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**HAZARDOUS MATERIALS PROGRAMS**

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Incident Response No: 17-03-13-02 Report Date April 5, 2017

Multiple Mercury Spills on Manzanita Way, Antioch CA

**Monday, March 13, 2017**

On Monday, March 13, 2017 at 10:17 am Contra Costa County Health Services Hazardous Materials Program (CCHMP) front office received a call from a resident of Manzanita Way in Antioch, California. The call was immediately routed to Hazardous Materials Specialist (HMS) Point Person, Lacey Friedman and assigned IR number 17-03-13-31 (attachment A). The complainant identified herself to HMS Friedman as only Marlana. Complainant reported to HMS Friedman that her boyfriend was working on a trailer in front of their home and noticed an odd silver substance in the street. Complainant and boyfriend then flagged down a nearby Antioch Public Works (APWD) crew member to show and inquire about the material. The APWD informed the resident that the substance appeared to be mercury. Complainant was given CCHMP' phone number and told to call it.

HMS Friedman gathered additional information then began assembling a team to go to the site to assess the scene. Prior to dispatching a HMS team to the site, recent past mercury incidents were reviewed that had occurred in this neighborhood. This incident sounded very similar to incidents in December 2016 and January 2017, therefore it was decided that if this was mercury, an investigation should be launched to look for the source after the clean-up was completed.

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HMS Seth Heller, one of the two team members who would be going onsite, requested HMS Friedman to contact EPA for request of technical assistance via use their Lumex RA-915+ mercury vapor analyzer. The intent of requesting use of this, more sensitive instrument, was to try to track the source after clean-up of 2209 Manzanita in hopes of locating the original source.

At 10:30 am HMS Friedman dispatched HMS Heller and HMS Ian Williams in emergency vehicle #HM3 to investigate. While team was en route HMS Friedman contacted the EPA Federal On Scene Coordinator (FOSC) Rogow inquiring about possible use of the Lumex mercury detection device.

At approximately 11:05 HMS Heller and HMS Williams arrived on scene to 2209 Manzanita Drive, Antioch to survey the site. Once on scene there was a brief safety meeting upon which PPE was donned and a Jerome mercury detection device was employed. The Jerome is capable of detecting mercury as low as 1,000 ng/m<sup>3</sup>. Visualization of the material, followed up by monitoring, confirmed the presence of mercury contamination at the site. Mercury levels found were in the range of 4 to 30 mg/m<sup>3</sup> at approximately 73 degrees Fahrenheit when measured at the breathing level of an adult. Measurements were not taken at street level to avoid pegging or souring the Jerome meter. At 11:35 HMS Heller contacted HMS Friedman to request additional resources including more staff and more sulfur.

At 12:45 HMS Friedman and HMS Sara Dwight arrived on scene in vehicle HM1. At approximately the same time EPA Superfund Technical Assessment Response Team (START) contractor Craig Tiballi arrived on scene with the Lumex and began investigating. Shortly thereafter EPA FOSC Jason Musante also arrived.

Just after 12:45 all 4 HMS CCCHMP initiated incident response protocols including setting site control perimeters, identifying team member duties and discussing safety issues/PPE. The Jerome would be used to locate areas of mercury contamination and sulfur would be applied prior to use of the mercury vacuum. HMS Heller contacted FOSC Rogow to discuss appropriate outdoor mercury clean

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up levels. At 12:53 CCCHMP felt additional traffic control was necessary APWD Mike Bechtholdt) was contacted and additional safety cones were brought to scene. Antioch Police Department (APD) was also contacted to provide additional traffic control.

While CCHMP was performing clean-up of 2209 Manzanita way, EPA START contractor Craig Tiballi and EPA FOOSC Jason Musante located an additional contaminated site in front of a nearby home. Quickly one additional site evolved into 6 additional sites contaminated with visible mercury droplets.

At 14:11 CCCHMP ceased remediation at 2209 Manzanita and declared the incident beyond our capabilities. The decision was made to request clean-up assistance from the State Department of Toxic Substances and the EPA.

HMS Friedman contacted Antioch Police Department (APD) Officer Matt Koch to arrange for Manzanita Way from Sycamore to Mahogany closed to vehicular traffic. At 14:22 Manzanita Way was closed.

Further investigation of the neighborhood found that each area of contamination was in front of residential Republic Services refuse cans placed on the street that morning for pick-up. Review of two past incidents showed same pattern of contamination - - approximately 3-5 feet from curb in vicinity of where garbage cans are placed for pick-up. This finding lead to the hypothesis that a solid waste garbage truck had spread the contamination.

At 14:16 HMS Friedman contacted HMS Trisha Asuncion for assistance. HMS Asuncion placed calls to Republic Services and DTSC. HMS Asuncion notified DSTC Michael Pixton of the ongoing and expanding incident and requested the state's assistance. At this point HMS Friedman contacted CCCHMP Deputy Director Steve Morioka and requested the PIO become involved. The County Branch Operation Center (BOC) was established at 15:07. The Health Services IRIS system was also initiated (see attachment B) Additional notifications went out to the County Supervisor Diane Burgis on Monday, to Supervisor Federal Glover on Tuesday, and

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to the Deputy Health Officer Dr. Louise McNitt. These notifications hastened arrival of more media onsite. HMS Heller was established as the PIO on site for all media contact

Back on Manzanita Way, residents and pedestrians in the area were approaching officials with concern about the incident. Initial inquiries centered on if incident was a malicious act by criminals. Later concerns arose about toxicity and routes of entry. As time elapsed residents were anxious and upset about inability to enter or exit due to the street closure. APD directed residents to park elsewhere and walk into their homes, avoiding cordoned off areas. APD requested CCCHMP and EPA staff to assist with explaining the incident to residents. Many residents remained in their driveways or front yards much of the evening. Additional media began arriving including a circling helicopter. CCHMP and EPA made a concerted effort to speak with all individuals in the area to explain the risks and what would be happening next. As it was a school holiday, foot traffic was less than normal. No hostility was met, but concerns for their health and frustrations over inconvenience were high. Additionally there was a great concern by the residents with not being able to park in their garages or in front of their homes since the nearest street available for parking was a high crime/theft area.

HMS Friedman spoke to Republic Services beginning at approximately 15:00 (Julio Leora and Travis Armstrong) to request that the truck that was on Manzanita Way this morning be located and tested for mercury levels. At 15:27 the truck arrived on Sycamore Way and was routed to Manzanita way. The EPA used the Lumex to test the vehicle load arms, receiving basin on front of truck and the gasket area where the trash compactor compressor air exits. Unfortunately the area most likely to have contained the mercury, the trash collection bin area, could not be tested due to safety concerns. At 15:40 the areas of the truck that *could* be tested, did not detect mercury in levels above background.

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CCCHMP discussed the pattern of contamination with the garbage truck driver in hopes of gathering more information on how mercury might have been spread. The driver reported that the contamination areas appeared to be where he likely compacted the load. He explained that because this neighborhood was late in his route, his truck was rather full making more frequent compaction necessary. Each time he activated the level to compact, it was common to see some expulsion of debris and air from a gasket on the truck. The pattern of contamination was consistent with the location of this gasket. This information was consistent with the hypothesis that the mercury spill was spread on the garbage truck route after someone disposed of mercury in their trash can.

After additional discussions with the driver about his exact route as well as about mercury exposure, the truck was released. A copy of the driver's route was provided to CCCHMP. (see attachment C)

From approximately 16:00 to 17:30 CCCHMP continued interfacing with community and the media while waiting for the two clean-up contractors to arrive. EPA START continued to monitor/search for additional contaminated sites on Manzanita Street as well as other streets on the garbage truck route. Monitoring was also done on sidewalks, walkways to homes and in Contra Loma Estates Park. In the end 7 sites were identified as having visible mercury contamination that exceeded 5,000 ng/m<sup>3</sup> at ground-level. The contamination was very wide spread. Of the seven areas, the smallest area encompassed 225 square feet while the largest area encompassed 4,000 square feet.

Between 19:00 and 19:25, EPA contractor Environmental Quality Management (EQM) and DTSC contractor PARC Environmental arrived onsite to begin mercury cleanup operations. At 19:40 street lighting was brought in and clean-up began.

As darkness approached HMS Friedman requested APD to replace police volunteers with sworn officers. Police returned to site and stayed for duration of the evening and early morning hours.

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CCCHMP HMS Dempsey and HMS Umemoto arrived on site at 20:41. Sulfur application and mercury vacuuming continued throughout the night in order to remove gross contamination of visible mercury drops from the seven contaminated areas. Lumex continued to show levels at above 50,000 at ground level after initial mercury vacuuming operation.

### Tuesday, March 14, 2017

All Federal, State and County staff departed the site at approximately 0400 hrs. All seven hot zones remained cordoned off.

Cleanup operations resumed in the morning at approximately 0830 hours with new US EPA staff FOSC Marty Powell. On this day only the USEPA contractor was able to perform clean-up activities. DTSC contractors were unable to assist on March 14 due to exceeding maximum allowable working hours. HMS Heller and Friedman continued to handle public inquires on scene. US EPA put in a request for mobile command vehicle and portable restrooms facilities

After each area was vacuumed, readings were taken with Lumex. Mercury levels were documented via both paper and on pavement with chalk. The footprint of high contamination was decreased after vacuuming, but elevated levels still remained in area where mercury was able to find pathway into cracks or below road surface. Decision was made to complete one vacuum of each area, then immediately start the whole process again, doing a second pass with sulfur/vacuum over all 7 identified areas. Mercury levels via Lumex monitoring were documented at each step

Around 1100 hours. CCCHMP began working with County PIO Vicky Balladeras as well as with US EPA Community Relations staff person Sara Caffaso and PIO Rusty Harris, to create a bilingual factsheet for the residents. These public relations US EPA staff arrived onsite to continue working on factsheet and to assist CCCHMP with public inquiries (in-person and media).

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After review and approval, CCC Health Officer, CCCHMP and U.S. EPA, the factsheet was printed and delivered to site. Door to door distribution of factsheets began at 18:00 hours. Factsheet contained information on the hazards of mercury and how to dispose of it legally and appropriately to avoid this situation occurring a fourth time. (see attachment D)

Three teams of two delivered the factsheets until dark. It was decided to use trained staff persons who could discuss the issues with any residents encountered rather than utilizing volunteers. Teams were made up of 4 CCCHMP specialists and 2 US EPA public relations staff. Three hundred flyers were disseminated on this evening. Some were provided to residents directly and some were placed on gates or near doors. More would be delivered the following morning. APD patrolled area during door to door factsheet delivery.

US EPA contractor EQM continued vacuuming and START continued monitoring and documenting mercury vapor concentrations after each round of vacuuming. CCCHMP and EPA continued operations until 20:00. HMS Friedman contacted the DTSC Duty Officer to request that DTSC contractor Parc Environmental return to work site on Wednesday morning to assist with clean-up.

### Wednesday, March 15, 2017

Work commenced at 0930 with two clean-up crews and CCHMP. The second round of sulfur application and vacuuming reduced the mercury contamination footprint in some areas, but mercury vapor concentrations exceeding 50,000 ng/m<sup>3</sup> were still present at ground level. FOSC Powell and FOSC Michele Rogow decided to conduct a third round of sulfur application and vacuuming of all 7 sites and then to reassess levels remaining.

At approximately 0:930 hrs. Six HMS arrived on scene to canvas remaining area with factsheets approximately. In all approximately 600 factsheets were delivered.

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Thursday, March 16, 2017

A conference call was held at 16:00 with DTSC Pixton, EPA Marty Powell, EPA Michel Rogow, CCCHMP Director Randal Sawyer, CCCHMP Deputy Director Morioka, HMS Friedman, HMS Heller, HMS Dwight, to confirm site-specific action levels and clearance protocols. Based on ATSDR guidelines, consultation with a U.S. EPA toxicologist, previous U.S. EPA experience involving mercury cleanups, and the concurrence of Dr. McNitt, a site-specific action level of 3,000 ng/m<sup>3</sup> at 80 degrees Fahrenheit and 2.5-3.0 feet above ground surface (a child's breathing zone) was the protocol selected.

The following site-specific mercury clearance protocols were determined during the conference call:

Each area would be processed with sulfur and vacuumed three times, removing all visible mercury. Next, mercury vapor concentrations would be measured utilizing the Lumex at approximately 2.5-3.0 feet above ground surface. If an area surveyed contained mercury vapor concentrations below the action level of 3,000 ng/m<sup>3</sup>, then no further mercury cleanup would be required. Consistent with U.S. EPA mercury vapor clearance protocols, final clearance must be conducted with an ambient temperature of at least 80 degrees Fahrenheit. Given that site conditions at this time of year would not achieve that desired temperature naturally, clearance activities would be initially conducted at the warmest part of the day, and then final clearance would be conducted at a later date when weather was predicted to reach 80 degrees.

Friday, March 17, 2017

By mid-morning, mercury cleanup operations were completed in all seven areas. Monitoring with the Lumex was done one final time in all seven areas consistent with the mercury clearance procedures described above. The ambient temperature fluctuated between 66 and 77 degrees during the final mercury vapor clearance. All readings and locations were carefully documented by EPA's



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START contractor. After three iterations of sulphur and vacuum, all readings in a child's breathing level were below the action level of 3,000 ng/m<sup>3</sup>. Because the weather was less than 80 degrees Fahrenheit, the U.S. EPA and CCCHMP will return to the site to conduct additional air monitoring at a later date when the temperature reached 80 degrees

Manzanita clean-up was completed and cleared mid-day. PIO released a press release informing the residents of such.

In accordance with protocol CCCHMP will contact EPA when temperatures are expected to reach 80 degrees Fahrenheit or final retesting of the area.

Report to be submitted by EPA contractors to CCCHMP at a later date. Hazardous waste generated during mercury cleanup activities was placed into approved, labeled containers. CCCHMP transported the waste to their hazardous waste storage area in Martinez at the end of each work day pending disposal by DTSC contractor PARC Environmental. 575 pounds of mercury contaminated debris was generated as a result of the cleanup activities; the exact amount of mercury that was spilled could not be determined as the waste stream contained contaminated debris, grass, weeds, and sulfur. Timeline of event is attached (see attachment E)

### Attachments:

A: IR report 16-03-13-02, pics and site safety plan

B: IRIS notification, press releases, social media, etc.

C: Garbage truck and route

D: Factsheet

E: Timeline

F: US EPA / START Quality Assurance Sampling Plan

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CONTRA COSTA  
HEALTH SERVICES

COMPLAINT, INCIDENT, AND NOTIFICATION REPORT FORM

Type (Circle One):  C  I  N

Received Date: 03/13/17 Received Time: 10:17 AM Received By: AM Lead: LF

Incident Date: \_\_\_\_\_ Incident Time: \_\_\_\_\_ Assigned to: \_\_\_\_\_ Assigned Date: \_\_\_\_\_

CASE NUMBER: 17-03-13-02

**COMPLAINANT / REPORTING PARTY:**

Name: MARLENA  RP is from Facility  Anonymous

Organization: \_\_\_\_\_

Primary Phone Number: (925)565-9303 Secondary Phone Number: 925 565 4528

Email: \_\_\_\_\_

Address: 2209 MANZANITA DR

City: ANTIOCH State: CA Zip Code: 94509

**FACILITY / LOCATION OF INCIDENT:**

Name: \_\_\_\_\_ CUPA Facility I.D.: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address: 2209 MANZANITA DR Unit: \_\_\_\_\_

City: ANTIOCH State: CA Zip Code: 94509

Location Description: LOCATED OUTSIDE OF TRAILER ON PROPERTY

**INITIAL INCIDENT DESCRIPTION:** MERCURY SPILL

**INCIDENT TYPE / DESCRIPTION:**

Community Warning System Level (Circle Highest Level):  N/A  0  1  2  3

FACILITY	ISO / MCAR	TRANSPORTATION	MISCELLANEOUS
<input type="checkbox"/> Fire or Explosion <input type="checkbox"/> Spill or Release <input type="checkbox"/> Startup or Shutdown <input type="checkbox"/> Flaring <input type="checkbox"/> Upset	<input type="checkbox"/> Fatality (one or more) <input type="checkbox"/> > 24 hrs. Hospital, 3 or more people <input type="checkbox"/> Flammable Vapor Cloud > 5,000 lbs.	<input type="checkbox"/> Tank Truck <input type="checkbox"/> Railroad <input type="checkbox"/> On Water <input type="checkbox"/> Pipeline <input type="checkbox"/> Fuel Tank	<input type="checkbox"/> Storm Drain/Creek <input type="checkbox"/> Drug Lab <input checked="" type="checkbox"/> Disposal/Abandonment <input type="checkbox"/> Odor Complaint <input type="checkbox"/> Other:

Time Enroute to Scene: \_\_\_\_\_ Time Arrived On Scene: \_\_\_\_\_ Time Departed From Scene: \_\_\_\_\_

**REFERRED TO OTHER AGENCY:**

**DTSC STATE FUNDING (if applicable):** CLU/ERER Number: \_\_\_\_\_

**STORMWATER STATUS (if applicable):**  Actual Discharge  Potential Discharge



• Contra Costa Alcohol and Other Drugs Abuse Services • Contra Costa Emergency Medical Services • Contra Costa Environmental Health • Contra Costa Health Plan •  
• Contra Costa Hazardous Materials Programs • Contra Costa Mental Health • Contra Costa Public Health • Contra Costa Regional Medical Center • Contra Costa Health Centers •

See Attached



**Hazardous Materials Spill Report: Cal OES Control #:17-2094**  
Warning Center to: ccchazmat

03/13/2017 09:53 PM

[Empty rectangular box for incident details]

Governor's Office of Emergency Services  
Hazardous Materials Spill Report

DATE: 03/13/2017 | RECEIVED BY Cal OES: Thomas Dalton | Cal OES  
CNTRL #:17-2094  
TIME: 2138 | RECEIVED BY OSPR: | NRC#:

1.a. PERSON NOTIFYING Cal OES  
1. NAME: Lacy Friedman | 2. AGENCY: Contra Costa County  
Hazmat  
3. PHONE #: 925-250-7898 | 4. EXT: | 5. PAGER #:

1.b. PERSON REPORTING SPILL (If different from above):  
1. NAME: | 2. AGENCY:  
3. PHONE #: | 4. EXT: | 5. PAGER #:

2. SUBSTANCE TYPE:  
a. SUBSTANCE: / b.QTY: / Amount / Measure / c. TYPE / d. OTHER / e.  
PIPELINE / f. Vessel Over => 300 tons  
1. Mercury / < / 5 / Gal(s) / CHEMICAL / / No / No

2.

3.

g. DESCRIPTION: Caller stated they have a release of less than 5 Gal(s) of Mercury due to illegal dumping causing the release to impact a public roadway no waterways were impacted, release has not been contained, EPA, DTSC, and County Hazmat will be conducting cleanup and are currently on scene. Road is currently closed until cleanup is complete.

h. CONTAINED: No | i. WATER INVOLVED: No  
j. WATERWAY: | k. DRINKING WATER IMPACTED: No  
l. KNOWN IMPACT: Road Closure

3.a. INCIDENT LOCATION: Manzanita Way  
b. CITY: Antioch | c. COUNTY: Contra Costa County | d. ZIP:  
94509

4. INCIDENT DESCRIPTION:

a. DATE: 3/13/2017 | b. TIME(Military): 1000 | c. SITE: Road |  
d. CAUSE: Human Error  
e. INJURIES: No | f. FATALITY: No | g. EVACUATIONS: No | h.  
CLEANUP BY: EPA, DTSC, County Hazmat  
e. INJURIES #: | f. FATALS #: | g. EVACS #:

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5. SUSPECTED RESPONSIBLE PARTY:

a. NAME: Unknown | b. AGENCY:  
c. PHONE#: | d. EXT:  
e. MAIL ADDRESS:  
f. CITY: | g. STATE: CA | h. ZIP:

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6. NOTIFICATION INFORMATION:

a. ON SCENE: Police Dept., Other | b. OTHER ON SCENE: EPA, DTSC,  
County Hazmat  
c. OTHER NOTIFIED: County OES, Fire Dept.  
d. ADMIN. AGENCY: Contra Costa County Health Services Department  
e. SEC. AGENCY:  
f. ADDITIONAL COUNTY: | g. ADMIN. AGENCY:  
h. NOTIFICATION LIST: DOG Unit: | RWQCB Unit: 5B

AA/CUPA, DFG-OSPR, DTSC, RWQCB, US EPA, USFWS, CDPH-D.O., Cal OES  
HAZMATUNIT, Cal OES REG, Co/WP, Co/Hlth, Co/E-Hlth

CONFIDENTIAL REMARKS:

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Created by Warning Center on 3/13/2017 9:38:56 PM  
Modified by Warning Center on 3/13/2017 9:52:41 PM Last

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California State Warning Center  
Governor's Office Emergency Services  
Phone: (916) 845-8911  
Warning.Center@oes.ca.gov

Link to Spill Report:

[https://urldefense.proofpoint.com/v2/url?u=http-3A\\_w3.calema.ca.gov\\_operation\\_al\\_mal haz.nsf\\_SpillAllDocs\\_C742E20D10255CF0882580E3001989C2-3FOpenDocument&d=DwIBAg&c=Rpr9LiQNIoGO8A8CMgAlNQ&r=S0jS0A081QNgB4a-k\\_X9SD1TTubB3usfrG7WkczC2Lg&m=Y1691btqvR5S\\_MOE9qI-H00DknV8bxtjvInoQfqyUXA&s=tYbNeC4cifBgjAhj65jKdW0dXD0KdUWpJdX0pxlY02Y&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A_w3.calema.ca.gov_operation_al_mal haz.nsf_SpillAllDocs_C742E20D10255CF0882580E3001989C2-3FOpenDocument&d=DwIBAg&c=Rpr9LiQNIoGO8A8CMgAlNQ&r=S0jS0A081QNgB4a-k_X9SD1TTubB3usfrG7WkczC2Lg&m=Y1691btqvR5S_MOE9qI-H00DknV8bxtjvInoQfqyUXA&s=tYbNeC4cifBgjAhj65jKdW0dXD0KdUWpJdX0pxlY02Y&e=)