U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Simi Valley Mercury - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX

Subject: **POLREP #1**
Mercury Release Emergency Response and Removal
Simi Valley Mercury

Simi Valley, CA
Latitude: 34.2797920 Longitude: -118.7148130

To:
From: Robert Wise, OSC
Date: 5/27/2015
Reporting Period: 05/11-18/2015

1. Introduction

1.1 Background

Site Number:	A986	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	5/11/2015	**Start Date:**	5/11/2015
Demob Date:	5/18/2015	**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Mercury release emergency response and removal

1.1.2 Site Description

The site is located in a residential area of Simi Valley, Ventura Co., CA. The spill is located on a approximately 175'x40' section of the 4100 block of Cochran Street (a public street) and on a private alley that serves six homes. Cochran Street is an east-west asphalt road which is two lanes in each direction. There was a 25'x25' section of Cochran Street at the entrance to the alley that contained visible mercury beads.

The alley is approximately 100 yards long and 25' wide. This road is made of degraded asphalt. The six homes are all single family, single story dwellings. Mercury was detected above the action level (3,000 ng/m^3 outside and 1,000 ng/m^3 inside) on several areas on the alley and residences including one home, a lawn, two residential driveways, two water meter boxes and a planter box.

1.1.2.1 Location

The site is located on the 4100 block of Cochran Street, Simi Valley, Ventura County, CA (Latitude: 34.2797920
Longitude: -118.7148130). The six homes are located off Cochran street on a private alley. (4137, 4139, 4143, 4141, 4145, 4147 Cochran Street)

1.1.2.2 Description of Threat

An unknown amount elemental mercury was spilled in an private alley that serves six homes. The mercury was reportedly spilled in December 2014 but, it was not reported until May 11, 2015. The same party that initially discovered it was also the reporting party. It was tracked by presumably vehicle traffic through out a large area of the alley and onto Cochran Street. It also migrated onto a private driveway and the lawn at 4145 Cochran Street; the planter boxes at 4137 Cochran Street and inside the entry hall and asphalt driveway at 4147 Cochran Street. The mercury was readily accessible to members of public at concentrations in excess of 55,000 ng/m^3 . See the site map in the Documents section of this web site for home and contamination locations.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Cochran Street

The initial survey of Cochran Street documented the presence of visible elemental mercury in an area approximately 25' x 25'. Ambient mercury vapor concentrations at this location exceeded 19,000 ng/m3. After the initial sealing with asphalt sealant, the hot sealer liberated additional mercury from the crevices of the asphalt and the ambient concentrations rose to 55,000 ng/m^3 . Although visible contamination was not present, additional contamination in excess of the 15,000 ng/m3 (3,000 ng/m^3 action level) on an area approximately 175'x40' moving in the flow of traffic in the two east bound lanes of Cochran and the center turn lane. Contamination was also detected above the action level in the concrete gutter skirt and the skirt of the in-street storm drain culvert.

EPA also surveyed three SVPD patrol cars and a VCoFD fire truck parked in the exclusion zone. Mercury vapor concentrations did not exceed the 1,000 ng/m^3 action level.

Alley

The survey of the private alley documented two distinct areas of contamination. The first was between 4137 and 4147 Cochran Street and in front of 4145 Cochran Street. There was a large amount of visible mercury at these locations. The driveway to the street contiguous and sidewalk between 4137 and 4147 Cochran Street was also contaminated above the action level and had visible mercury on it. Contamination levels on the asphalt street and alley exceed 20,000 ng/m^3 .

4137 Cochran Street

Mercury vapor screening inside the home detected concentrations of approximately 440 ng/m^3 . The planter box in front of the house had an area approximately 40'x 3' contaminated with mercury in excess of the 3,000 ng/m^3 to a depth of up to two feet below ground surface. The storm drain culvert in front of this home also had elevated concentrations of mercury in excess of 10,000 ng/m^3 . This storm drain culvert managed the storm runoff for the entire development.

4139, 4141 and 4143 Cochran Street

Mercury vapor levels in these three homes did not exceed 40 ng/m^3 .

4145 Cochran Street

Mercury vapors inside the home ranged from 75 -135 ng/m^3 . Contamination up to 12,000 ng/m^3 was discovered on an 18 inch wide swath of the front lawn directly adjacent to the alley. The water meter box, located in the front yard had concentrations in excess of 25,000 ng/m^3 inside the head space of the box. The driveway and the side yard concrete had concentrations in excess of 10,000 ng/m^3 .

4147 Cochran Street

There were elevated mercury vapor concentrations in excess of 1,000 ng/m^3 inside this home The contamination was limited to a small patch of carpet inside the entry hall (10,000 ng/m^3). A small patch of the asphalt driveway in front of the front door had in excess of 31,000 ng/m^3 (4'x6') on it. The green waste trash can had 13,000 ng/m^3 in its head space.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

EPA responded to a mercury spill in a residential neighborhood. The cause and source of the spill is unknown at this time.

2.1.2 Response Actions to Date

May 11 2015

Personnel: 1 OSC, 2 START.

Federal On-Scene Coordinator (OSC) Robert Wise and two Superfund Technical Assessment and Response Team (START) members responded the site. The EPA provided support with monitoring for mercury vapors. The Lumex was used to delineate the spill area and screen for mercury vapors in the support zone, on the exteriors and interiors of vehicles belonging to first responders and local residents, and on clothing and personal protective equipment potentially exposed to mercury. Three SVPD patrol cars and one VCoFD fire engine were screened for mercury vapors and all were found to be below the applicable action limit and returned to duty.

The START provided mercury vapor monitoring for SVPD, VCoFD and Animal Control during the the evacuation of residents and pets from the affected areas. Residents were advised to evacuate, but one adult resident at 4141 Cochran Street and two adult residents at 4143 Cochran Street refused evacuation to temporary shelter provided by the Red Cross.

OSC Robert Wise request deployment of Environmental Response Team (ERT) assets to assist in the cleanup. OSC Wise used his delegated procurement authority to mobilize the EPA's Emergency and

Rapid Response Contractor (ERRS).

May 12 2015

Personnel: 2 OSCs, 1 ERT WAM, 1 ERT-SERAS, 2 START, 5 ERRS.

The EPA focused on delineating the extent of mercury contamination on asphalt surfaces of Cochran Street and the shared alley. Mercury contamination on Cochran Street was found in the two west-bound lanes and central turning lane, extending from the alley entrance near 4147 Cochran to approximately 175 feet east of the alley. The EPA also identified two areas of the alley with beads of elemental mercury visible on the asphalt and mercury vapors exceeding the applicable action limit near the asphalt surface. All mercury vapor readings in the breathing zone remained below the OSHA action limit.

The ERRS contractor began removal of visible elemental mercury using a mercury vacuum in Level C protection. ERT, ERT-Scientific, Engineering, Response and Analytical Services contractor (SERAS), and START personnel used the Lumex to assess indoor air and surfaces inside six homes located along the shared alley. Mercury vapor concentrations exceeded 1,000 ng/m^3 on carpeting inside the front door of the home at 4147 Cochran Street. The EPA also escorted residents through verified clean routes at the site to retrieve personal items and feed household pets.

OSC Michelle Rogow mobilized to the site to replace OSC Wise.

May 13, 2015

Personnel: 2 OSC, 1 ERT WAM, 1 ERT-SERAS, 2 START, 8 ERRS.

START and ERT contractors used mercury vapor analyzers to assess refuse cans (trash, recycling, and green-waste) at 4147 Cochran Street and found mercury concentrations exceeding 10,000 ng/m^3 in the green-waste can. ERT and START personnel subsequently assessed all trash, recycling, and green waste cans from the six homes in the alley, in addition to 4151 Cochran Street, in preparation for normally-scheduled trash collection services for the neighborhood on Thursday, May 14. One recycling can from 4137 Cochran Street contained mercury concentrations exceeding 1,000 ng/ m3 and this can was set aside for further assessment. OSC Rogow contacted the City of Simi Valley and assessed two trash and green-waste collection trucks that service the neighborhood. Mercury vapors were not detected above the applicable action limit inside or on exterior surfaces of the City trash and green-waste collection trucks.

ERT and START personnel also used the Lumex to conduct a thorough assessment of the alley and driveways to six homes to delineate the areas of concern. Two areas of concern were discovered in the alley (see Section 1.1.3).

An ERRS subcontractor covered the mercury-impacted lanes of Cochran Street with a layer of asphalt sealant. ERT and START personnel reassessed the sealed area of Cochran Street after it cured and found visible elemental mercury beads had broken through the thin layer of asphalt sealant. Mercury vapor concentrations were similar to those observed prior to sealing, with some concentrations exceeding the 50,000 ng/m^3 upper detection limit of the mercury vapor analyzers. The ERRS personnel applied a sulfur solution to the affected areas to amalgamate the mercury into a non-volatile form. Sand bags were placed around the perimeter of affected areas of asphalt and a pressure-washer was used to remove the sulfur solution after several hours. The water was collected and sent off site for disposal.

ERT and START personnel placed portable heaters near affected areas inside the home at 4147 Cochran Street and monitored with the interior with a mercury vapor analyzer. Carpeting inside the front door exceeded the applicable indoor action limit of 1,000 ng/m^3. In addition, a household vacuum cleaner and a shop vacuum were screened with mercury vapor analyzers and found to exceed the applicable action limit, and these items were removed from the home at 4147 Cochran Street.

OSC Wise demobilized from the site mid-day.

May 14, 2015

Personnel: 1 OSC, 1 ERT WAM, 1 ERT-SERAS, 2 START, 8 ERRS.

EPA assessed a concrete contractor's pickup parked in the northern exclusion zone of the private alley and found mercury vapor readings ranging up to 900 ng/m^3. The truck was removed from the exclusion zone.

ERT and START personnel reassessed the interior entryway of the home at 4147 Cochran Street after four hours of heating and found mercury vapors near the floor surface still exceeded the indoor action level of 1000 ng/m^3. ERRS personnel cut out and removed a 6-square-foot area of impacted carpeting and underlying padding from the entryway, and a 2-square-foot area of impacted carpeting and underlying padding from the adjacent hallway inside the home at 4147 Cochran Street.

ERT and START personnel reassed the impacted areas of Cochran Street to determine if removal activities had reduced mercury concentrations below the applicable outdoor action limit. The concrete gutter and sidewalk along the northern side of Cochran Street were also assessed. Mercury vapor concentrations exceeded the applicable action limit on Cochran Street west of the area treated with sulfur solution and in the concrete gutter adjacent to the sulfured area.

The remainder of the day was dedicated to placing sandbags and plastic sheeting around mercury-impacted surfaces of Cochran Street and the alley in preparation for a rain event which was forecast for that evening and early morning hours of the following day. The EPA OSC and ERRS contractors remained on site through the night to manage storm water. Heavy overnight rain caused some pooled storm water to breach

the sandbag containment in the alley ERT and ERT-SERAS contractor personnel were demobilized from the site due to reduced workload caused by adverse weather conditions.

May 15, 2015

Personnel: 1 OSC, 2 START, 8 ERRS.

Removal activities focused on recovering from heavy overnight rain until approximately mid-day. Storm water from the sandbagged areas was drummed on site awaiting characterization for disposal. START personnel reassessed the sulfured parts of Cochran and found numerous areas where mercury vapors along the asphalt surface exceeded the applicable action limit. ERRS applied second and third coats of asphalt sealant to the surface of Cochran Street, including sand mixture thicken the application.

ERRS personnel used a mercury vacuum to remove elemental mercury from the asphalt in the alley and applied sulfur solution to two exclusion zones where mercury vapor concentrations remained above the applicable outdoor action limit.

START personnel reassessed the interior of the home at 4147 Cochran Street where carpeting had been removed. Portable heaters were used to increase the ambient temperature inside the home for four hours prior to assessment. All mercury vapor concentrations in the home were below the applicable indoor action level. The house was deemed safe for reoccupation by the renter.

START personnel conducted a thorough reassessment of the alley to determine if mercury contamination had migrated due to surface storm water flow patterns during the rainfall event. No additional areas were determined to be impacted by mercury contamination.

May 16, 2015
Personnel: 1 OSC, 2 START, 8 ERRS.

Three personal vehicles were removed from driveways in the alley and placed on clean plastic sheeting in the contaminant-reduction zone for further assessment. START used the Lumex to assess the exterior and interior of three vehicles. Mercury vapor concentrations did not exceeded the applicable action limit. ERRS subcontractor personnel applied asphalt sealant to the alley and the asphalt driveway at 4147 Cochran Street.

START personnel reassessed the sealed area of Cochran Street and found no concentrations above 3,000 ng/m^3, with the exception of one small area where a third coat of asphalt sealant had not yet been applied. OSC Rogow demobilized from the site.

May 17, 2015

Personnel: 1 OSC, 2 START, 8 ERRS.

OSC Wise mobilized to the site and took over from OSC Rogow.

The START personnel reassessed the sealed alley. Mercury vapor concentrations at the surface ranged up to maximums of 9,000 and 31,000 ng/m^3 at two locations within two exclusion zones in the alley. An additional coat of asphalt sealant on the alley, extending from the northernmost exclusion zone to the sidewalk at the northern side of Cochran Street and including one asphalt driveway.

START personnel reassessed the alley after the asphalt sealant dried and found that mercury concentrations in the alley and Cochran Street were less were less than 650 ng/m^3 in all areas except on an 8-foot by 4-foot area of asphalt driveway in front of one home. The contaminated area of driveway was demarcated using spray paint for ERRS subcontractors to apply an additional coat of asphalt sealant the following day.

In addition, START personnel documented mercury concentrations on surface soils adjacent to the alley on two properties. These areas were demarcated with spray paint for removal by ERRS contractors the following day.

ERRS contractor personnel used epoxy sealant on concrete surfaces of the storm water gutter along the northern side of Cochran Street and the concrete driveway at 4145 in the alley. A fine coating of sand was spread on the drying epoxy to increase traction as a safety precaution.

The City of Simi Valley reopened Cochran Street to public traffic at approximately 1545 hours. The evacuation was lifted and residents of homes in the alley returned to their homes.

May 18, 2015

Personnel: 1 OSC, 1 START, 8 ERRS.

ERRS personnel used hand tools to remove mercury-contaminated surface soil and vegetation from two yard areas located adjacent to the alley. START personnel used the Lumex to screen soil as excavation progressed in these areas. An area around a water meter box at 4137 Cochran Street was saturated with water, and ERRS removed two feet of soil from this area before mercury vapor concentrations of subsurface soil were below 3,000 ng/m^3. This area was afterwards backfilled with soil and wood chips.

ERRS also removed three to six inches of surface soil and vegetation from a three-foot-wide section of the yard adjacent to the alley at 4145, and START personnel screened the subsurface soil and found all readings were below 3,000 ng/m^3. The soil was left bare at the request of the homeowner.

ERRS completed the application of epoxy sealant to the gutter and sidewalk along the northern side of Cochran Street, the concrete driveway at 4145 Cochran Street, and the water meter boxes at 4137 Cochran Street and 4145 Cochran Street. START personnel conducted a final assessment of these areas and found all mercury vapor concentrations along the surface to be less than 3,000 ng/m^3. OSC Wise and all remaining contractor personnel demobilized from the site.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

At the request of OSC Wise, EPA Criminal Investigation Division (CID) mobilized two agents to the site to investigate the cause of the spill. Their investigation was terminated after it could not be determined what the cause of the spill was.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Disposal*
NA 3082, Hazardous Waste, Liquid, N.O.S. (Water with trace mercury), 9, PG III	Liquid	1,700 gallons	004519554 FLE	U.S. Ecology, Beatty, NV
RQ, NA 3077, Hazardous Waste, Solid, N.O.S. (debris and PPE with trace mercury, < 260 ppm), 9, PG III	Solid	20 cubic yards	004519553 FLE	U.S. Ecology, Beatty, NV

2.2 Planning Section

2.2.1 Anticipated Activities

Future on-site activities will consist of the off-site transport of waste generated during the cleanup.

2.2.1.1 Planned Response Activities

The waste generated during the cleanup is being stored at the nearby church parking lot with the permission of the pastor. The waste is anticipated to go off site for disposal on May 22, 2015.

2.2.2 Issues

The time between the field responders requesting EPA assets to the official request of assistance resulted in a delay of the deployment of EPA assets. To address this situation, OSCs Wise and Rogow will be conducting outreach and training for the Ventura Co. agencies.

2.3 Logistics Section

NA

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

The START contractor acted as the Site Safety Officer.

2.5.2 Liaison Officer

The OSC acted as the Liaison Officer.

2.5.3 Information Officer

On May 12, 2015, an EPA Public Information Officer (PIO) was mobilized to the site.

3. Participating Entities

3.1 Unified Command

May 11, 2015: VCoFD/SVPD
May 12 - 18, 2015: EPA

3.2 Cooperating Agencies

VCoEH, SVPD, VCoFD, Simi Valley Public Works

4. Personnel On Site

See daily summary

5. Definition of Terms

CID: EPA Criminal Investigative Division
EPA: U.S. Environmental Protection Agency
ERRS: Emergency and Rapid Removal Services Contractor
Lumex: Lumex Mercury Vapor Analyzer
NA: North American
ng/m^3 : nanograms mercury per cubic meter of air
N.O.S.: Not Otherwise Specified
OSC: Federal On-Scene Coordinator
PG: Packing Group
PPE: Personal Protective Equipment
ppm: parts per million
RQ: Reportable Quantity
SERAS: Scientific, Engineering, Response and Analytical Services Contractor
START: Superfund Technical Assessment and Response Team Contractor
WAM: Work Assignment Manager

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.