



REGION 8

DENVER, CO 80202

ACTION MEMORANDUM

SUBJECT: Action Memorandum for a Removal Action at the Ogden June 2024 Mercury Spill Site pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104.

FROM: Joe Payne, OSC
Removal Section

THRU: Kerry Guy, Supervisor
CERCLA Removal Section

Deirdre Rothery, Manager
Emergency Management
Branch

TO: Aaron Urdiales, Director
Superfund and Emergency Management Division

I. Purpose

The purpose of this memorandum is to document the decision to initiate emergency response actions described herein for the Ogden Mercury Release Site located in Ogden, Weber County, Utah, pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104. This emergency response involved the collection of liquid mercury and other hazardous chemicals, decontamination of a residential property, and off-site disposal of wastes. Conditions existing at the Site present a threat to public health or welfare or the environment and meet the criteria for initiating a removal action under 40 CFR 300.415(b)(2) of the National Contingency Plan (NCP).

II. Site Information

A. Site Description

Site Name: Ogden June 2024 Mercury Spill
Site Spill ID (SSID): B8K8
NRC Case Number: 1400761
CERCLIS Number: UTN000826432
Site Location: Harrison and 1100 St, Ogden, UT 84404
Lat/Long: 41.27553/-111.95143
Potentially Responsible Party (PRP):
NPL Status: Non-NPL
Removal Start Date: June 4, 2024

B. Site Background

1. Site Evaluation

On June 3, 2024, EPA received a report of mercury spilled in a detached workshop at a residence in Ogden, Utah. The relatives of a deceased family member were cleaning out the workshop and discovered a plastic liter soda bottle that was leaking mercury from the bottom of the bottle onto a shelf. Initial reports also mentioned 30 to 40 small bottles of other chemicals, some of which were related to gold refining and photography procedures. Some of the bottles were labeled, some unlabeled. After the mercury spill was identified, the relatives left the workshop and contacted the Ogden Fire Department and local health department. These entities quickly responded, assisted in isolating the workshop and called the National Response Center (NRC). The Utah DEQ investigated the scene on June 4, 2024, accompanied by an EPA ERRS contractor based in Salt Lake City, Utah.

A Federal On-Scene Coordinator and additional contractor assets mobilized to the site on June 5, 2024.

2. Physical location and Site characteristics

The Site is located near Harrison and 1100 St, Ogden, Utah 84404 in Weber County. The Site is an approximate 0.25-acre residential property with a single-family home and a detached workshop, as well as the County Health Department's fenced parking lot and the ERRS contractor's Salt Lake City warehouse where the chemicals and wastes are temporarily stored prior to disposal. There are several residential homes adjacent to the Site.

The roads and general topography in the area ranges from flat to steep. The home is along the front range of the Wasatch mountains north of Salt Lake City. According to the 2022 census, the City of Ogden has a population of approximately 86,000 over an area of 26.6 square miles. The median income is approximately \$66,226.

According to EPA's Environmental Justice (EJ) Screening and Mapping Tool, the data indicates potential areas of EJ concern at or near the Site.

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

Mercury is the main contaminant of concern at the Site and it is listed as a hazardous substance as defined by section 101(14) of CERCLA.

Mercury is the only metal that is liquid at room temperature. In its pure form (often called metallic), mercury is a shiny, silver-white, odorless liquid. At room temperature, mercury vaporizes into a toxic, colorless,

odorless gas.¹ In its vapor form, mercury is easily inhaled and extremely toxic. For liquid mercury, the most important route of absorption is through inhalation. Because of the chemical nature of mercury vapor, deposition and retention in the lungs are quite high (on the order of 80 percent in humans).²

When spilled or tracked into a small or poorly ventilated room, mercury can pose significant health threats. Very small amounts of mercury released into an enclosed space (such as a workshop) can raise air concentrations to harmful levels. Metallic mercury is extremely difficult to remove from shoes, clothes, furniture, carpet, and other porous items. It is easily tracked and transferred. If these items are not properly disposed or cleaned, the mercury can linger for months or years and continue to pose a health threat.³

In addition to mercury, the EPA's Response Team identified other chemicals and hazardous substances in accordance with 40 CFR §302.4 and Section 101(14) of CERCLA. A list of the chemicals found in the workshop is provided in Attachment 3.

Due to the mercury spillage, lack of proper storage and the extreme mobility and persistency of liquid mercury, this site posed a substantial threat of a release of mercury into the environment. The additional chemicals, due to the risks noted below, posed similar threats of release to the environment.

III. Threats to Public Health Welfare or the Environment

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

Air monitoring readings from the breathing zone in the workshop during EPA's initial entry showed an approximate average of 15,000 ng/m³, well above the removal action level for normal use and unrestricted habitation (1000 ng/m³). Upon entry the Removal Team noted mercury pooling and that the wooden shelves were stained with mercury. Readings from the concrete floor and on the shelves of the workshop confirmed that beads of mercury were present throughout the workshop. Additionally, some of the mercury containers found on the property were not sealed and emitting mercury vapors. An estimated 300 pounds of mercury was collected from the workshop, both in containers and spilled.

Due to the amount of mercury present in the workshop, some mercury was suspected to have been tracked into the residential home via foot-traffic either after the family cleaned out the shed or at some point in the past. Additionally, a small workstation where mercury was likely to have been used years ago was located in the basement of the home. EPA screened the home for mercury and

¹ United States of America, Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine Prevention, Response and Medical Support Branch Emergency Response Team. (2012, March 22). Action Levels for Elemental Mercury Spills.

² Arch Environ Health, 1976 Nov-Dec; 31(6):302-9. Clearance of mercury (HG- 197, HG-203) vapor inhaled by human subjects.

³ <https://www.epa.gov/mercury/health-effects-exposures-mercury>

found mercury contamination present in the basement room of the home where the workstation and laundry was located, but nowhere else. The initial entry screenings for this room an approximate average of 1,500 ng/m3.

In addition, the EPA's Response Team identified over 200 containers of other chemicals and hazardous substances in accordance with 40 CFR §302.4 and Section 101(14) of CERCLA. Almost all the chemicals identified were stored in the workshop. Some chemical containers were compromised, and many were stored next to acids and bases, flammable liquids, and other chemicals that would exacerbate the risk and repercussions of a release – namely that damaged and other inadvertent mixing of incompatible chemicals could cause a fire or explosion and subsequent release of other containers outside of the building. A list of the chemicals found in the workshop is provided in Attachment 3.

Check applicable factors (from 40 CFR 300.415) which were considered in determining the appropriateness of a removal action: EPA has considered all the factors described in 40 CFR 300.415(b)(2) of the NCP and determined that the following factors apply at the Site.

- ☒ 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)].
- ☐ 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)].
- ☐ 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)].
- ☒ 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.

EPA's Removal Program initiated an emergency response, pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104.) on June 4, 2024. An EPA response team arrived at the Site on June 4, 2024. Field activities were completed on June 19, 2024, with off-site disposal pending.

2. Removal activities to date:

- a) Federal Government/Private Party

At the time of this Action Memorandum, the EPA Response team has cleared the home and workshop of mercury contamination as well as taken contaminated materials, hazardous chemicals, and liquid mercury away from the residence where it awaits final disposal. The following is a synopsis of daily operations during field activities. The synopsis is not comprehensive but rather illustrates how and when the response objectives were achieved to date.

EPA's response team arrived onsite and the OSC spoke with the family to understand the situation and those that may have been in contact with the mercury. A detailed screening with mercury vapor concentration detection instruments (commercially, the Jerome and Lumex) was performed throughout the home to see if mercury was tracked through it. A few hotspots were identified during the screening, including one room in the basement. Individuals involved with incident were also screened along with the clothes they were wearing at the time. The storage/work room in the basement was heated and vented to try to combat the issue of the hot spots.

On June 7, 2024, the EPA Response Team spent the day removing items from the detached workshop. These items consisted of chemicals and a rock collection. Additionally, the mercury vacuum was utilized on the items and in the workshop. START spent the day inventorying items in the side yard and identifying potential hot spots in the basement room.

On June 8, 2024, ERRS spent the day continuing to remove chemicals and vacuuming in the workshop. START continued to create an inventory of items in the side yard and some items from the workshop were disposed of. For the entirety of the project, any items that were to be disposed of were placed into a roll-off dumpster lined with polyethylene plastic.

On June 9 and 10, 2024, ERRS continued to remove chemicals and vacuum the workshop. START screened property of several people who were helping the homeowner clear the workshop when the mercury spill was found and cleared them of contamination. START then continued inventory and hazard classification (HazCat) of chemicals in the workshop.

On June 11, 2024, START continued to HazCat and ERRS continued to clean and vacuum the workshop. Additionally, all items were removed from the basement storage/ workroom within the home. Each item was screened to determine which items were suitable to keep and which ones needed to be disposed of. ERRS removed the carpet in the room, vacuumed, and washed down the surfaces of the room with ethylenediaminetetraacetic acid, commonly known as mercury decontamination powder or MercX. After cleaning, an 8-hour clearance test with the Lumex was set-up to run overnight. Results from the clearance test showed mercury vapor concentrations had dropped to an average below 400 ng/m³ and the home was cleared for unrestricted occupancy.

Between June 12 and June 17, 2024, ERRS's focus was on the workshop

area. Vacuuming, washing/wiping with MercX, removal of additional porous surfaces like drywall and wood, and sealing of cracks or crevices in the floor and walls were all conducted to reduce the mercury vapors to acceptable levels. START continued inventory and HazCat operations. As they were able, the team also began neutralization of some of these chemicals to enable their disposal as solid waste.

On June 17, 2024, START began bagging the remaining items in the side yard that came out of the workshop in order to screen them with the Lumex. This allowed the items to be evaluated per the process described in the 2019 Mercury Response Guidebook and items were kept or disposed accordingly, with a more comprehensive record available in START's site completion report.

Additionally, the chemicals that were collected from the site were loaded into DOT certified containers and transported by ERRS to a temporary storage location while off-site disposal is coordinated.

On June 18, 2024, no additional hotspots could be identified in the workshop, ERRS finished replacing the drywall, caulking any cracks in the floor and walls, and painting the floor with a layer of epoxy. After these final cleaning efforts, results from a screening in the workshop showed concentrations had dropped below 600 ng/m³ and the space was cleared for normal use.

On June 19, 2024, the remainder of the items from the workshop were organized into the side yard and workshop. All waste was loaded into a poly-lined roll-off dumpster and transported to the temporary staging location awaiting off-site for disposal.

b) State/local

Counterparts at the Weber-Morgan County Health Department have assisted in storing roll-off dumpsters at their fenced-in parking lot while off-site disposal is lined up.

3. Enforcement

Where the responsible parties are known, an effort initially shall be made, to the extent practicable, to determine whether they can and will perform the necessary removal action promptly and properly.

B. Planned Removal Actions

1. Planned action description

The EPA removal team is currently coordinating the final disposal of contaminated materials, hazardous chemicals, and recovered mercury. All other site operations have been completed.

2. Contribution to remedial performance

The proposed actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action at the site.

3. ARARs

Removal actions conducted under CERCLA are required to attain ARARs to the extent practicable. In determining whether compliance with ARARs is practicable, the OSC may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted.

To date, no ARARs have been identified for this Site.

4. Project Schedule

Final disposal of all contaminated materials, hazardous chemicals and recovered mercury is anticipated to occur by September 30, 2024.

C. Estimated Costs*

Contractor costs (ERRS/START staff, travel, equipment)	\$207,500
Other Extramural Costs (Strike Team, other Fed Agencies)	\$0
Contingency costs (20% of subtotal)	\$41,500
Total Removal Project Ceiling	\$249,000

*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 have increased 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 is not inconsistent with the National Contingency Plan. This decision is based on the administrative record for the Site.

Conditions at the site met 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 **\$249,000**, this amount will be funded from the Regional removal allowance.

Joe Payne,
Federal On-Scene Coordinator

Date

Attachments

Attachment 1: Initial Site Visit Report Prepared by Utah DEQ

Attachment 2: EPA Contractor Initial Entry Screening Logs

Attachment 3: EPA Contractor Chemical Inventory Log

ATTACHMENT 1:
Initial Site Visit
Report Prepared by
Utah DEQ



SITE VISIT REPORT

DATE: 6/4/2024

SITE: Ogden Mercury spil

EPA SEMS ID #: NA

SITE ADDRESS: 980 N 1025 E , Ogden, Utah

AREA OF INTEREST: Detached Shed.

Prepared by: Thomas Daniels

Utah Department of Environmental Quality
Division of Environmental Response and Remediation
195 North 1950 West
Salt Lake City, UT 84116

ATTENDEES: Thomas Daniels, Robin Keeler, Nicole Turner (Weber-Morgan Health Department) Luis Alfonseco.

ARRIVAL TIME: - DEPARTURE TIME:

SUMMARY:

Purpose of Visit: On June 3, 2024, EPA received a report of a mercury release in a detached shed at a residence in Ogden, Utah. Relatives of a deceased family member were cleaning out the shed and discovered a plastic bottle that was leaking mercury onto a shelf. The report also noted 30-40 bottles of other chemicals. DERR representatives visited the residence on June 4, 2024, to evaluate and document site conditions.

DERR met Nicole Turner from the Weber Morgan Health Department, Luis Alofonseco from Environmental Restoration, and the property owner and family members.

The family had removed most items stored in the detached shed before discovering the mercury taking up most of the driveway. A few small bottles of mercury and other chemicals had also been removed from the shed and placed in a container on a table.



DERR representatives then donned respiratory protection and TYVEK booties and entered the detached shed. Thomas Daniels entered the shed, while Robin Keeler remained near the door to observe.

Several bottles of pesticides and fertilizers were located on a workbench on the south side of the shed.



An elevated shelf along the east and north sides of the shed contained several bottles of other chemicals including the leaking bottle of mercury.



Free mercury was observed leaking from the bottom of a 1-liter plastic bottle, the mercury appeared to have saturated the underlying shelf.



Another 4 - 5 liter bottles of mercury were located on the shelf as well



There were probably another 30 - 40 bottles of miscellaneous chemicals with weathered labels



After observing and documenting conditions in the shed DERR evacuated the shed and made sure that it was locked behind them.

Family members stated that as soon as the mercury was discovered they stopped clearing material out of the shed and they did not think that there had been anyone going into the house, DERR instructed the family members to ventilate the home to ensure that if any mercury had been tracked into the house it would evaporate.

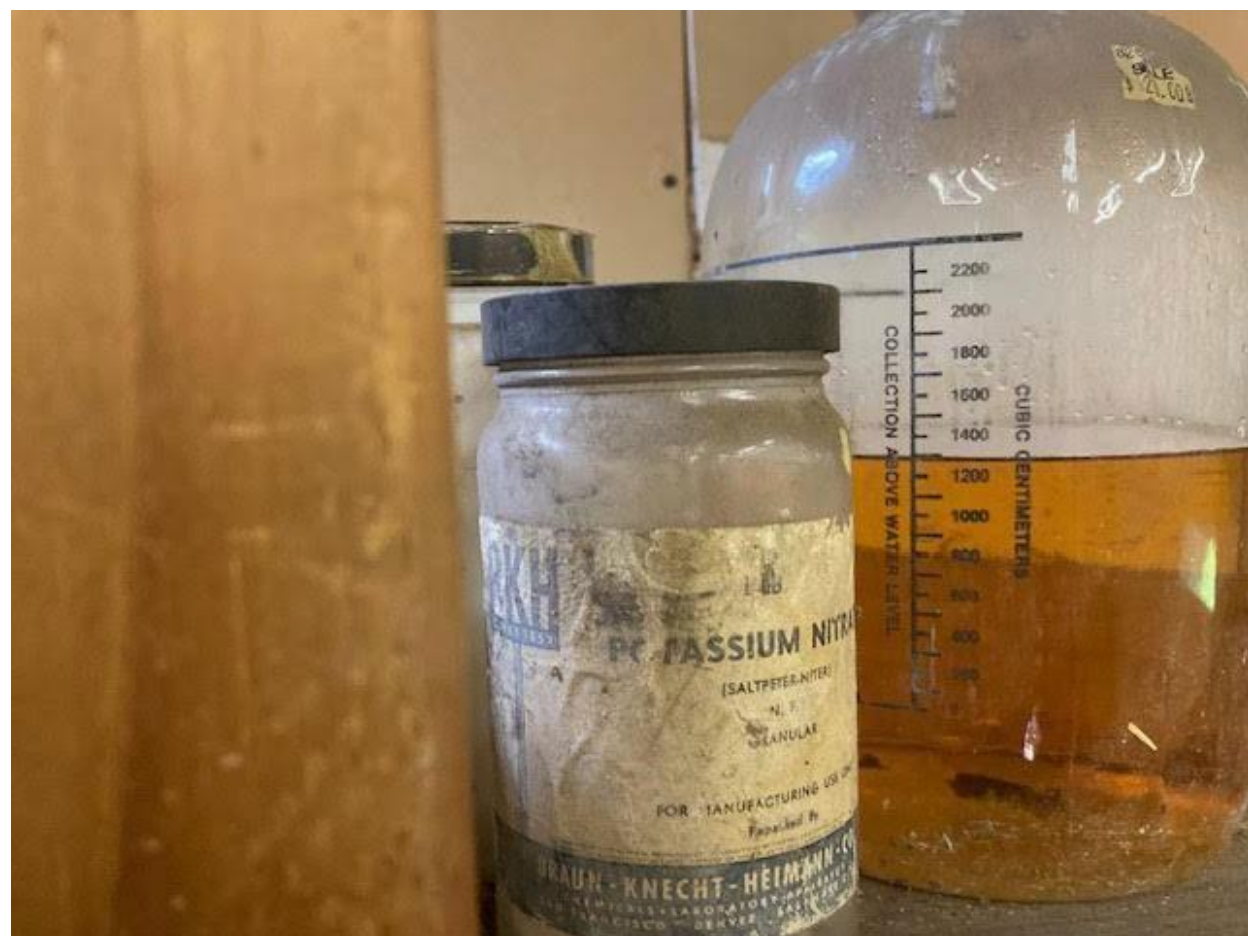
While no free mercury was observed on the lower shelf or the concrete floor, they have likely been contaminated. The items that had been stored in the shed are likely contaminated as well and will need to be tested.

PHOTO LOG:











ATTACHMENT 2: EPA Contractor Initial Entry Screening Logs

Date	Time	Instrument	Instrument ID	User(s)	Temperature	Measurement	Units	Height	Location/Item Description
6/6/2024	0846	Lumex	C01072	LF	73	3	ng/m³	BZ	Background-Driveway
6/6/2024	0900	Lumex	C01072	LF	73	220	ng/m³	BZ	Entry Way
6/6/2024	0901	Lumex	C01072	LF	73	90	ng/m³	FL	Entry Way
6/6/2024	0902	Lumex	C01072	LF	73	150	ng/m³	FL	Stairwell Downstairs
6/6/2024	0905	Lumex	C01072	LF	73	145	ng/m³	FL	Main Bedroom
6/6/2024	0906	Lumex	C01072	LF	73	150	ng/m³	BZ	Main Bedroom
6/6/2024	0907	Lumex	C01072	LF	73	160	ng/m³	FL	Dog Bed
6/6/2024	0909	Lumex	C01072	LF	73	165	ng/m³	FL	Flip Flops/Sandals
6/6/2024	0910	Lumex	C01072	LF	73	160	ng/m³	FL	Main Bedroom - East side of the bed
6/6/2024	0912	Lumex	C01072	LF	73	120	ng/m³	FL	Main Bedroom Closet
6/6/2024	0914	Lumex	C01072	LF	73	150	ng/m³	FL	Main Bedroom Closet Shoes
6/6/2024	0915	Lumex	C01072	LF	73	200	ng/m³	FL	Cowboy boots in Main Bedroom
6/6/2024	0916	Lumex	C01072	LF	73	165	ng/m³	FL	Storage Room
6/6/2024	0917	Lumex	C01072	LF	73	170	ng/m³	BZ	Storage Room
6/6/2024	0920	Lumex	C01072	LF	73	6500	ng/m³	N/A	Washing Machine
6/6/2024	0921	Lumex	C01072	LF	73	40	ng/m³	N/A	Drying Machine
6/6/2024	0923	Lumex	C01072	LF	73	180	ng/m³	BZ	Dry Storage
6/6/2024	0924	Lumex	C01072	LF	73	1500	ng/m³	BZ	2nd Bedroom Downstairs
6/6/2024	0925	Lumex	C01072	LF	73	1100	ng/m³	FL	2nd Bedroom Downstairs
6/6/2024	0928	Lumex	C01072	LF	73	300	ng/m³	N/A	Vacuum Machine
6/6/2024	0929	Lumex	C01072	LF	73	1600	ng/m³	FL	2nd Bedroom Downstairs East Side
6/6/2024	0930	Lumex	C01072	LF	73	1200	ng/m³	FL	2nd Bedroom Closet by Ammo
6/6/2024	0931	Lumex	C01072	LF	73	1200	ng/m³	BZ	2nd Bedroom Closet
6/6/2024	0938	Lumex	C01072	LF	73	250	ng/m³	BZ	Stairwell Downstairs
6/6/2024	0939	Lumex	C01072	LF	73	275	ng/m³	FL	Stairwell Upstairs
6/6/2024	0940	Lumex	C01072	LF	73	275	ng/m³	FL	Stairwell Landing
6/6/2024	0941	Lumex	C01072	LF	73	250	ng/m³	BZ	Living Room
6/6/2024	0944	Lumex	C01072	LF	73	275	ng/m³	FL	Living Room
6/6/2024	0945	Lumex	C01072	LF	73	1000	ng/m³	FL	Kitchen
6/6/2024	0947	Lumex	C01072	LF	73	250	ng/m³	BZ	Dining Room
6/6/2024	0948	Lumex	C01072	LF	73	400	ng/m³	FL	Mat in front of Fridge
6/6/2024	0949	Lumex	C01072	LF	73	800	ng/m³	FL	Mat in front of Kitchen Sink
6/6/2024	0951	Lumex	C01072	LF	73	1400	ng/m³	N/A	Kitchen Sink Drain (Left)
6/6/2024	0952	Lumex	C01072	LF	73	300	ng/m³	N/A	Kitchen Sink Drain (Right)
6/6/2024	0953	Lumex	C01072	LF	73	750	ng/m³	FL	Mat in front of Stove
6/6/2024	0955	Lumex	C01072	LF	73	275	ng/m³	BZ	Kitchen
6/6/2024	0956	Lumex	C01072	LF	73	275	ng/m³	FL	Hallway
6/6/2024	0957	Lumex	C01072	LF	73	240	ng/m³	FL	Bathroom
6/6/2024	1000	Lumex	C01072	LF	73	335	ng/m³	FL	Bathroom Mat
6/6/2024	1002	Lumex	C01072	LF	73	335	ng/m³	FL	Bathroom Mat 2
6/6/2024	1003	Lumex	C01072	LF	73	375	ng/m³	FL	Bathroom Mat 3
6/6/2024	1005	Lumex	C01072	LF	73	315	ng/m³	BZ	Bathroom
6/6/2024	1007	Lumex	C01072	LF	73	290	ng/m³	N/A	Bathroom Sink
6/6/2024	1008	Lumex	C01072	LF	73	275	ng/m³	N/A	Toilet
6/6/2024	1009	Lumex	C01072	LF	73	400	ng/m³	FL	Bath Sink Drain
6/6/2024	1011	Lumex	C01072	LF	73	2800	ng/m³	N/A	Hamper
6/6/2024	1012	Lumex	C01072	LF	73	220	ng/m³	BZ	Hall Closet
6/6/2024	1014	Lumex	C01072	LF	73	230	ng/m³	FL	Hall Closet
6/6/2024	1015	Lumex	C01072	LF	73	260	ng/m³	FL	Bedroom Upstairs (West)
6/6/2024	1016	Lumex	C01072	LF	73	235	ng/m³	FL	Dog Bed Upstairs
6/6/2024	1017	Lumex	C01072	LF	73	245	ng/m³	BZ	Bedroom Upstairs (West)
6/6/2024	1020	Lumex	C01072	LF	73	130	ng/m³	FL	Bedroom Upstairs (East)
6/6/2024	1031	Lumex	C01072	MM		3600	ng/m³	N/A	Son in laws shoes (inside)
6/6/2024	1033	Lumex	C01072	MM		81	ng/m³	N/A	Black Sketcher Shoes (inside)
6/6/2024	1034	Lumex	C01072	MM		35	ng/m³	N/A	Black Sketcher Shoes (bottom)
6/6/2024	1100	Lumex	C01072	MM		80	ng/m³	BZ	Honda CR-V Driver's Side (Front)
6/6/2024	1100	Lumex	C01072	MM		50	ng/m³	FL	Honda CR-V Driver's Side Floor Mat (Front)
6/6/2024	1101	Lumex	C01072	MM		55	ng/m³	N/A	Honda CR-V Driver's Side Seat (Front)
6/6/2024	1102	Lumex	C01072	MM		50	ng/m³	BZ	Honda CR-V Passenger's Side (Front)
6/6/2024	1102	Lumex	C01072	MM		35	ng/m³	FL	Honda CR-V Passenger's Side Floor Mat (Front)
6/6/2024	1102	Lumex	C01072	MM		45	ng/m³	FL	Honda CR-V Driver's Side Floor Mat (Back)
6/6/2024	1110	Lumex	C01072	MM		60	ng/m³	BZ	Dodge Mini Van Driver's Side (Front)
6/6/2024	1110	Lumex	C01072	MM		40	ng/m³	BZ/FL	Dodge Mini Van Passenger's Side Seat and Floor (Front)
6/6/2024	1112	Lumex	C01072	MM		40	ng/m³	BZ/FL	Dodge Mini Van Passenger's Side Seat and Floor (Back)
6/6/2024	1307	Lumex	C01072	MM		>40000	ng/m³	N/A	Men's Shoes
6/6/2024	1308	Lumex	C01072	MM		>30000	ng/m³	N/A	Two Pair of Shoes
6/6/2024	1309	Lumex	C01072	MM		>15000	ng/m³	N/A	Women's New Balance
6/6/2024	1311	Lumex	C01072	MM		2000	ng/m³	N/A	Socks
6/6/2024	1312	Lumex	3338	MM		15	ng/m³	N/A	Ruby's Paws
6/6/2024	1313	Lumex	3338	MM		23	ng/m³	N/A	Midnight's Paws
6/6/2024	1535	Lumex	3338	LF		218	ng/m³	BZ	Entry
6/6/2024	1536	Lumex	3338	LF		155	ng/m³	FL	Hamper Old Location
6/6/2024	1538	Lumex	3338	LF		140	ng/m³	FL	Kitchen Hot Spot
6/6/2024	1540	Lumex	3338	LF		1100	ng/m³	N/A	Kitchen Sink (Left)
6/6/2024	1541	Lumex	3338	LF		460	ng/m³	BZ	Stairwell Downstairs
6/6/2024	1543	Lumex	3338	LF		900	ng/m³	FL	Stairwell Downstairs
6/6/2024	1544	Lumex	3338	LF		1200	ng/m³	BZ	2nd Bedroom Downstairs
6/6/2024	1546	Lumex	3338	LF		3000	ng/m³	FL	2nd Bedroom Downstairs Carpet
6/6/2024	1547	Lumex	3338	LF		3000	ng/m³	FL	2nd Bedroom Downstairs in front of Closet
6/6/2024	1548	Lumex	3338	LF		3000-3500	ng/m³	FL	2nd Bedroom Downstairs Walkway
6/6/2024	1550	Lumex	3338	LF		1200	ng/m³	N/A	Vacuum Machine
6/6/2024	1551	Lumex	3338	LF		1300	ng/m³	N/A	Washing Machine
6/6/2024	1553	Lumex	3338	LF		1300	ng/m³	BZ	2nd Bedroom Downstairs Closet
6/6/2024	1554	Lumex	3338	LF		<11000	ng/m³	N/A	2nd Bedroom Downstairs Side Table
6/6/2024	1703	Jerome	C01076	PI		465.5	µg/m³	N/A	Kid Shoes
6/6/2024	1704	Jerome	C01076	PI		6.56	µg/m³	FL	Nissan Mini Van Driver's Side (Back)

Pre-Bagging
Pre-Bagging
Pre-Bagging

[illegible]

Date	Time	User(s)	Location/Item Description	Height	Temperature °F	Jerome ug/m³	MultiRae (C010XX)					Ludlum 192 cs/m	TVA	
							CO (PPM)	LEL (%)	H2S (PPM)	O2 (%)	VOC (PPM)		PID (PPM)	FID (PPM)
6/7/2024	1108	PI/MM/LF	Floor (East)	FL	87	23.06	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1109	PI/MM/LF	Breathing Zone (East)	BZ	87	6.74	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1110	PI/MM/LF	Bench(East)	BZ	87	20.88	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1111	PI/MM/LF	Bench mid shelft (East)	N/A	87	48.18	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1112	PI/MM/LF	Floor Bench (East)	FL	87	20.08	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1113	PI/MM/LF	North East Corner Bench	FL	87	24.45	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1114	PI/MM/LF	North East Corner Bench (middle shelf)	N/A	87	23.7	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1115	PI/MM/LF	North East Corner Bench top	BZ	87	11.56	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1116	PI/MM/LF	Under shelf (East)	FL	87	23.57	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1117	PI/MM/LF	Southeast corner midshelf	N/A	87	13.39	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1118	PI/MM/LF	East top shelf	N/A	87	10.08	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1119	PI/MM/LF	Dust pan East shelf	N/A	87	4.9	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1120	PI/MM/LF	Top shelf Southeast corner	N/A	87	10	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1121	PI/MM/LF	Middle Southeast	N/A	87	10.66	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1122	PI/MM/LF	Floor Southeast end	N/A	87	11.46	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1123	PI/MM/LF	Shelf floors south end	N/A	87	11.02	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1124	PI/MM/LF	Vacuum	N/A	87	>500	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1125	PI/MM/LF	Saw dust collector (identified as wood chipped in field notes)	N/A	87	8.57	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1126	PI/MM/LF	Broom	N/A	87	3	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1127	PI/MM/LF	North end shelf	FL	87	6.78	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1128	PI/MM/LF	Metal dust pan	N/A	87	6.27	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1129	PI/MM/LF	North top shelf	N/A	87	7.96	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1130	PI/MM/LF	North center top shelf	N/A	87	9.08	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1131	PI/MM/LF	North center top shelf	N/A	87	7.54	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1132	PI/MM/LF	North center top shelf middle	N/A	87	15.75	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1133	PI/MM/LF	Northeast corner middle	N/A	87	26.02	0	0	0	20.9	0	< 3X	0	1.1

												background		
6/7/2024	1134	PI/MM/LF	Bottom of Northeast corner middle	N/A	87	27	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1135	PI/MM/LF	Northeast corner top	N/A	87	46.78	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1136	PI/MM/LF	Fridge	N/A	87	7.85	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1137	PI/MM/LF	Fridge Compressor	N/A	87	1.97	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1138	PI/MM/LF	East bench top	N/A	87	10.05	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1139	PI/MM/LF	East middle shelf	N/A	87	11.36	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1140	PI/MM/LF	East bottom shelf	N/A	87	25.49	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1141	PI/MM/LF	Southwest corner floor	FL	87	17.37	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1142	PI/MM/LF	Northwest corner top shelf	N/A	87	5.4	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1143	PI/MM/LF	Northwest right of fridge	N/A	87	6.19	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1144	PI/MM/LF	Northwest over vice	N/A	87	5.43	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1145	PI/MM/LF	Northeast corner top shelf	N/A	87	5.15	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1146	PI/MM/LF	Pepsi bottle	N/A	87	16.08	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1147	PI/MM/LF	East top wall	N/A	87	8.89	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1148	PI/MM/LF	Southeast corner	N/A	87	9.76	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1149	PI/MM/LF	Southern corner	N/A	87	10.54	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1150	PI/MM/LF	South end top shelf	N/A	87	10.33	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1151	PI/MM/LF	Southwest top shelf	N/A	87	10.8	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1152	PI/MM/LF	West top shelf	N/A	87	10.94	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1153	PI/MM/LF	southwest end top shelf over bench	N/A	87	10.33	0	0	0	20.9	0	< 3X background	0	1.1
6/7/2024	1154	PI/MM/LF	Northwest corner top shelf over bench	N/A	87	7.63	0	0	0	20.9	0	< 3X background	0	1.1

Notes:

N/A Not applicable
ng/m³ nanograms per cubic meter

ATTACHMENT 3: EPA Contractor Chemical Inventory Log

Chemical	Matrix	Quantity	Container ID	Comments
Lithium battery	Solid	1 EA	Bucket 1	
Mercury	Solid	30 lbs	Bucket 2	Multiple containers inside bucket, weight estimated
Mercury	Solid	10 lbs	Bucket 3	Multiple containers inside bucket, weight estimated
Mercury	Solid	100 lbs	Bucket 4	Multiple containers inside bucket, weight estimated
Mercury	Solid	50 lbs	Bucket 5	Multiple containers inside bucket, weight estimated
Mercury	Solid	100 lbs	Bucket 6	Multiple containers inside bucket, weight estimated
Potassium ferricyanide	Solid	100g	Bucket 7	Weight estimated
Ammonium sulphocyanate	Solid	100g	Bucket 7	Weight estimated
Uranium acetate	Solid	25g	Bucket 8	Volume estimated; ~96 c/m on contact with Ludlam 2241 and 44-9 probe
Potassium nitrate	Solid	100g	Bucket 9	Multiple containers, weight is an estimated combined total
Silver nitrate	Solid	100g	Bucket 9	Multiple containers, weight is an estimated combined total
Silver nitrate	Aqueous	100mL	Bucket 9	Multiple containers, volume is an estimated combined total
Sodium nitrate	Solid	100g	Bucket 9	Weight estimated
Calcium nitrate	Solid	100g	Bucket 9	Weight estimated
Potassium perchlorate	Solid	500g	Bucket 10	Multiple containers, weight is an estimated combined total
Ammonium perchlorate	Solid	500g	Bucket 10	Multiple containers, weight is an estimated combined total
4-aminobenzoic acid	Solid	500g	Bucket 11	Weight estimated
Sodium arsenic	Solid	100g	Bucket 12	Weight estimated; label partially torn
D76 developer	Solid	1500g	Bucket 13	Multiple containers, weight is an estimated combined total
D76-R developer	Solid	500g	Bucket 13	Weight estimated
DK-50 developer	Solid	200g	Bucket 13	Weight estimated
D72 developer	Solid	500g	Bucket 13	Weight estimated
Dektol	Solid	1500g	Bucket 13	Weight estimated
Hydroquinone	Solid	500g	Bucket 13	Weight estimated
Calcium carbide	Solid	1000g	Bucket 14	Weight estimated
Hypo crystals	Solid	2000g	Bucket 15	Multiple containers, weight is an estimated combined total
Sodium bisulfate	Solid	1000g	Bucket 15	Multiple containers, weight is an estimated combined total
Sulfurated potash	Solid	250g	Bucket 15	Weight estimated
Hypo cleaning agent powder	Solid	1000g	Bucket 15	Multiple containers, weight is an estimated combined total
Oxalic acid	Solid	20g	Bucket 15	Multiple containers, weight is an estimated combined total
Chromium intensifier	Solid	20g	Bucket 15	Weight estimated
Lusterbrite	Solid	1000g	Bucket 15	Weight estimated
Potassium iodide crystals	Solid	500g	Bucket 16	Weight estimated
4',5'-dibromofluorescein	Solid	500g	Bucket 17	Weight estimated
Sodium bromide	Solid	250g	Bucket 17	Weight estimated
D-11 developer	Solid	500g	Bucket 17	Multiple containers, weight is an estimated combined total
D-19 developer	Solid	1000g	Bucket 17	Multiple containers, weight is an estimated combined total
DK-60a developer	Solid	1000g	Bucket 17	Multiple containers, weight is an estimated combined total
Ammonium chloride	Solid	1000g	Bucket 18	Multiple containers, weight is an estimated combined total
Stannous chloride	Solid	200g	Bucket 18	Multiple containers, weight is an estimated combined total
Silver chloride	Solid	100g	Bucket 18	Weight estimated
Microdol replenisher	Solid	500g	Bucket 18	Weight estimated
Microdol developer	Solid	2500g	Bucket 18	Multiple containers, weight is an estimated combined total
Microdol-x developer	Solid	300g	Bucket 18	Weight estimated
Magnesium sulfate	Solid	2500g	Bucket 19	Multiple containers, weight is an estimated combined total
Metol	Solid	1500g	Bucket 19	Weight estimated
Ephedrine sulfate	Solid	500g	Bucket 19	Weight estimated
Ammonium sulfate	Solid	500g	Bucket 19	Weight estimated
Copper (II) sulfate (cupric sulfate)	Solid	500g	Bucket 19	Weight estimated
Zinc sulfate	Solid	50g	Bucket 19	Multiple containers, weight is an estimated combined total
Calcium sulfates	Solid	50g	Bucket 19	Weight estimated
Sodium sulfite	Solid	1000g	Bucket 20	Multiple containers, weight is an estimated combined total
Potassium permanganate	Solid	500g	Bucket 21	Weight estimated
Potassium dichromate	Solid	800g	Bucket 21	Multiple containers, weight is an estimated combined total
o-phenylenediamine	Solid	250g	Bucket 22	Weight estimated
Flammable aerosols	Aerosol	12 EA	Bucket 23	Multiple brands
Diazon	Solid	500g	Bucket 24	Weight estimated
Potassium chrom alum	Solid	1500g	Bucket 25	Weight estimated
Brown toner	Solid	1500g	Bucket 25	Weight estimated
Rapid selenium toner	Solid	1500g	Bucket 25	Weight estimated
Poly/Bed 812 embedding media	Aqueous	500mL	Bucket 25	Weight estimated
Ammonium phosphate	Solid	1000g	Bucket 26	Multiple containers, weight is an estimated combined total
Tannic acid	Aqueous	500mL	Bucket 27	Transferred from original container. Volume estimated.
Ammonium chloride	Solid	2500g	Bucket 28	Container had a crack and broke when placing in bucket. Bottle was taped with red poly tape. Broken glass warning on bucket.
Sodium chlorate	Solid	2500g	Bucket 29	Weight estimated
Barium carbonate	Solid	500g	Bucket 31	Weight estimated; could not be recontainerized without plumbing hazards. Container has Hg contamination.
Ammonium phosphate	Solid	1000g	Bucket 32	Multiple containers, weight is an estimated combined total

Weed preventer	Solid	10 lbs	Drum 1	Multiple containers, weight is an estimated combined total
Ortho Home Defense Insect Killer	Aqueous	5 gal	Drum 1	Multiple containers, weight is an estimated combined total
AMDRO Ant Block	Aqueous	3 gal	Drum 1	Multiple containers, weight is an estimated combined total
Ortho Diazanon Plus	Aqueous	1L	Drum 1	Weight estimated
Roundup concentrate	Aqueous	14 EA	Drum 1	Multiple containers, weight is an estimated combined total
Orthenex insect & disease	Aqueous	500mL	Drum 1	Weight estimated
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Aqueous	14 EA	Drum 1	14 containers, active ingredients include: glyphosate, diazanon, trifludimoxazin
Various pesticides/herbicides	Solid	10lbs	Drum 1	Multiple containers, weight is an estimated combined total
Various pesticides/herbicides	Solid	10lbs	Drum 1	Multiple containers, weight is an estimated combined total
Glacial acetic acid	Aqueous	10L	Drum 2	Multiple unopened containers
46-0-0 fertilizer	Solid	10 lbs	Drum 3	Weight estimated
Ethanol	Solid	250mL	Drum 4	Weight estimated
VM+P Naptha	Solid	4L	Drum 4	Weight estimated
Xylene	Solid	4L	Drum 4	Weight estimated
Fiberglass resin	Solid	1L	Drum 4	Weight estimated
Paint thinner	Solid	500mL	Drum 4	Weight estimated
Plastic cement	Solid	100mL	Drum 4	Weight estimated
Sunband surface prep	Solid	1L	Drum 4	Weight estimated
Acetone	Solid	5 gal	Drum 4	Weight estimated
Diluted bleach	Aqueous	4L	Drum 5	Weight estimated
Ferrottype polish	Aqueous	250mL	Drum 5	Weight estimated
1,2-Dichloroethane	Aqueous	4L	Drum 5	Weight estimated
Lysol disinfectant	Aqueous	1L	Drum 5	Weight estimated
Aluminum oxide	Solid	5 lbs	Drum 5	Multiple containers, weight is an estimated combined total
N- (4-hydroxyphenyl)	Solid	1500g	Drum 5	unknown container, based on Gemini results
Photo chemicals misc	Solid	2500g	Drum 6	Hazcat data included; SDS sheets not found