

United States Environmental Protection Agency
Region IV
POLLUTION REPORT

Date: Tuesday, March 22, 2005

From: David Dorian

To: Terry Stilman, ERRB

Subject: Residential Clean-up Initiated and Completed
Buttermilk Pike Residential Hg
2553 Buttermilk Pike, Villa Hills, KY
Latitude: 39.0556000
Longitude: -84.5922000

POLREP No.:	2	Site #:	A4HK
Reporting Period:		D.O. #:	
Start Date:	3/8/2005	Response Authority:	CERCLA
Mob Date:	3/8/2005	Response Type:	Emergency
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:		Contract #	
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 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. On March 9, 2005, OSC David Dorian mobilized to the site and assumed the role of lead OSC.

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/m³). START and ERT screened personal belongings from the house. Items were placed in plastic bags and then the headspace in the bag was measured. A total of 101 bags were screened on March 9. Of those 12 bags measured levels above the 10,000 ng/m³ and were set aside for disposal.

COMMENCEMENT OF CLEAN UP ACTIVITIES

On March 9, 2005, the EPA ERRS contractor commenced clean up. Contaminated carpet was removed, and a solution (HgX Mercury Decontamination Solution) that solubilizes 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.

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/m³ clean up goal using the Lumex. To confirm this result, EPA collected four air samples with low flow sampling pumps in accordance with NIOSH method 6009 for mercury. The filter were sent to an independent lab for analysis.

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 unacceptable levels of mercury vapor. The health consultation established 1000 ng/m³ as acceptable for re-occupation and recommended a clean up goal of 300 ng/m³ (average for the property as a whole).

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. The clean up objectives established in the Action Memo have been met.

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.

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 filled one 20 cubic foot rolloff with contaminated debris. TCLP analysis of representative cuttings of this waste (carpet, clothing) indicated that the material was not a RCRA hazardous waste. Disposal in a Subtitle D landfill is suitable. OSC prepared the waste profile for Republic Services, a nearby landfill.

Planned Removal Actions

No further removal activities are planned.

Next Steps

ERRS contractor will dispose of the 20 cubic foot roll off containing contaminated material at a Subtitle D landfill, pending acceptance of waste profile.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$100,000.00	\$35,569.00	\$64,431.00	64.43%
RST/START	\$25,000.00	\$8,017.00	\$16,983.00	67.93%
Intramural Costs				
USEPA - Direct (Region, HQ)	\$8,000.00	\$8,000.00	\$0.00	0.00%
Total Site Costs				
	\$133,000.00	\$51,586.00	\$81,414.00	61.21%

* 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.

response.epa.gov/buttermilkpikemercury

POLREP #2 Last Updated 5/1/2006