TETRA TECH

September 30, 2009

Mr. Carter Williamson
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **Final Emergency Response Letter Report**
Goodwater Mercury Spill
Goodwater, Coosa County, Alabama
EPA Contract No. EP-W-05-054
TDD No. TTEMI-05-001-0102

Dear Mr. Williamson:

The Tetra Tech Superfund Technical Assessment and Response Team (START) is submitting this letter report summarizing the emergency response and removal activities conducted from June 13 through June 17, 2009, at the Goodwater Mercury Spill in Goodwater, Coosa County, Alabama. Appendix A provides figures that show the site location and a layout of the residence. Appendix B is a photographic log of emergency response and removal activities. Appendix C provides a log of contaminated items. Appendix D is a copy of Tetra Tech's field logbook notes. Appendix E is a Table of Witnesses.

BACKGROUND

The Goodwater Mercury Spill began in October 2008 when the owners of the mobile home at Lot 510, Route 3 in Goodwater, Alabama, spilled an estimated 1 pound of mercury in the master bedroom of the residence, which was a modified mobile home. The homeowners then vacuumed up the spill with a standard vacuum cleaner. No further action was taken until 9 months later, when medical tests showed that both homeowners had elevated blood levels of mercury. At that time, the spill was reported to local health officials. After they discovered the mercury poisoning, the homeowners removed the carpeting from the master bedroom, placed the living room sofas outside, and moved the bed into the living room in an effort to reduce their exposure. The U.S. Environmental Protection Agency (EPA) Region 4 Emergency Response and Removal Branch was notified of the incident on June 12, 2009. The geographic coordinates of the residence are 33.064126° north and 86.137435° west (see Figure 1).

RESPONSE ACTIVITIES

EPA On-Scene Coordinator (OSC) Carter Williamson, Alabama Department of Environmental Management (ADEM) Emergency Responder Grady Springer, and Tetra Tech START members Charles Berry and Courtney Roden mobilized to the site and began screening the mobile home on June 13, 2009. A pre-entry questioning of one of the homeowners indicated the residence was occupied by two individuals, ages 50 and 42 years. Both homeowners had chronic health problems, including obesity, type II diabetes, and kidney failure. The homeowners indicated their grandchildren, aged 4 and 2, visited

1955 evergreen Blvd., Suite 300, Duluth, GA 30096
Tel 678.775.3080 Fax 678.775.3138
www.tetratech.com

infrequently. The grandchildren's parents subsequently refused access for screening to the children's primary residence, as both children's blood tests were negative for mercury.
Tetra Tech used a Lumex RA-915+ mercury vapor analyzer to monitor ambient mercury vapor levels. Standard operating procedures for using the Lumex were followed throughout the response, which included a self-test of the machine after it was turned on and after each period of rest. The standard deviation percentage provided by the machine was, in all cases, within the proper operating range stated by the manufacturer.

When EPA and Tetra Tech arrived at the residence, Tetra Tech requested the homeowners turn off all air conditioners and fans and close all interior doors. After a health and safety meeting, Tetra Tech entered the residence to perform initial air monitoring. Ambient breathing zone levels in the northern end of the residence ranged from 2,000 to 3,000 nanograms per cubic meter (ng/m^3) and increased as Tetra Tech progressed south through the residence toward the master bedroom, where the mercury was spilled (see Figure 2). Breathing zone levels in the master bedroom were around 20,000 ng/m^3. Floor-level readings ranged from 15,000 ng/m^3 at the door to more than 40,000 ng/m^3 in the closet.

Based on input from the Agency for Toxic Substances and Disease Registry (ATSDR), EPA has established a residential indoor attainment goal for mercury vapor of 1,000 ng/m^3. Based on the levels observed within the home, OSC Williamson initiated time-critical removal activities. WRSCompass (WRS), an Emergency and Rapid Response Services (ERRS) contractor, was contacted to remediate the spill and its impact to the residence. The homeowners were asked to temporarily relocate to an EPA-provided hotel while remediation was under way.

Residence Remediation

WRS's team subcontractor, United States Environmental Services (USES), arrived on site on the afternoon of June 13 and began removal activities. Given the relatively low mercury levels throughout most of the house, it was felt that removing source material from the master bedroom would reduce ambient levels to below the EPA action level throughout the entire residence. USES therefore set about bagging and removing loose personal items from the master bedroom and staging them outside. Once the personal items were removed, the flooring, wall paneling, and insulation were removed from the master bedroom. While removing mercury-contaminated items and structural components, USES employed level C personal protective equipment (PPE). At other times during removal activities, Tetra Tech performed periodic monitoring of the work zone to ensure worker safety and compliance with the site safety plan.

On the morning of June 14, Tetra Tech assessed the exposed subfloor and wall joists from the master bedroom and identified mercury levels remaining at the surface of more than 40,000 ng/m^3. Ambient levels were about 16,000 ng/m^3. Based on these levels, OSC Williamson elected to remove additional structural components. In response, USES removed the subfloor, ceiling panels, and ceiling insulation from the master bedroom. Tetra Tech assessed the newly exposed components and found that the mercury contamination had seeped deeply into the structure of the building over the intervening 9 months since the spill occurred. Complicating the cleanup were the extremely high afternoon temperatures, approaching 95°F daily. With the wall and ceiling insulation removed from the master bedroom, daily temperatures inside rose above 100°F, causing ambient mercury vapor concentrations to rise dramatically from the morning to the afternoon. Concerned that, regardless of remedial efforts in the master bedroom, ambient levels in the remainder of the house would remain above the action level, OSC Williamson tasked Tetra Tech with assessing the actual mercury load within the rest of the house. Tetra Tech and USES worked together to build a containment barrier between the master bedroom and the rest of the building. The master bedroom was placed under negative air pressure overnight.

When Tetra Tech returned on the morning of June 15, ambient levels in the north end of the building were around 100 ng/m^3, and the interior temperatures was about 70°F. This portion of the building was monitored periodically throughout the day to evaluate whether mercury levels would remain below the action level with connectivity to the master bedroom cut off by the barrier wall. Removal of contaminated floor joists and wall plates proceeded in the master bedroom. Eventually, Tetra Tech concluded that floor joists, portions of the interior wall between the master bedroom and the bathroom, and parts of the bathroom subfloor were contaminated. This contamination posed a serious problem, as the bathroom subfloor was rotten, and removal of the contaminated portions would necessitate removal of the tub. OSC Williamson therefore decided that no additional structural components would be removed until ATSDR evaluated the current levels and set a site-specific attainment goal. USES was tasked with applying a mercury-abatement solution to the remaining interior surfaces of the master bedroom. Ambient levels in the master bedroom were around 500 ng/m^3 with active ventilation. OSC Williamson asked that a clearance test be performed on the entire house, although it was expected that the master bedroom would not pass. USES then prepared the room by sealing holes in the wall, floor, and ceiling with plastic. Without floor joists present, Tetra Tech had no way of gaining access to the interior of the room. As such, a polyvinyl chloride (PVC) pipe was inserted through the plastic in the doorway to facilitate monitoring mercury levels in the center of the room.

At 1300 hours, Tetra Tech monitored the northern end of the building, recording levels above 1,500 ng/m^3. Interior temperatures had risen substantially from the morning. OSC Williamson instructed USES to remove loose personal items from the living room and kitchen, which were bagged and placed in the staging area outside. Once completed, the middle bedroom was closed off to be assessed independently. USES repaired the containment barrier and segregated the northern end of the house from the master bedroom in an attempt to assess the independent mercury load in the northern end of the residence.

Beginning at 2000 hours on the evening of June 15, Tetra Tech began a clearance test on all portions of the building. By 2200 hours, both bedrooms had failed the test, and it was apparent that the kitchen and living room would likely also fail. The ambient indoor temperature was 89°F at the beginning of the test period. OSC Matt Huyser, who arrived on scene earlier in the day to assist OSC Williamson, determined there was no point in continuing the process and instructed Tetra Tech to cease the test.

On June 16, in response to OSC Williamson's interrogative, ATSDR stated that, given the homeowners' existing medical conditions, it was strongly recommended all indoor air locations be brought below the 1,000 ng/m^3 threshold before the homeowners reoccupied the home. Based on the results of the previous night's clearance test, it was apparent that mercury vapor had deposited on surfaces throughout the residence during the 9 months since the spill, making full remediation nearly impossible. Given the fact that attaining the 1,000 ng/m^3 remediation goal was highly unlikely without extreme remediation measures and the relatively high cost of performing additional remediation to achieve that goal, OSC Williamson decided it was in the best interest of all stakeholders to simply replace the residence with another mobile home. OSC Williamson then tasked USES with removing all personal items from the building and preparing them for bagged screening. Non-personal items, such as food, were placed directly into a roll-off container for disposal. Household hazardous wastes were collected and placed into storage bins outside. Tetra Tech was tasked with inventorying all appliances in the home. Items were also removed from a storage area beneath the residence and placed in a storage shed away from the residence. The residence was prepared for demolition and remained empty for about 2 weeks.

All personnel demobilized from the site on June 17, 2009. On June 29, 2009, WRS mobilized a demolition team to the residence, crushed the mobile home, and placed the pieces into roll-off boxes for disposal.

Personal Item Screening

Loose personal items were removed from the residence, placed into plastic bags, allowed to off-gas for at least 15 minutes, and then screened with a mercury vapor analyzer. Items that indicated mercury levels less than 10,000 ng/m^3 were considered suitable to return to the owner without condition. Items that indicated mercury levels greater than 10,000 ng/m^3 were allowed to heat and vent in direct sunlight for a period of time until either the levels were reduced below the 10,000 ng/m^3 level or it was determined that the attainment goal could not be met.

Tetra Tech began by screening the items the homeowners wished to take with them during their relocation. All items removed by the couple, as well as their vehicles, screened below 10,000 ng/m^3.

Once the personal items were removed from the residence, the homeowners sorted the items and chose to dispose of many of them regardless of mercury levels. Items the homeowners wished to keep and that indicated mercury levels greater than 10,000 ng/m^3 were bagged and re-screened after they had been heated and vented. Personal items that were deemed suitable for return to the residents were sealed in the bag and placed in a temporary on-site secure storage container. After multiple periods of heating and venting, items that still did not reach the attainment goal were inventoried and set aside for disposal. These contaminated items are listed in Appendix C.

In addition to the personal items EPA removed from the residence, Tetra Tech also screened several pieces of furniture the homeowners had previously removed from the building and set outside. Several of the items screened at levels higher than 1,000 ng/m^3 in cracks between the cushions. Although EPA did not dispose of these items, the homeowners were asked to not place them back indoors.

On August 26, 2009, Tetra Tech START member Charles Berry met OSC Williamson, ADEM's Grady Springer, and the homeowners at the residence. A final screening of the personal property was performed prior to releasing the items back into the residents' custody (see the following section). No items screened above the 10,000 ng/m^3 level; the highest observed reading was 860 ng/m^3. The items were then returned to the homeowners without condition. The storage box was left on site for another week to allow the residents time to decide which items they wanted to move back into the new mobile home.

Relocation and Residence Replacement

Once the mercury contamination was confirmed inside the residence, the homeowners vacated the building June 13, 2009, taking up temporary residence at a local hotel. On July 17, 2009, after the decision to dispose of the entire home was made, OSC Williamson contacted the US Army Corp of Engineers (USACE) to assist with relocation and replacement services.

OSC Williamson and USACE personnel considered replacing the contaminated mobile home with a suitable surplus trailer owned by the Federal Emergency Management Agency (FEMA); however, it was determined that the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 CFR 61), which governs all Federal and Federally-funded relocation actions, does not allow for direct transfer of government-owned property to private individuals. Therefore, the plans to use a FEMA-owned trailer as a replacement for the contaminated mobile home at the Goodwater property were set aside. Instead, USACE facilitated the purchase of a new mobile home from a local vendor. This home was delivered to the property on August 10, 2009, and utilities were connected. The homeowners moved back to their property on August 26, 2009. A final inspection of the property was conducted by OSC Williamson, ADEM, Tetra Tech, and USACE personnel on that same day. After addressing some minor soil erosion and seeding issues, the response was considered complete.

A total of 5 roll-off boxes of mercury-contaminated, nonhazardous waste were removed from the property, including the crushed remains of the residence.

If you have any questions, please call Charles Berry at (678) 775-3098.

Sincerely,

Charles Berry
Tetra Tech START III Site Manager

Andrew F. Johnson
Tetra Tech START III Program Manager

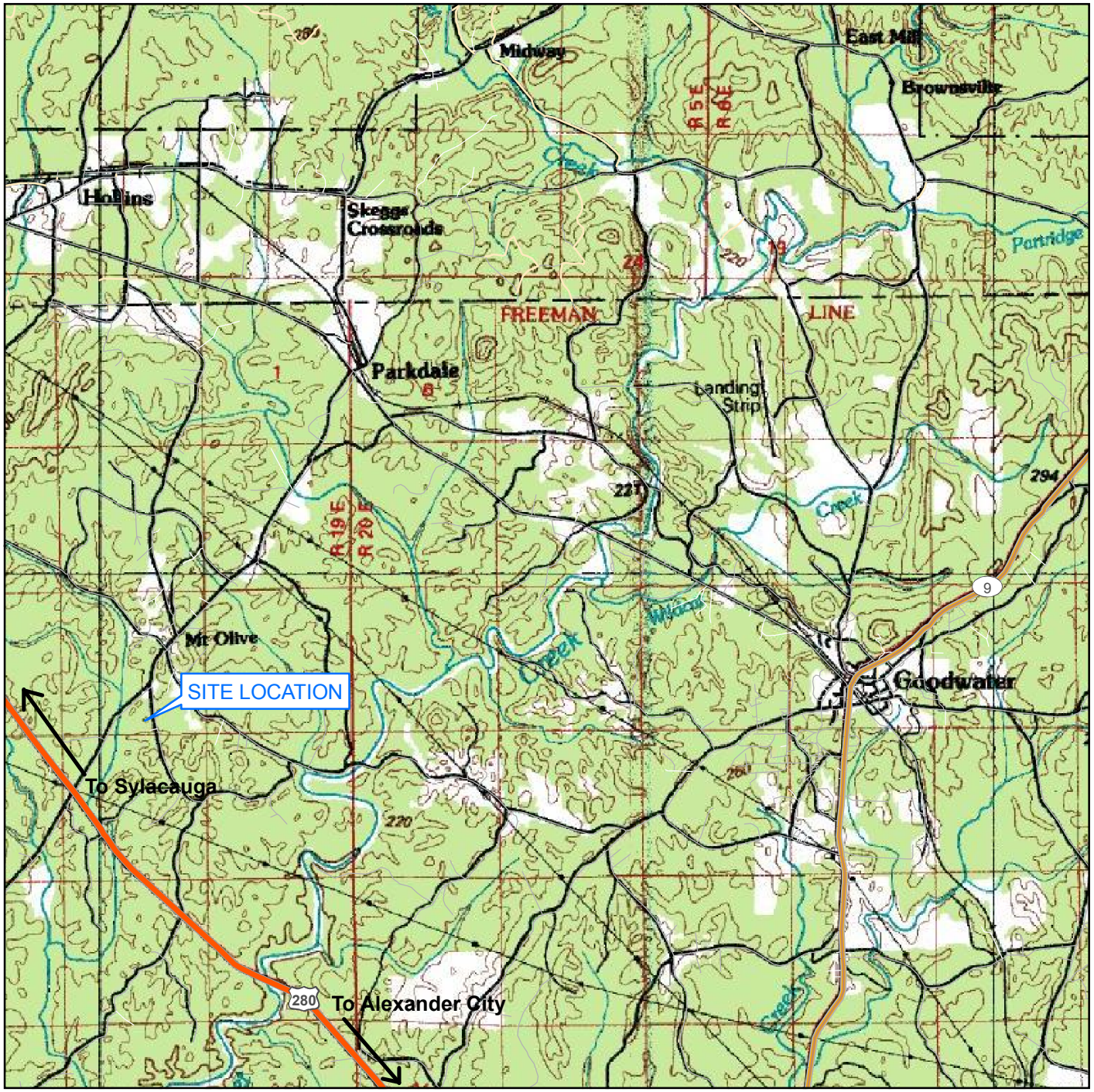
Enclosures (5)

cc: Katrina Jones, EPA Project Officer
Darryl Walker, EPA Alternate Project Officer
Andy Johnson, START III Program Manager
Brian Croft, START III Task Order Manager
Angel Reed, START III Document Control Coordinator

APPENDIX A

FIGURES

(2 Pages)



1:65,473

0 0.25 0.5 Miles

MAP SOURCE: TERRASERVER
COOSA COUNTY, ALABAMA

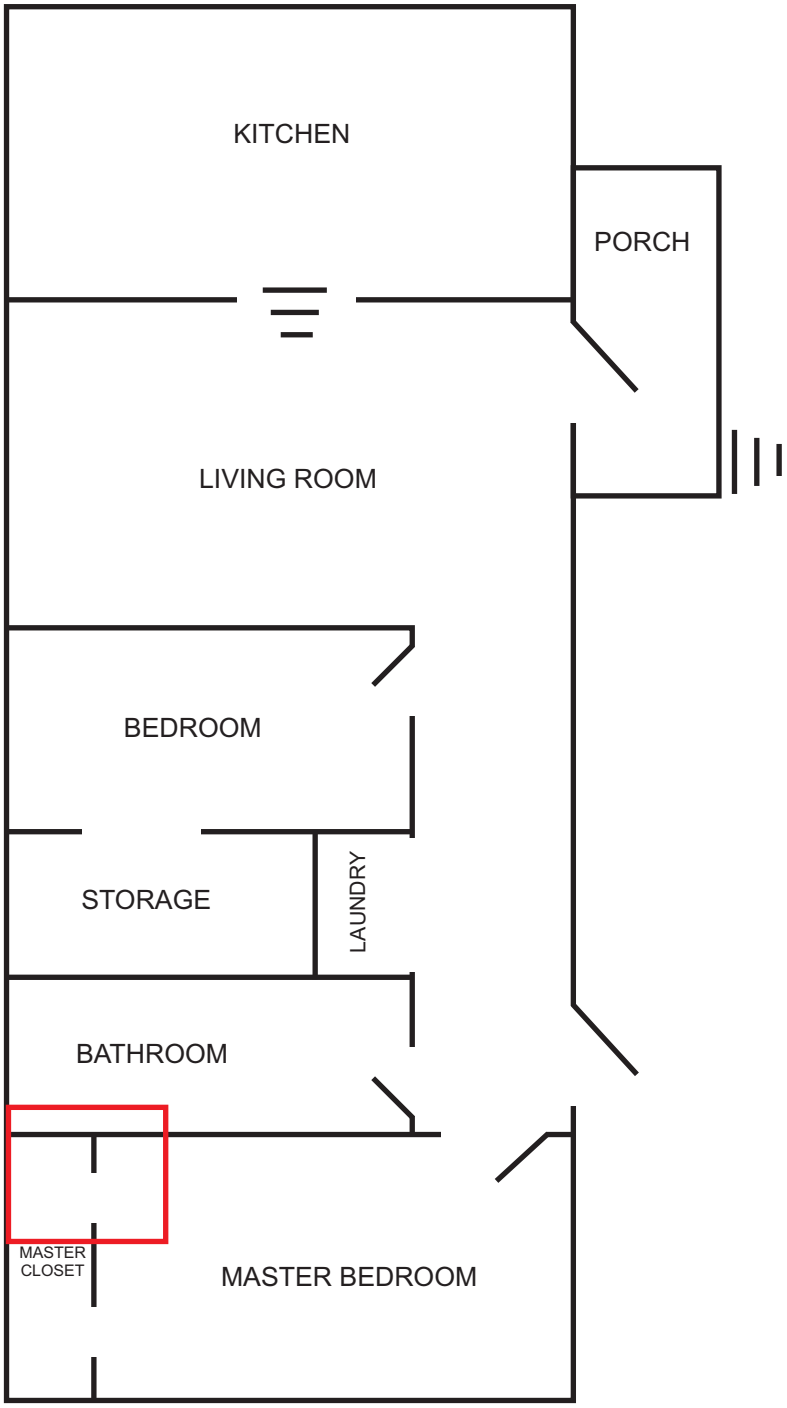
United States Environmental Protection Agency

GOODWATER MERCURY SPILL
GOODWATER, COOSA COUNTY, ALABAMA
TDD: TTEMI-05-001-0102

FIGURE 1
SITE LOCATION

TETRA TECH

2009-08-06 TTEMI-NV jessica.berry



LEGEND

AREA OF SIGNIFICANT STRUCTURAL COMPONENT IMPACT

DIAGRAM NOT TO SCALE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

GOODWATER MERCURY SPILL
GOODWATER, COOSA COUNTY, ALABAMA
TTEMI-05-001-0102

FIGURE 2
RESIDENCE LAYOUT

TETRA TECH

APPENDIX B

PHOTOGRAPHIC LOG

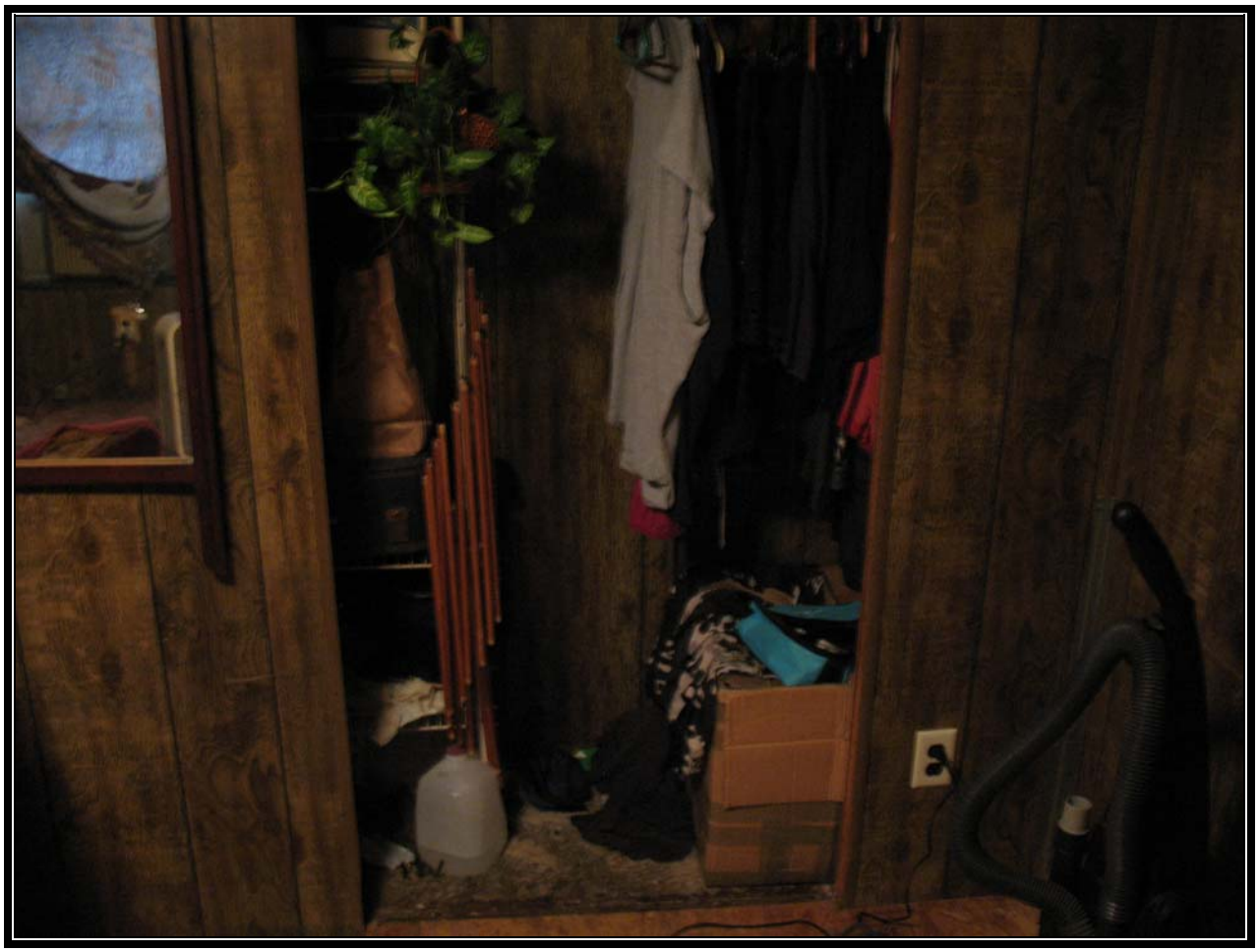
(18 Pages)

OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 17, 2009
Photographer:	James Caruthers, Tetra Tech	**Witness:**	Carter Williamson, EPA
Subject:	The residence at Lot 510, Route 3 in Goodwater, Alabama.		

OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

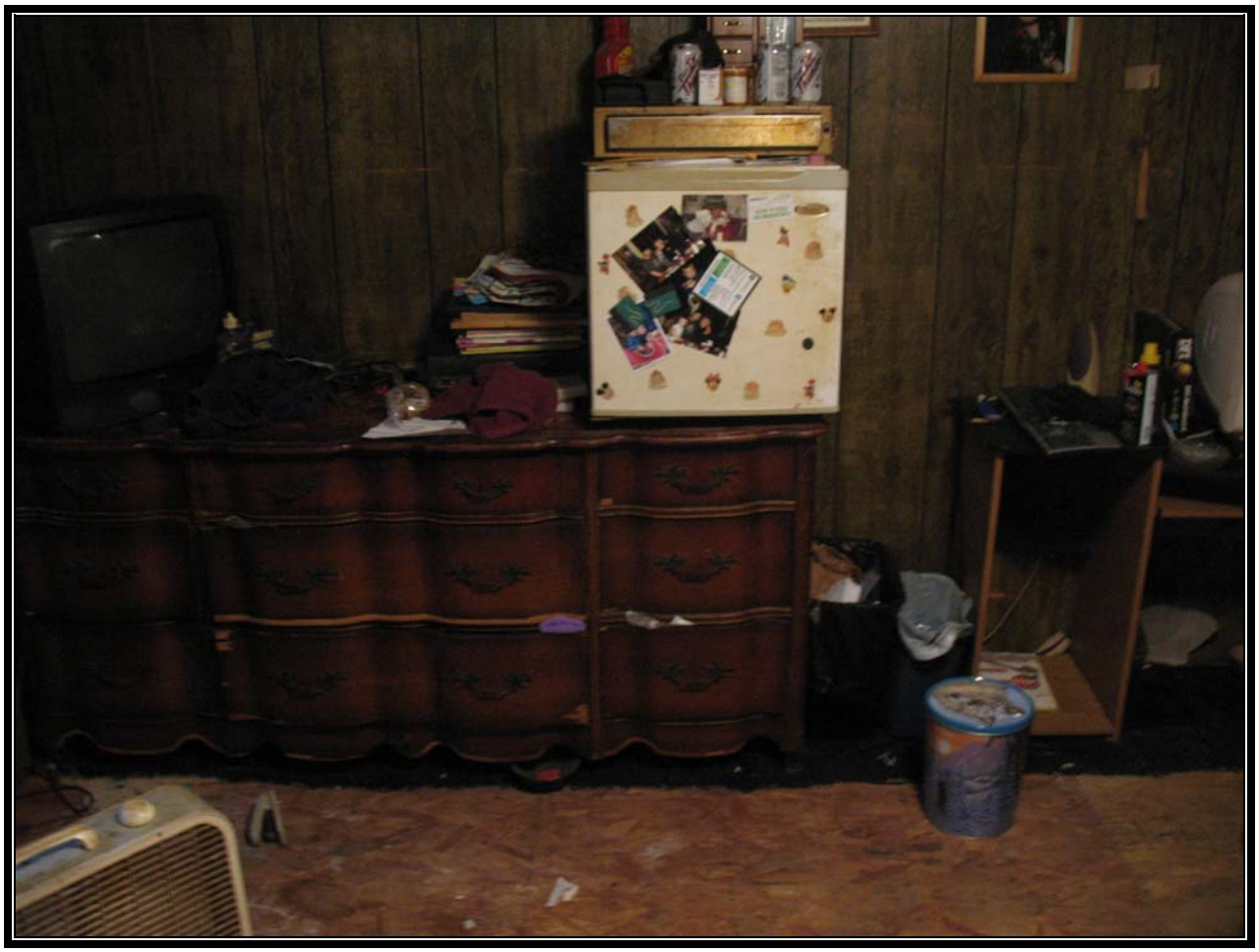
TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	East	**Date:**	June 13, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech
Subject:	The rear of the residence at Lot 510 Route 3 in Goodwater, Alabama.		



OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 13, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech

Subject: The location of the original spill within the master bedroom. The floor slopes to the right of the photograph, with much of the contamination eventually becoming embedded in the partition of the closet.



OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

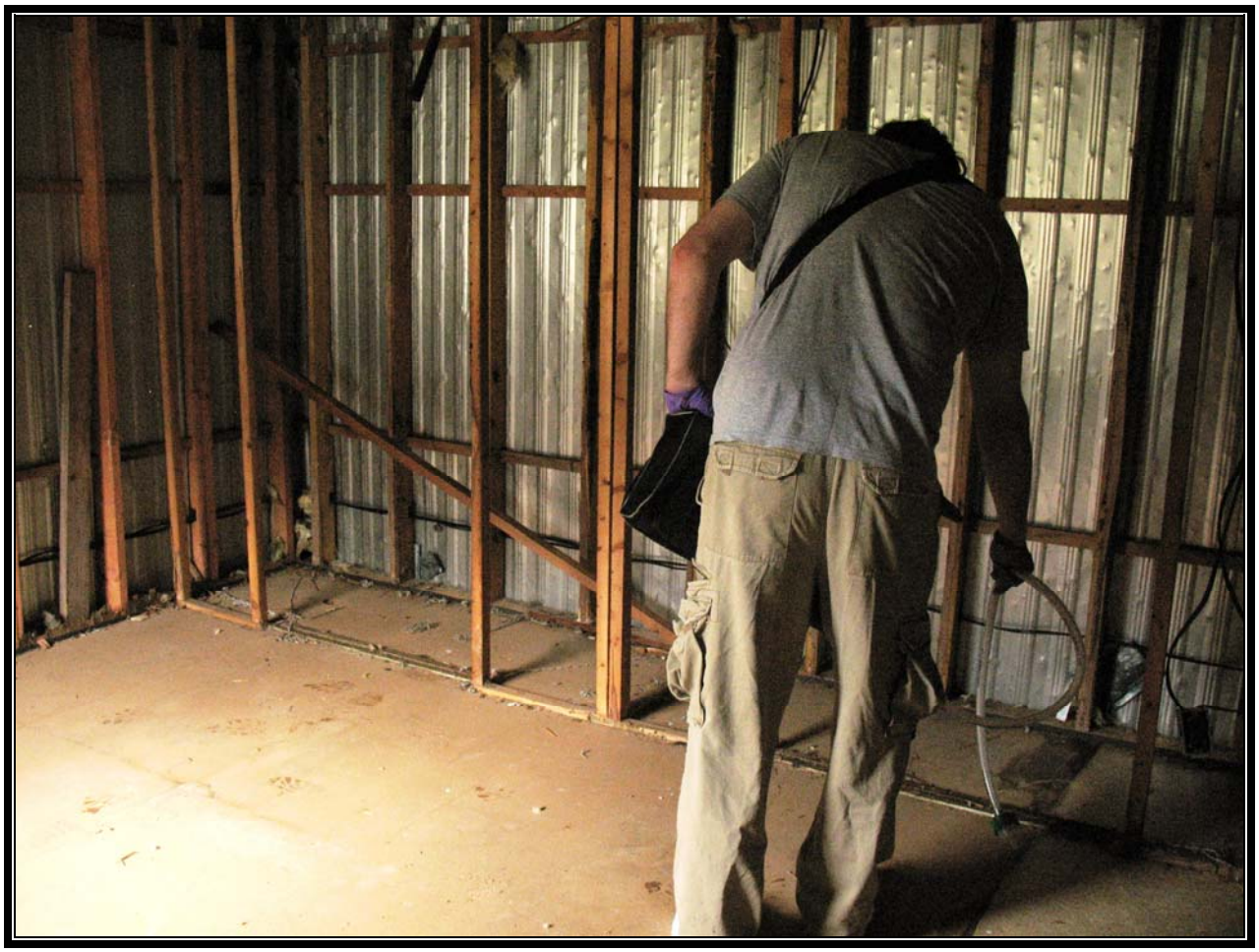
TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	South	**Date:**	June 13, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech
Subject:	Furniture in the master bedroom.		

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	North	**Date:**	June 13, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	Furniture and carpeting removed by the homeowner and stored outside before EPA arrived.		

OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	South	**Date:**	June 13, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	WRS's subcontractor, USES, removing structural components from the master bedroom in Level C PPE.		



OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 14, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	Tetra Tech monitoring recently exposed areas of the bedroom subfloor. Mercury vapor readings were still highly elevated at this point, and the subfloor was subsequently removed.		

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 14, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	Exposed floor joists and insulation in the master bedroom. Subsequent mercury vapor monitoring of these structural components revealed deeply embedded merucry contamination.		

OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	North	**Date:**	June 15, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech

Subject: Rotten flooring beneath the tub. The condition of this flooring made removal of all mercury-contaminated structural components unfeasible.

OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	North	**Date:**	June 15, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech

Subject: USES applying a mercury-abatement solution, which chemically reacts with the elemental mercury, turning it into a non-volatile salt. While this solution is normally used on non-porous surfaces, it was hoped it would penetrate enough here to provide some efficacy.

OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	North	**Date:**	June 15, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech
Subject:	Plastic sheeting used to provide a barrier between the contaminated structural components and the test area.		

OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	East	**Date:**	June 15, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech
Subject:	OSC Williamson coordinating activities with representatives of the Coosa County Health Department and ADEM.		

OFFICIAL PHOTOGRAPH NO. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	East	**Date:**	June 13, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech

Subject: Tetra Tech conducted initial screening of personal items removed from the residence by the homeowner to prevent off-site migration of mercury.

OFFICIAL PHOTOGRAPH NO. 14
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 16, 2009
Photographer:	Charles Berry, Tetra Tech	**Witness:**	Courtney Roden, Tetra Tech
Subject:	Personal items bagged and staged for mercury vapor screening.		

OFFICIAL PHOTOGRAPH NO. 15
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 14, 2009
Photographer:	Courtney Roden, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	Tetra Tech preparing small furniture items for screening.		

OFFICIAL PHOTOGRAPH NO. 16
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 17, 2009
Photographer:	James Caruthers, Tetra Tech	**Witness:**	Charles Berry, Tetra Tech
Subject:	Items that the homeowners determined they did not want screened. These items were subsequently disposed of with the remainder of the mercury-contaminated material.		

OFFICIAL PHOTOGRAPH NO. 17
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	West	**Date:**	June 29, 2009
Photographer:	Stephen Ball, EPA	**Witness:**	Diedra Lloyd, EPA
Subject:	Demolition of the structure.		

OFFICIAL PHOTOGRAPH NO. 18
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD Number:	TTEMI-05-001-0102	**Location:**	Goodwater Mercury Spill
Orientation:	South	**Date:**	June 17, 2009
Photographer:	James Caruthers, Tetra Tech	**Witness:**	Carter Williamson, Tetra Tech
Subject:	One of five roll-off boxes containing nonhazardous mercury-contaminated waste generated at the site.		

APPENDIX C

CONTAMINATED ITEMS LOG

(1 Page)

Contaminated Items Documentation Log

Goodwater Mercury

Goodwater, Coosa County, Alabama

Address:

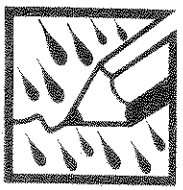
Description of Items	Hg Level (ng/m^3)	Photo ID
CROSSBOWS-8 - PICTURES (Not disposed)	494	2520
X-MAS TREE	365	2521
EGG FIGURINE	232	2522
GLASS VASE/VASE	19,900	2523
COMPUTER PARTS/DRILL BITS	15,000	2529
MATCH BOX SET - NEW	17,000	2527
REMOTE CONTROL CAR - 2	18,000	2528
ASST. HOUSEHOLD ITEMS	18,500	2530
RECORDS BOOKS	46,000	2553
WHEELCHAIRS - 2	24,000	2551, 2546 → 2545
X-BOX	40,000	2592
4 SOCKETS/1 CHISEL/1 PLIER	30,000	2593

APPENDIX D

LOGBOOK NOTES

(33 Pages)

Goodwater, AL Mercury Response



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TTEMI-05-001-0102
Goodwater, Coosa County, Alabama

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CONTENTS

6/13/9

0820 START (C. Berg + C. Roden) + OSC Williamson arrive at Lot 510 Rte 3 Goodwater, AL

- Homeowner spilled ≈1lb mercury in the bedroom + vecumed it up in October 2008. After acquiring medical problems, homeowners were diagnosed with mercury poisoning.
- Carpets has been removed from the bedroom.

Residents -

Karen Hardy	50 yrs	
Gary Hardy	42 yrs	
Jerek Stage	6 yrs	(grandchildren that have visited since spill.)
Jae Stage	4 yrs	

Resident Karen Hardy will locate Jerek and Jae's address later this ~~afternoon~~ morning.

0830 Warming up 2 Lumex 915A Hg Vapor analyzer.

0845 START Lumex cal checked R=4%
EPA owned Lumex R=5%

0910 START enters home. House has been closed up for approx. 15 min.

* GPS coords N 33.064929, W-86.137169 *

C. Roden

6/13/9

Entrance 1600 ng/m³

10 second breathing room average in the center of each room

House temp = 75°F

Living Room = 10s avg = 2,239 (constant)

Bedroom 1 = 10s avg = 2,577 ng/m³

Storage Room off Bedroom 1 = 10s avg = 2,463 ng/m³

Hallway / Laundry Area = 10s avg = 2,774 ng/m³

Washing machine 10s avg = 9,560 ng/m³

Bathroom 10s avg = 2,735 ng/m³

Bedroom #2 entrance. 10s avg = 14,720 ng/m³

Kitchen 10s avg = 1,891 ng/m³

Refridgerator 10s avg = 1,968 ng/m³

Stand Alone freezer 10s avg = 2,469 ng/m³

C. Rodu

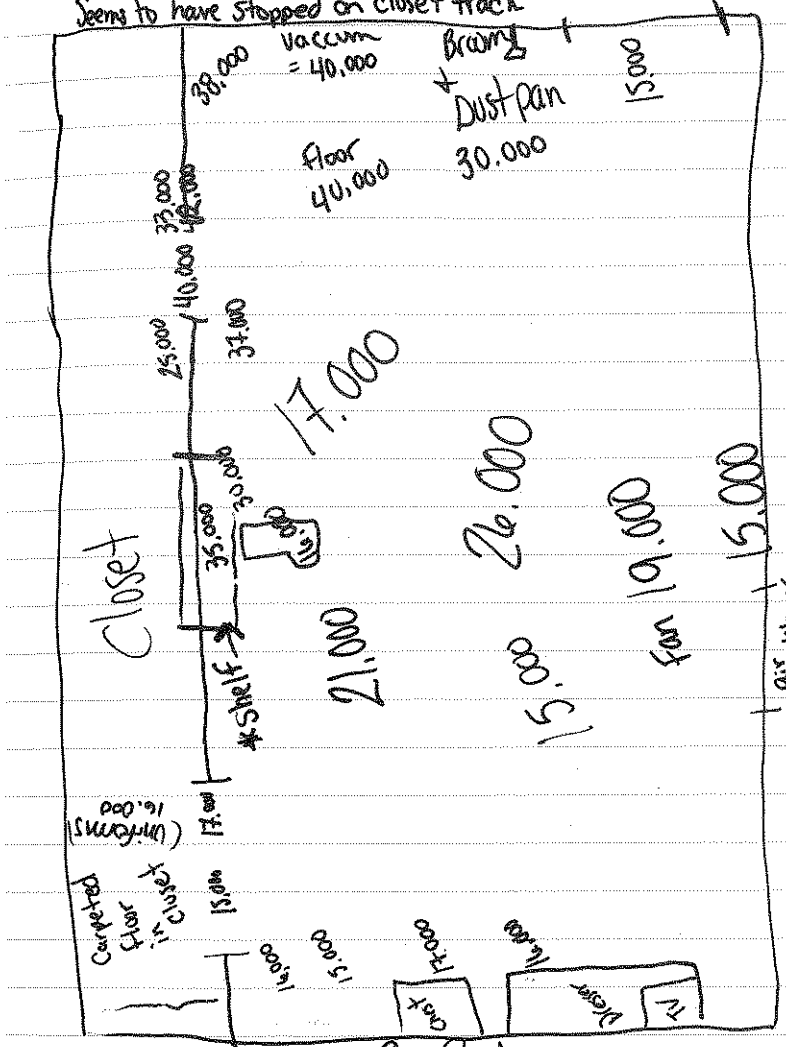
6/13/6

N
Kitchen
LR
W
E
BR#1
Laundry
Hallway
Bath
storage
BR#2
master
S

6/13/9

Master Bedroom Floor Tests

Mercury bottle placed on shelf had spilled and seems to have rolled on unlevel floor toward top left corner of room. Seems to have stopped on closet track



C. Rock

06/13/09

Residents (Gary Hardy) By-Pap machine screened as ambient.

1010- ADEM Grady Springer arrives on-site.

1030- Weather for Goodwater, AL (site)
76.3°F; 68% Humidity, Raining
~~GPS coords: N 33.06487 W 86~~

1130 START leaves site for lunch and supplies back in Alexander City.

1045 EPA activates ERS Contractor WRS. WRS is sending Sub-Contractor USES, demobilizing from Birmingham, AL Should be here in approx. 2 hours.

1315- START arrives back on-site after picking up needed supplies from Wal-Mart.

1320- START replaces filter on Lumex and cal check R = 4%.

1325- USES crew arrives on-site.
OSC Williamson requests START to screen clothes before removing from site. Note.. Clothes the residents plan to take to hotel.

1345- START screens items that will be taken off-site
1st bag- A. 15K (only numbering bags that fail initial screening)
2nd bag - 9332, medications bags, recommend residents obtain new nylon medication bags

C. Rod

06/13/09

3rd bag - Safe - 1255

2nd bag re-screened at 4K (medication)

Woman's clothing bag screened 787

Man's clothing bag 1066

START Berry splits bag A into seperate bags

Ford F150 Truck screened @ 480.

Ford Taurus Car screened @ 466.

From original bag A, a medical machine screens 4800. Another sub-bag screens @ 243 (toiletries), third sub-bag. 2nd medical m screens @ 353, 4th sub-bag, medical machine accesaries screens @ 229

1420 START takes photo documentation of home before ERS starts to gut mobile ho

Entrance	12.000
Living Room	12.000
Master Bed (#2)	14.000
~~Bathroom~~	
~~Hallway~~	

START Roden takes photos of Master Bed.

1445. USES crew ~~exits~~ cleans a small pile north of mobile home. START Berry screens couches in pile east (behind) mobile home = 1200.

C. Roden

06/13

1585 - START puts up tent and lies plastic inside in case of rain.

1530 - START prepares to screen items USES has placed outside to ventilate.

Lumex cal check R= 5%.

Bag	Screening Value
B	15.550
C	25 k
D	15 k
E	36 k
F	19 K
G	19 K
H	14 K
I	34 K
J	~~8~~ one 14 K
K	40+ K
L	21 K
M	25 K
N	23 K
O	27 K
P	26 K
Q	10 K
R	18 K
S	13 K
T	26 K

C. Rod

06/13

Bag	Screening Value
U	19 K
V	41 K
W	28 K
X	23 K
Y	29 K
Z	12 K
AA	30+ K
BB	15 K
CC	12 K
DD	10 K
EE	25 K
FF	12 K
GG	

1800. After letting the above items bake in the sun for thirty min., START re-screens items.

2nd Screening Bag	Screening Value
B	
C	
D	
E	

New game plan: Venting material will be re-bagged and screen before leaving. The items that cannot be ventilated will be

06/13

Note USES observes an electrical hazard at the breaker box. The air conditioner's power cord is duct-taped at mid-point running to breaker box. It seems the breaker box is not stable and barely hanging on the wall. Creating an extremely hazardous situation for the USES to gut mobile home. EPA, USES and START discuss contracting an electrician.

1800 - bagged, sealed and store in the house over night.

Cont.

1830 - All the old lettering/numbering system is now invalid. Items that were grouped in the previous bags are now grouped w/ new different items in new bags. Below is the new identifying system. Cal Test - 6%.

2nd Screening

Bag	Screening Value
GG	30 K
HH	14 K
II	12 K

All others cleared the contaminated item screening level. < 10.000 ng/m³. The three bags listed above will be re-screened in 30 min.

C. Rod

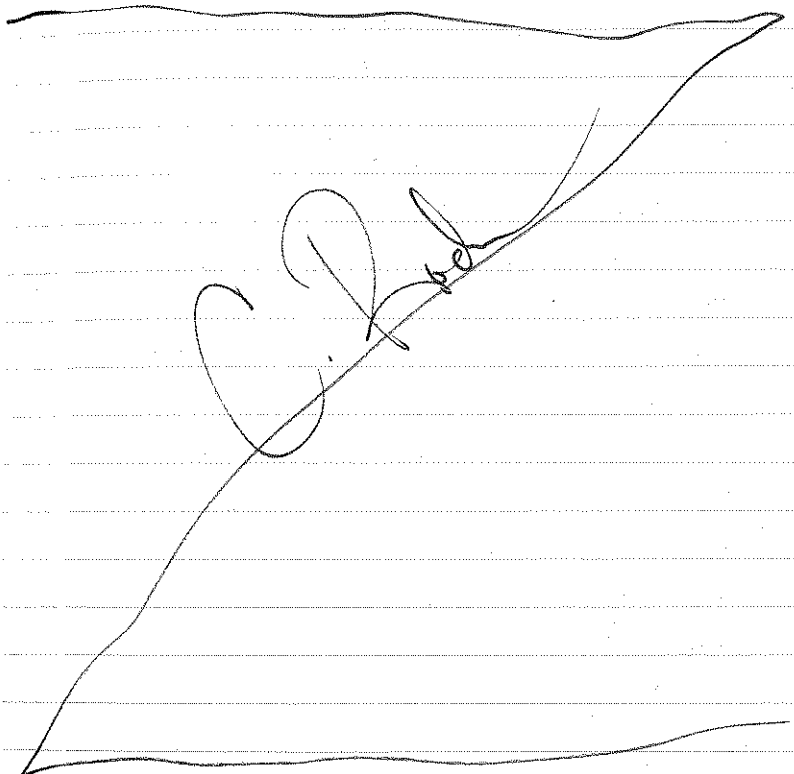
06/13

1900.

Bag	Screening Value
II	17 K
GG	25 K
HH	14 K

Photograph and momentos bag = 1300, will rescree for validity. Bag had been opened when initially screened. Photo bag has not been given an identifier as of yet i.e. II, GG, etc

1950- START off site.



06/14

0805- START on-site.

Lumex cal test R= 5%

Living Room = 1100 (just inside door)

↳ Mattress = 2500

Master Bed Entrance = 15,000

↳ Floor 30,000

↳ Floor under shelf area = 40,000

↳ Track on left closet = 44,000

↳ Track on right closet = 40,000 +

0845- USES checks electrical supply lines in the master bedroom for hazardous working conditions. ERS contractor could not locate an electrician to come out to site on a Sunday. START Berry has been tasked to make another attempt at finding an electrician. The main problem is the 220 electrical lines, running from the air conditioner to breaker box, is frayed.

Weather = 40% chance of rain, before noon 78°F Currently cloudy, 80% Humidity

0915- START Berry made calls and left voicemail for each call. Checks washing machine screening level is 11,000

START recommends mattress be disposed.

C. Rod

08/14

0945- USES will gut ~~take~~ plastic layer tacked to the ceiling since ~~vapor~~ mercury vapor may be attached to surface. START Roden gathers specs on mattress, sheets and box spring. ~~Top mattress has no tags or labels~~ Box spring is the same patte as top mattress, seems to be bought as pair. → Tag Specs: Made by Sealy Mattresse Company. Conyers, GA, NC347GA Model # 6S20116 Queen, 2629 date Envision Firm, PC # 3564, 01-10-2 Six pillows, several layers of covers and sheet Refer to photos. (Box Spring)

1100- Electrician cannot be located to come out today. USES will tear out floor and dispose of mattress.

→ After stripping sheets off mattress and bringin it out in the Sunlight, A Posturepedic, Sealy label was found on top mattress.

1158- START off-site for lunch.

1306- START back on-site

Lumex cal test R=6%.

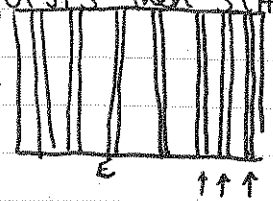
batt. dies for 1st unit, transition to a second unit. Cal test R=4%.

C. Roden

06/14

1440. START screens master Bedroom Door Ent. Ambient = 11e K, Floor by door = 30 K Insulation that was previously under floor is 20 Kt, Contamination seems to be soaked into the floor joists near upper right corner of room. Ambient air in room is approx 6 K.

1500- USES will tear out the first three floor joists then START will re-screen.



Note Karen Hardy told OSC this morning her son's house doesn't need to be screened. Children's blood test came back w/ a result of 20.

1615 ~~1815~~ START prepares to screen personal items placed in bag earlier today. Cal test R=14% Bag screens @ ~~3950~~ test mode, Bag passes Residents arrived on property approx. 30 min ago. Resident Karen Hardy requests we try to salvage her jewelry box, toys and prom dresses

E. Rock

06/14

1645 @ START Berry prepares to re-screen master bedroom floor joists. Cal test = R = 20%.

@ ~~Ambient levels~~ - Need to switch Lumex units. Seems to have too much drift to obtain valid screening values. Cal test R = 19%.

1730 - Ambient = Breathing Zone = 2 to 0

Floor Joists : 1st beam near door = 5000, 8000

2nd beam = 5000,

4th beam = 1,000, 3.000, 2000, 1000

Plate at Top end of room (shelf area, Wes) Screening @ 5.000.

START recommends ERS contractors take out all floor joists, base plates and studs to master bedroom.

1815 - After much deliberation, OSC instructs Contractors to stifle master bedroom operation close and seal the rest of mobile home, re-sc in the morning to see if the rest of home will clear contamination levels. USES will place a fan in home to create a negat air effect. attempting to suck vapors out of home. Currently the ambient air thrugha mobile home is 500 (excluding Master Bed) the floors range between 300 to 900.

C. Rod

Je/14

If the mobile home exceeds contamination levels, OSC will look into costs and determine whether to replace mobile home altogether.

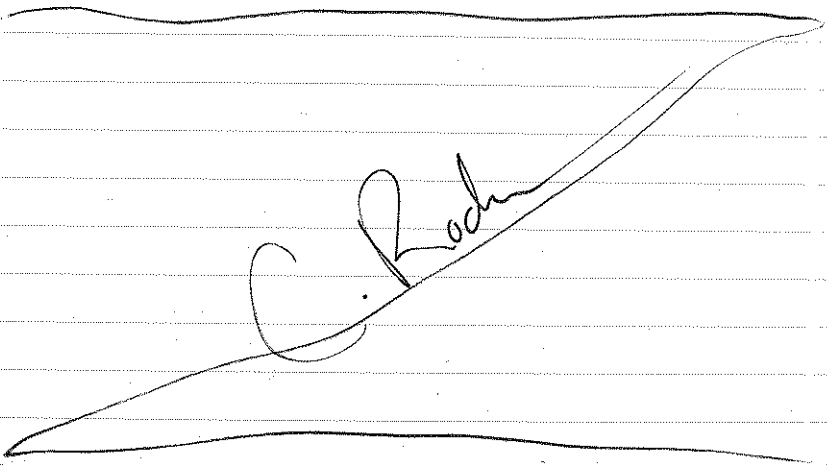
1915 START, ADEM and EPA bag baked items.

1950 START screens bagged items. Cal tests - R=8

1 - 20.000 ~~toys~~ wooden furniture
2 = 20.000 bags, medical supplies
3 = 25.000 Shoes
4 = 15.000 electronic cords, phone box
5 = 30.000 metals, markers
6 = 18.000 books

Discontinuing to inventory items that are above contaminated levels. Items will be disposed w/ the exception of toys, momentos and sentimental clothing.

2030 - START off site.



06/15

0721 - START on-site. Lumex cal test = R=8%.
USES already on-site.
Living Room - N End of mobile Home - Screened at ~~Kitchen - 100 and graded down~~ graduating low levels of 100 gradually going up as screening moved to the south end of mobile home. The containment controls failed over night ventilating home. (The plastic fell) USES will staple plastic and attempt containment for a 2nd time. START Berry will screen the bathroom. The ERS crew has to take down a base ~~board~~ plate that screening hot between master and bath but the sub-floor is rotten, so in order to replace base plate the ERS crew will have to replace sub-floor. Tub will have to be taken out in order to do this. Bathroom levels = Ambient - 250, Common wall b/t master and bath = 500, Opposite wall (N. end) = 300

0900 - START will re-screen floor joists.
Cal test R=15%;

1000 - All floor ~~have~~ joists have contamination between 2500 - 5,000.

1045 - START rescreens N. end of mobile home
Ambient air = 250
USES will tear down N and W walls of master

C. Rode

06/15

as well as install the insulation in the ceiling.

1100- Weather: 85°F, 72% Humidity

1130- START off-site for lunch.

1245- START on-site. Electricians are here to inspect master bedroom. START screens for safe work levels. b/t 100-350. Electricians will wear booties while assessing electrical wiring. Electricians recommend replacing the air condition unit. The current one is unsafe to operate.

1300 START screens N. end of home and levels = 1500. USES disturbed the containment controls so the exact level is unknown. Mis-communication b/t ERS and START

1400- USES continues to gut floor joists in MB.

1430 ~~Smoke~~ Since levels were high in the N. end even after containment controls were disturbed, it's been determined all items need to come out and be stored in an external storage unit.

1445- USES sprays CS102. material that converts elemental mercury to inorganic salts. Angela ~~Haines~~ Reams Coosa County Health Dept. arrives onsite to check on status of residents OSC Matt Huyser arrives shortly thereafter

1545- Effort to take out tub and re-place sub-floor is greater than original investmen

C. Red

06/15
in home. ERS contractor will not take out tub.
1610- START Roden demobilizes from site.
START Caruthers arrived on site
to Replaces her @ 1550.
1650 - HARDY'S WANT TO KEEP:
STATE QUARTERS
CLEAR CONTAINER W/GREEN LID JEWELR
BRINKS LOCKBOX
BED FRAME
TOYS NOT IN BOXES - THROW OUT
1700 Begin moving everything out of
the LR, BR1, + kitchen.
- Previously-screened items will
be placed into the U-haul.
All others to the screening
plastic.
1745 2 more vacuum cleaners
Bissell 3522-1
Eureka TDU-HEPA 4383 A
1800 - Building has been plopped for
testing. BR has plastic stretched
on floor + interior wall. PVC
coupling tube ~~selected~~ CCS extends
from the center of the room throug
the contain wall at the doorway

6/15/9

1800 (cont) LR BR1, Kitchen set up venting. Mast BR screened at 5750 ng/m³. Hyg been closed up for 1 hr. Will open window + vent to below 100 ng/m³. T must be below 80 to run test. Currently 88° in Kitchen.

1820 Pre-test screening ng/m³ T (°F)

LR	- 250	89
Kitch	- 150	89
BR1	- 500	89
Mast BR	- 250	86

2015 Begin 8-hour test in LR Section

Kit –
LR
BR1

start p21

2115 Mast. BR fails after only 1 hour. Weather Service T° = 79 outside but noticeably warmer inside. The digital thermometer failed at the start of testing this evening, so no inside T° is determined (but it's hot

6/15/9

8-hr Clearance tests

	LR	Kint	BRI	MBR	RR
2015	103	80	437	299	1
2115	604 8	501 12	975 16	1835	15
~~2215~~	~~762 4~~	~~1658 0~~			9
2215	762 4	774 -0	1658 -0	2571 2	9

6/15/9

1010 START Lunch has dead battery. Start up EPA unit & cal check R = 99%. Will perform 1 more screening to see if possible reduction with decreasing T.

1030 3rd reading confirms Test failure. It will not pass tonight. O>C Huyser covers the rest of the test. START offsite after securing house.

6-16-09
0710 - START - J. CARUTHERS ON SITE
0715 - WARM UP LUMEX R = 5%
0730 - EPA - OSC - M. HUYSER + USES ON SITE.
RAIN OVERNIGHT - GET WATER OFF PLASTIC COVERING HOUSEHOLD ITEMS.
0820 - LUMEX

KITCHEN	S	853	ng/m
	Si	855	
LIVING RM	S	663	
	Si	657	
MIDDLE BR	S	1086	
	Si	1069	
MASTER BR	S	504	
	Si	512	

MASTER BR WAS OVER 1,000 FOR FIRST FEW 10 SEC. CYCLES
0842 - HARDY'S ON SITE
PREP. TO CLEAN OUT MIDDLE BR
OSC HUYSER INFORMS HARDY'S TRAILER MAY BE TOTAL LOSS.
- WILL MONITOR HOURLY AS USES CLEANOUT MIDDLE BR.
0855 - BAG MS. HARDY'S PURSE, WANT

15 MIN. TO WARM, THEN MONITOR w/ LUMEX

0910 - MONITOR MS. HARDY'S PURSE:
S 1250
Si 1275

LET PURSE AIR OUT

0922 - KITCHEN - S 122
Si 125

LIV. RM - S 138
Si 141

MID. BR - S 458
Si 481

ABOVE READINGS w/ AIR CIRCULATION

0925 - OSC - C. WILLIAMSON ON SITE

0935 - MASTER BR - S 1429
Si 1452

1010 - U-HAUL TRUCK BOX - S 85
Si 90

1020 - KITCHEN - S 56
Si 53

LIV. RM - S 57
Si 66

MID. BR - S 183
Si 217

W/ AIR CIRCULATION

MASTER BR - S 1522
Si 1525

1100 - MR. HARDY SAID ANYTHING A CHILD MAY USE: TOYS, CLOTHES, BEDDING, ETC. TO TRASH.
START WILL STILL INVENTORY & PHOTOGRAPH.

1120 - KITCHEN S 51
Si 52
LIV. RM S 65
Si 63
MID. BR S 84
Si 86

W/ AIR CIRCULATION

MASTER BR S 1512
Si 1516
1220 - KITCHEN S 63 Ft LUMEX
Si 62 R-7 30
LIV. RM S 56
Si 54
MID BR S 107
Si 111

W/ AIR CIRCULATION

MASTER BR - 30 SEC. AVG.
Sc 1557
R 1%
1330 KITCHEN S 58
Si 62
LIV. RM S 41
Si 44
MID. BR S 69
Si 72
W/AIR CIRCULATION
MASTER BR - 30 SEC. AVG.
Sc 1733
R% 1
TEMP 100.6 °F
1418 X-MAS TREE - UNOPENED
Sc < 244
R% 0
X-MAS TREE - USED DEC. 08
Sc < 244
R% 0
TENT - Sc 998
R% 69

1430 KITCHEN - 30 SEC. AVG.
SC < 244
R 70
LIV. RM. SC < 244
R 70
MID. BR SC < 244
R 70
MASTER BR SC 1941
R 70 4
TEMP 100.9 °F

1510 - EPA - HEALTH/TOXIC. HAS DETERMINED NOT TO PUT RESIDENTS BACK IN TRAILER.
EPA-OSC - WILLIAMSON EXPLAINS TO HARDYS THE TRAILER IS A LOSS. CORPS OF ENG. WILL LOOK FOR A COMPARABLE TRAILER.

1523 Ms HARDY SAID IT IS O.K. TO TRASH ANGEL FIGURINES.

1533 - USES TO REMOVE ALL FOOD ITEMS FROM TRAILER.

1630 - USES CLEANING OUT UNDER NORTH END OF TRAILER, LAWN MOWERS, GAS, OIL, POOL CHEMICAL, ETC. SEGRAGATE CHEMICALS.

6/16/09

1505 - OSC HUSSER HAZ-CAT WIND-SHIELD WASHER FLUID.
1525 - COVER LAWN EQUIP.
1750 - HARDY'S GOING TO GO THROUGH ITEMS ALREADY LUMEX SCREENED & DECIDE TO KEEP OR THROW AWAY.
1845 - START OFF SITE.
——— JWC

6-17-09
0730 - START - C. BERRY, J. CARUTHE USES ON SITE.
PREP. TO SCAN ITEMS HARDY'S WANT TO KEEP.
0750 CONNEX BOX ON SITE.
0812 LUMEX - R-5 #0
CONNEX BOX # EXQ5MZJ0032
1040 - HOUSEHOLD ITEMS THE HARDY'S DO NOT WANT TO KEEP & WERE NOT SCANNED ARE DISPLAYED IN PHOTOS - 2531 THRU 2550 + VIDEO.
1105 - DOCUMENT INTERIOR OF TRAILER - PHOTOS 2554 - 2586

6 1/16

Appliances

- Stove good condition Frigidaire electric 4-cycle electronic
- Fridge Hotpoint side-by-side older model with ice/water dispenser
- Refrigerator deep freezer older model 18" x 30" x 40"
- Window unit air conditioners x2
- Dryer Kenmore heavy duty x large
- Washer GE 6 cycle 2-speed X-Large capacity
- Microwave GE small capicity turntable
- Dishwasher Whirlpool push button/dial

HHW

Trichlor bottle Oxidizer

Neutrals 1 antifreeze
1 windshield wash

Toxics Scum Spray
Aqua Chem algaecide

Acids/ 2 lawnmower batteries
Bases 2 pool chemical pH adjustors

5/17/6

Petroleum 2 Kerosene containers
2 gas cans
1 Coleman fuel
½ 1 gallon assorted oils
(used motor, new motor)
5 aerosol cans
1 oil-paint can
Compressed gas 2 35# propane
1 plumbers propane.

1137 - BIG BIRCH TOOL BOX IS O.K.

1145 ~~Kenny Owen reports USES has requested all utilities be disconnected~~
Kenny Owen of USES states all utility providers have been contacted to discontinue service.
- C. Williamson has USES move HHW to outside storage shed. EPA will not dispose of this material.

1315 - 2ND ROLL OFF ON SITE # 25588

1430 - SCAN ITEMS THAT HAVE BEEN AIRING OUT.
92°F 60% HUMIDITY IN SHADE

1500 - USES CLEANING UP SITE.

1015 - CLEAN UP PHOTOS 2594 TO ~~2608~~ 2612.
4NE

1045 - START OFF SITE - JOB COMPLETE

8/26/9

0905 C. Berry arrives at site. New trailer is installed & the Hardy's have moved in. Trailer is in a different orientation than the old on on the lot.

- Photograph interior

0930 Warm up Lumex

0945 R = 45% Background ≈ 200 ng/m³. Likely some lingering residue in the house. Will account for this in readings until next R Test.

- 'Bump' test shows responsiveness to Mercury fillings.

0950 Begin screening of items previously screened "clean" left inside the storage box. Items left include a tool box, computer components, TV, clothing, towels, holiday decorations, and a butler's rack.

1030 Most items screened between 200-400 ng/m³. Highest observed reading was 860 ng/m³

8/26/9

1030 (cont) OSC Williamson releases all of the items back to the Hardys without any conditions. Does suggest they simply dispose of any items they feel they do not need.

-The storage shed will remain on site for another week while the Hardys unload it.

1040 WEATHER - cloudy + overcast; humid. T: 75°F.
Personnel on site: C. Berg, SAIC
OSC Williamson, EPA
Grady Springer, ADEM
William Leshaw, USACE

1055 USACE will install permanent stairs + Mr. Hardy will obtain quotes for seeding the area around the trailer.

1100 All EPA site ops complete. Off site

APPENDIX E

TABLE OF WITNESSES

(1 Page)

TABLE OF WITNESSES

Carter Williamson
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8742
williamson.carter@epa.gov

Matt Huyser
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8934
huyser.matthew@epa.gov

Stephen Ball
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8528
ball.stephen@epa.gov

Diedre Lloyd
On-Scene Coordinator
U.S. Environmental Protection Agency
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8855
lloyd.diedre@epa.gov

Grady Springer
Alabama Department of Environmental Protection
PO Box 301463
Montgomery, AL 36130-1463
(334) 260-2717

Angela Reams
Alabama Department of Public Health
Coosa County Health Department
PO Box 219
Rockford, AL 35136
(256) 377-4364

Charles Berry
Site Manager
Tetra Tech Superfund Technical Assessment and Response Team
1955 Evergreen Boulevard
Building 200, Suite 300
Duluth, GA 30096
(678) 775-3098
chuck.berry@ttemi.com

Courtney Roden
Tetra Tech Superfund Technical Assessment and Response Team
1955 Evergreen Boulevard
Building 200, Suite 300
Duluth, GA 30096
(678) 775-3134
courtney.roden@ttemi.com

James Caruthers
Tetra Tech Superfund Technical Assessment and Response Team
712 Melrose Avenue
Nashville, TN 37211
James.caruthers@ttemi.com

Jimmy Simmons
Hazmat Recovery Foreman
United States Environmental Services
228 Regency Park
Alabaster, AL 35007
(205) 663-8737