
- \_\_\_ Actual or potential contamination of drinking water supplies or sensitive ecosystems [300.415(b)(2)(ii)].
- \_\_\_ Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that pose a threat of release [300.415(b)(2)(iii)].
- X High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate [300.415(b)(2)(iv)].

- X Weather conditions that may cause hazardous substances or pollutants to migrate or to be released [300.415(b)(2)(v)].
- Threat of fire or explosion [300.415(b)(2)(vi)].
- X The availability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vii)].
- Other situations or factors that may pose threats to the public health or welfare of the United States or the environment [300.415(b)(2)(viii)].

#### IV. Selected Removal Action and Estimated Costs

##### A. Situation and Removal Activities to Date

1. Current Situation.
- 2.

The resident describes that two of the children in the household discovered elemental mercury in the mowed grass field adjacent to their house on 5/24/2011. The children picked up and played with the mercury, then brought some in their hands to one of the residents standing near the house, where their hands were the mercury was wiped from their hands into the grass. They were then washed off in the bathroom sink and the residents contacted 911. The Inman FD responded and quarantined the outdoor areas where mercury was spilled. Three children were transported to the hospital in 2 ambulances and were released home that evening.

OSC Huyser arrived to the scene at 0700hrs on 5/25 to screen the two children that had played with the mercury prior to their departure for school. Since the children had left at approximately 0630 hrs, the resident accompanied OSC Huyser to Inman Elementary School where the two children were brought to the school's nurse office and their clothes and shoes were screened with a mercury vapor analyzer. All clothing and shoes showed mercury vapor readings below 200 ng/m<sup>3</sup> except for one shoe which exceeded 1000 ng/m<sup>3</sup>. The father provided an alternate pair of shoes and the children returned to class. No further activities were necessary at the school.

START contractor, OTIE, arrived to the scene at 0830 and conducted an initial screening of the home. Mercury vapor readings in the home during the initial screening averaged 1500-2500 ng/m<sup>3</sup>; under conditions where the air conditioner was operating and occupants were entering and exiting. The owner was informed to immediately open all windows. START completed a full screen of the house by closing the windows and doors of each room individually. Hotspots ranging from 4000-8000 ng/m<sup>3</sup> were identified in the front entrance ("mud room"), the bathroom, and the laundry room. Suspect contaminated items included several shoes, some clothing, rugs, sink drains, and washer/dryer.

ERRS arrived on the morning of 5/25 and began making preparations for removal activities.

START screened four vehicles on 5/25. Vapor levels in excess of 2500 ng/m<sup>3</sup> were found on the car seat where one of the children who played in the mercury had sat on 5/24. The window of the car was open and the car was left in the sun; at the end of the day, readings in the seat were reduced to below 500 ng/m<sup>3</sup>. Vapor levels in the cargo area of a utility van used by the owner of 146 Babb Road for a contracting business were approximately 300 ng/m<sup>3</sup>; all other vehicles had readings that were equivalent to outdoor/background levels.

SCDHEC returned to the site on 5/25 and contacted local utilities to identify buried lines on both properties in the areas where excavation would occur. Markings were completed for water, power, and communications by 5/25. SCDHEC also contacted Duke Power to send a representative and discuss potential issues regarding the overhead high voltage transmission lines. The representative met with EPA and the homeowner and also shared that there was no material/property in the line or survey/repair equipment that would have a mercury source.

EPA and SCDHEC contacted the local responders who were at the property on 5/24 to schedule a screening of the shoes and vehicles. Two ambulances and 4 responders visited the site on 5/25 for screening; no elevated levels of mercury vapor were found on any vehicles or items that were screened.

EPA discussed required removal activities with the owner at 146 Babb Road and determined that the family would be unable to safely occupy the building while removal activities were being conducted. ERRS provided for lodging for the family (3 adults, 10 children under 12, 1 child of age 12) at a local hotel and provided the appropriate sum of per-diem to the family. ERRS began cleanup activities by removing materials from the hotspot rooms and placing them outside to ventilate. The floor of the front entrance "mud room" was decontaminated with mercury binding solution and left to ventilate. The washer was allowed to run with several cups of the solution. The dryer was allowed to run empty. The home was then heated and ventilated.

During removal activities, START completed screening of the backyard which contained several sheds and storage areas. START screened 4 sheds, 2 storage trailers, a sauna building, several wood piles, playground equipment, lawn maintenance equipment, and various tools. No elevated levels of mercury were found in any of the buildings and only a shovel and hammer were identified as having been contaminated (the shovel was known to be used in digging up the mercury from the ground). START also completed delineation of ground contamination in the mowed lawn where the mercury was discovered. An overturned plastic bin with a hole cut for the instrument intake was utilized to collect vapor readings from the ground and remove interference from wind. Readings of the contaminated area ranged from 2000 ng/m<sup>3</sup> to excess of 100,000 ng/m<sup>3</sup>. Readings near the area where most of the mercury was spilled exceeded 18,000 ng/m<sup>3</sup> without the wind-protection device. A contaminated area

of approximately 1,200 ft<sup>2</sup> was identified in the field with another area of approximately 100 ft<sup>2</sup> adjacent to house. In order to bind the mercury as much as possible prior to excavation, dry HgX decontamination powder was spread on the outdoor contaminated areas with a landscaping drop spreader. The area was then wetted with a hose sprayer to activate the powder.

The home was heated and vented at 90 deg-F and left overnight. A security guard was hired for the night of 5/25.

3. Removal activities to date:

The Inman FD responded and quarantined the outdoor areas where mercury was spilled. OSC Huyser screened the two children that had played with the mercury while at school. START conducted an initial and a full screen of the house, screened four 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 in the mowed lawn where the mercury was discovered. Dry HgX decontamination powder was spread on the outdoor contaminated areas and wetted to activate the powder.

EPA and SCDHEC contacted the local responders who were at the property on 5/24; two ambulances and 4 responders visited the site on 5/25 for screening.

ERRS decontaminated the floor of the front entrance with mercury binding solution. The washer was allowed to run with several cups of the solution. The dryer was allowed to run empty. The home was then heated and ventilated overnight.

3. Enforcement

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. Homeowner's Insurance information was also collected.

**B. Planned Removal Actions**

1. Proposed action description

The following actions will be performed as part of the emergency response:

- 1) Determine extent of contamination in impacted home(s) and other occupied spaces;

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

2. Contribution to remedial performance

The proposed actions should eliminate the threats described in this Action Memorandum and no remedial actions are expected to be conducted at this site.

3. ARARs

Clearance procedures for indoor areas will meet residential mercury vapor levels recommended by the Agency for Toxic Substances and Disease Registry (ATSR). Soil cleanup levels will meet residential soil cleanup goals recommended by EPA and will seek to meet background levels provided by South Carolina Department of Health and Environmental Control (SCDHEC). Additional ARARs will be implemented where practicable.

3. Project Schedule

It is anticipated that most field work will be completed by May 27, 2011 and disposal will be completed by June 10, 2011. The contractors' period of performance has been set at 364 days from mobilization on May 25, 2011 in the event that further activities become necessary.

**C. Estimated Costs\***

ERRS Contractor Costs	<b>\$100,000</b>
START Contractor Costs	<b>\$100,000</b>
Other Extramural Costs (Strike Team, other Fed Agencies)	<b>\$8,000</b>
Contingency costs (20% of subtotal)	<b>\$42,000</b>
<b>Total Removal Project Ceiling</b>	<b>\$250,000</b>

\*EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA. "

**V. Expected Change in the Situation Should Action Be Delayed or Not Taken**

A delay in action or no action at this Site would increase the actual or potential threats to the public health and/or the environment.

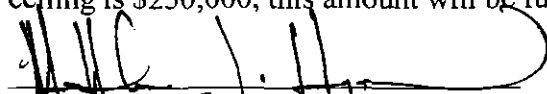
**VI. Outstanding Policy Issues**

None

**VII. Approvals**

This decision document represents the selected removal action for this Site, developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan. This decision is based on the administrative record for the Site.

Conditions at the site meet the NCP section 300.415(b) criteria for a removal action and through this document, I am approving the proposed removal actions. The total project ceiling is \$250,000, this amount will be funded from the Regional removal allowance.

  
Matthew J. Huyser, P.E.  
Federal On-Scene Coordinator

6/2/2011  
Date