U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Cottage Grove Mercury Response - Removal Polrep
Initial and Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject:	**POLREP #1** **INITIAL and FINAL POLREP** **Cottage Grove Mercury Response** **Cottage Grove, OR** **Latitude: 43.5817555 Longitude: -123.0709450**
To:	EPA HQ, EPA HQ (POLREP List)
From:	Jeffrey Fowlow, On-Scene Coordinator
Date:	3/13/2016
Reporting Period:	March 7-12, 2016

1. Introduction

1.1 Background

Site Number:		**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:	3/7/2016	**Start Date:**	3/8/2016
Demob Date:	3/12/2016	**Completion Date:**	3/12/2016
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Other: Accidental spill of hazardous substance

1.1.2 Site Description

1.1.2.1 Location

The spill location occurred in a residential rural area in Lane County, Oregon. The property structures include a house with car port and attached shed, an unattached shed, a work shop, and a Quonset hut. House residents include adults and children. The owner of the property has been identified and information is provided in the site file.

1.1.2.2 Description of Threat

The material released is mercury, a CERCLA hazardous substance. The health effects of mercury are detailed by the ATSDR as follows:

> The nervous system is very sensitive to all forms of mercury. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems. Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation.

The amount released is unknown, but estimated to be 4-8 fluid ounces. This response was due to a single incident accidental release. The property owner was carrying a box that contained several bottles. He tripped and dropped the box and a bottle that contained mercury broke releasing the contents onto the carport's soil/gravel floor. The property owner also fell onto the floor into the spilled mercury. The property owner went into the house and washed his hands in the bathroom and kitchen sinks, then got into his truck and drove to his sister's house and called Oregon Emergency Response System, who then contacted Oregon Department of Environmental Quality (ODEQ). ODEQ advised the property owner to remove and bag his clothing and to not drive his truck until it could be assessed for contamination. The ODEQ also requested assistance cleaning up the spill from EPA.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA, and START and ERRS contractors mobilized to the area Monday night (March 7, 2016) and began work Tuesday morning (March 8, 2016). Using a Lumex Model 915 mercury detection instrument, EPA assessed the carport/spill area; residence; the other three structures on the property (detached shed, workshop, and Quonset hut); the property owner's truck and bagged clothing; and the property owner's sister's house. Mercury beads were observed in the carport area. Mercury vapors were detected in all locations except the detached shed, workshop, and Quonset hut. Representative concentrations of mercury, as detected by the Lumex, are presented below:

- Carport - Beads of mercury were observed. Initial concentrations of mercury in the breathing zone was 3,000 ng/m3 and at the soil surface were approximately 45,000 ng/m3.
- House - Mercury detected only in bathroom emanating from the sink drain. Concentrations of mercury were approximately 18,000 ng/m3.
- Property owner's truck - Concentrations of mercury were approximately 1,000-3,000 ng/m3.
- Property owner's clothing - Concentrations of mercury were approximately 45,000 ng/m3.
- Sister's house - Concentrations of mercury were approximately 1,000-3,000 ng/m3.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Operations began on Tuesday, March 8 and were completed by Saturday, March 12.

Carport - Visible beads of mercury were removed using a mercury vacuum. Contaminated soil was identified using the Lumex. An area approximately 15 feet by 15 feet was excavated to remove the contaminated soil. The depth of excavation ranged from approximately 3 inches to 29 inches below grade. Excavation was concluded when headspace analysis of soil samples, conducted using the Lumex as described in the Region 10 Mercury Response Module, indicated concentrations of mercury in soil samples (average: 370 ng/m3) were less than 2-3 times background levels (average: 183 ng/m3) and less than 6,000 ng/m3. Approximately 3-5 cubic yards of soil were excavated and disposed. The excavated areas were backfilled with 3/4-inch minus pit run.

House/Bathroom sink - The property owner stated that he used the bathroom and kitchen sinks to wash his hands after he fell into the area of spilled mercury. The kitchen sink was screened and elevated concentration of mercury were not detected. The drain in the bathroom sink also was screen and concentrations as high as 18,000 ng/m3 were detected. When the sink's drain and P-trap were removed, concentrations of mercury were reduced to less than 1,000 ng/m3. A new P-trap and drain were installed.

Property owner's truck - The initial concentrations detected in the truck ranged from 1,000-3,000 ng/m3 in the breathing zone. Individual areas of elevated concentrations were not detected. The property owner was advised to cyclically run the truck's heating system and then open the windows to ventilate. ERRS also used the mercury vacuum on the interior of the truck to attempt to remove tiny beads, if present, in the seat, steering wheel, and floor. After cycles of heating and ventilation and use of the mercury vacuum, screening of the truck interior indicated concentrations of mercury that were less than 1,000 ng/m3.

Property owner's contaminated clothing - START screened the property owner's clothing which had been placed into a plastic bag. Lumex readings indicated concentrations as high as 45,000 ng/m3. The property owner gave EPA permission to dispose of the contaminated clothing.

Property owner's sister's house - The property owner stated that after he fell into the spilled mercury, he drove to his sister's house to call his doctor. EPA received permission from the sister to screen the areas within her home. Concentrations with the breathing zone ranged from 1,000-3,000 ng/m3. The only individual area of elevated concentration of mercury was the rocking chair cushion (5,000 ng/m3) where her brother had sat while placing the call. EPA recommended disposal of the cushion or placement outside for ventilation. On Friday, March 11, EPA returned to the sister's house and surveyed with the Lumex. All concentrations of mercury within the breathing zone were less than 1,000 ng/m3.

Additional Chemicals:

Detached storage shed - START located one 500 ml container of hydrochloric acid, one 500 ml container of nitric acid, and one 250 ml container of barium dioxide in the storage shed. EPA received permission from the property owner to arrange for transportation and disposal of those chemicals.

Workshop and Quonset hut - START and ERRS inspected these buildings and recovered three mercury

flasks. Each flask has a capacity of approximately 2.55 liters. One flask was approximately 40% full of mercury. The other two flasks were completely full of what appeared to be hydraulic oil at the surface, but with the potential of a separate phase of mercury or residual mercury. All three containers were re-sealed and shipped off as mercury/mercury waste for proper processing and disposal. START/ERRS also recovered a container of sulphur and EPA received permission from the property owner to dispose of the sulphur. START/ERRS noted several containers of various automotive fluids. The fluids were stored in up to 25 fifty-five gallon drums and five-gallon buckets. The containers were in very poor condition, rusted and leaking. With permission of the property owner, ERRS combined all of the fluids into two new 85-gallon over pack drums. ODEQ agreed to arrange for transportation and disposal of the automotive fluids through their household hazardous waste program. The drums were stored in the locked Quonset hut pending pick up from ODEQ.

2.1.2 Response Actions to Date
On March 7, ODEQ requested assistance from EPA to conduct assessment and cleanup at the property. Prior to EPA mobilization, no other response action had occurred.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)
One PRP has been identified.

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Mercury-contaminated debris	Solid	20 yd3			
8 [6.1] Corrosive, poison (Elemental mercury)	Liquid	20-35 lbs.			
6.1 Poison (Barium dioxide, sulphur); 8 Corrosive (Hydrochloric acid); 8 (5.1, 6.1) Poison Inhalation Hazard, Zone B (Nitric acid)	Solid, Liquid	4 lbs			

2.2 Planning Section

2.2.1 Anticipated Activities
2.2.1.1 Planned Response Activities

All EPA response activities have been concluded and all staff and equipment have been demobilized.

2.2.1.2 Next Steps
Two overpack drums of oil/automotive fluids have been left on site behind locked doors in the Quonset hut. ODEQ is arranging pick up and disposal of the substances through their household hazardous waste program.

2.2.2 Issues

The property owner claimed that his father/previous home occupants had conducted mining activities and mine rock processing using chemicals on the property. Areas identified to EPA were investigated, but evidence of chemical contamination was not observed. Additional investigation may be warranted.

2.3 Logistics Section
No information available at this time.

2.4 Finance Section

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	$98,500.00	$0.00	$98,500.00	100.00%
TAT/START	$46,400.00	$0.00	$46,400.00	100.00%
Intramural Costs				
Total Site Costs	$144,900.00	$0.00	$144,900.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any

contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Oregon Department of Environmental Quality

4. Personnel On Site

EPA - 1

START - 6

ERRS - 4

ODEQ - 2

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.