United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Monday, May 1, 2006
From: David Dorian

Subject: FINAL POLREP
Buttermilk Pike Residential Hg
2553 Buttermilk Pike, Villa Hills, KY
Latitude: 39.0556000
Longitude: -84.5922000

POLREP No.:	3	**Site #:**	A4HK
Reporting Period:	Through 4/4/2005	**D.O. #:**	0204-F4-0035
Start Date:	3/8/2005	**Response Authority:**	CERCLA
Mob Date:	3/8/2005	**Response Type:**	Emergency
Demob Date:		**NPL Status:**	Non NPL
Completion Date:	5/1/2005	**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	65-S4-02-04
RCRIS ID #:			

Site Description

On Mar. 4, 2005, EPA OSC Smith and the Region 4 Superfund Technical Assistance and Response Team (START) contractor went to the home of a student who brought mercury into a middle school in Northern Kentucky (see www.epaosc.net/turkeyfootmercury for additional information). The purpose of the inspection was to perform a Removal Site Evaluation (RSE) of the residence, based on a suspicion that mercury may be present, and that it could pose a threat of a release to the environment.

Readings obtained with the Lumex mercury analyzer disclosed that mercury vapor concentrations exceeding 50 ug/m3 were present in certain areas of the house. Notably, these levels were found in the blankets on a bed in a room where a 3 year old and a 7 year old reside. By comparison, the Agency for Toxic Substances and Disease Registry (ATSDR) and EPA Region 4 consider that mercury concentrations in air which exceed 10 ug/m3 warrant isolation of the residents from the source until the threat is removed. The RSE was completed at that point and EPA and START demobilized the site.

On Mar. 7, 2005, the EPA OSC met with the Northern Kentucky Independent Health District (NKIHD), Kenton County Emergency Management, ATSDR, and the Kentucky Department for Environmental Protection (KYDEP) to discuss the public health implications of the incident. NKIHD prepared a referral letter to the OSC, requesting EPA's assistance in mitigating the threats described at the residence.

On Mar. 8, the EPA OSC was contacted by the site owners, who signed the access agreement, giving EPA permission to access the premises and perform a removal action. EPA commenced a residential mercury clean up with an ERRS contractor. The residents were relocated for the duration of the project.

Current Activities

SURVEY AND PREDOCUMENTATION

On March 9, 2005, START used video and still photography to document the condition of the house prior to the removal. START developed a map of the house and labeled each room. A Lumex was used to screen all the rooms. Results indicated levels as high as 4,700 nanograms of mercury per meter cubed of air (ng/m^3). START and ERT screened personal belongings from the house. Items were placed in plastic bags and then the headspace in the bag was measured.

ATSDR HEALTH CONSULTATION

ATSTR finalized a health consultation on March 10, 2005. The health consultation recommended evacuation of the residents to prevent continued exposure to unaccepatable levels of mercury vapor. The health consultation established 1000 ng/m^3 as acceptable for re-occupation and recommended a clean up goal of 300 ng/m^3 (average for the property as a whole).

COMMENCEMENT OF CLEAN UP ACTIVITES

On March 9, 2005, the EPA ERRS contractor commenced clean up. Contaminated carpet was removed, and a solution that binds mercury was used to clean floor tiles, walls, and contaminated

surfaces. After areas were cleaned, heat and vent cycling commenced to drive off any residual mercury vapors. START screened the cleaned areas at intervals to monitor the reduction in mercury levels.

DECONTAMINATION OF PERSONAL ITEMS

Potentially contaminated personal and household items (e.g., clothing, small rugs, stuffed animals) were heated in a plastic bag and then vented. Items that sustained readings significantly below the 10,000 ng/m^3 threshold were returned to the home. All items above the threshold were disposed. On March 9 and 10, 2005, a total of 136 bags were screened. 12 of these bags required disposal. Photo documentation of the disposed items was provided to the residents.

CARPET REPLACEMENT

Consistent with the EPA OSWER Directive, "Superfund Response Actions: Temporary Relocation Guidance." EPA replaced the carpeting which had been disposed from the action. EPA did not replace the disposed clothing and personal items.

COMPLETION OF CLEAN UP ACTIVITIES

On March 10, 2005, EPA completed the removal. Additional personal items were screened. All mercury levels in the house measured less than the 300 ng/m^3 clean up goal using the Lumex.

CONFIRMATORY SAMPLING

To confirm this result, EPA collected four air samples on March 10, 2005,with low flow sampling pumps in accordance with NIOSH method 6009 for mercury. Two samples were collected upstairs (Bedroom 3 and Living Room), and two samples were collected downstairs (Bedroom 4 and Downstairs Living Room). A duplicate was collected in Bedroom 4. One field blank and two filter blanks were prepared for QA/QC. The filter were sent to the DataChem Laboratory for analysis.

TURKEYFOOT SCHOOL SAMPLING

Some parents of students at Turkeyfoot school had concerns about the shoes worn on the day of the mercury spill at the school. On March 11, 2005, EPA (with ERT and the ERT contractor) returned to the school and screened collected shoes with the Lumex. The shoes had been placed in plastic bags. The 10 microgram/meter cubed threshold was used to determine if any shoes presented a health risk. None of the shoes met that threshold.

CONFIRMATORY SAMPLING RESULTS

The results of the NIOSH method 6009 samples were received on March 15. All samples were all below 0.5 micrograms/meter cubed. Since this result was consistent with the Lumex readings indicating that the clean up goals were attained, the clean up activities are complete.

REOCCUPATION

On March 16, the carpet installation was complete and the residents returned to their home. The screened household items which were below the threshold were vented in the garage and organized by room.

WASTE DISPOSAL

ERRS contractor completely filled one 20 cubic foot rolloff and partially filled a second 20 cubic foot rolloff with contaminated debris. The response generated 0.78 tons of debris in total. TCLP analysis of reprentative cuttings of this waste (carpet, clothing) indicated that the material was not a RCRA hazardous waste. The waste was disposed at the Epperson Landfill in Williamson, Kentucky. The facilitiy is a Subtitle D landfill and approved for CERCLA off-site disposal.

Planned Removal Actions

No further removal activities are planned.

Key Issues

LESSONS LEARNED

Aggressive clean up of mercury spills at the onset of the response is an effective and cost efficient way to protect public health. The Region 5 Mercury Response Guidance is a valuable tool for OSCs.

Disposition of Wastes

Waste Stream	Quantity	Manifest #	Disposal Facility
Debris(non-hazardous), some contaminated with	0.78	NA	Epperson Landfill, Williamson

mercury	tons		KY

response.epa.gov/buttermilkpikemercury