

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Post Falls Mercury Site - Removal Polrep
Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject: POLREP #2
Final Polrep
Post Falls Mercury Site

Post Falls, ID
Latitude: 47.7116780 Longitude: -116.9395410

To:
From: Michael Boykin, OSC
Date: 12/3/2015
Reporting Period: 11/18/2015 - 12/02/2015

1. Introduction

1.1 Background

Site Number:	10PJ	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:	11/24/2015	Start Date:	11/25/2015
Demob Date:	12/2/2015	Completion Date:	12/2/2015
CERCLIS ID:	IDN001001447	RCRIS ID:	
ERNS No.:		State Notification:	Idaho BHS, DEQ, RRT
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

Elemental mercury was spilled in a classroom at a private school in Post Falls, Idaho on November 20, 2015. The private school campus consists of 8 buildings (Chapel, Rectory/Clergy residence, 2 main school buildings, a kindergarten, a locker room/ maintenance building, teacher residence/library). The private school campus is located in a residential area and near to an onramp of Interstate 90, which runs through the City of Post Falls.

Upon discovery, teachers and students attempted to cleanup the spilled mercury and may have inadvertently caused migration of contamination to other rooms and floors of adjacent buildings, including the Chapel, on the school campus. In addition, contamination may have migrated via students personal belongings and clothes/shoes to student's homes in the area.

1.1.2.1 Location

606 E 5th Avenue, Post Falls, Idaho 83854

1.1.2.2 Description of Threat

Elemental Mercury spilled in a classroom and migrating via cleaning materials, students clothing and school supplies, to other rooms, floors, and buildings at the school campus, to the outside environment, and potentially to student's families and homes.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The Idaho State Regional Response Team 1 and Kootenai County Fire (Team) responded to the mercury release on November 23, 2015. It was reported that the mercury spill occurred on Friday, November 20, however, the spill was not discovered until Monday, Nov. 23. Evidently, the teacher that discovered the spilled mercury, directed a group of high school students to clean up the visible mercury beads utilizing cleaning rags and brooms. The cleanup materials were then disposed of in a dumpster.

Reportedly, after the teacher and students identified the visible mercury beads in several classrooms, the

Principal determined that mercury is a toxin, he ordered evacuation of the high school students to the Chapel basement and contacted Poison Control. Then the Principal canceled school for all students by early afternoon, November 24 and sent the students home.

The Team utilized a Lumex Mercury Analyzer to assess 7 of the 8 buildings on the school campus on November 23-24, 2015. Numerous containers of elemental mercury were observed in a chemistry locker and numerous beads of free mercury were observed on the floor in several rooms on the top floor of the south school building.

Building assessment results are as follows: Rectory = 200 ng/m³, safe to occupy; Chapel = 1300 - 1900 ng/m³, closed to occupation; north school building (2 floors) = 1300-6400 ng/m³, closed to occupation; south school building (1st floor) = 40 - 800 ng/m³ with 2 hotspots ranging up to 25,000 ng/m³, closed to occupation; south school building (2nd floor) = 1000 - 50,000 ng/m³, closed to occupation; kindergarten building = 50 ng/m³, safe to occupy but need another survey; locker room/maintenance building = 300 - 5700 ng/m³, closed to occupation; teacher residence/library not assessed because students did not access.

No assessments of students, school officials, or their families and respective homes were conducted by the Team.

Clergy and school staff started collected information from the students and families about which students opened the chemistry cabinet and mercury containers, which students played with the mercury, who had taken some home, and who participated in cleanup. In addition, Clergy and school staff arranged for the high school students to return any containers of mercury and the clothes/shoes, backpacks, school supplies the students wore or brought to school on November 20 and 23, 2015.

The EPA OSC/START were requested to assist by School officials, Kootenai Fire, and Idaho State officials and deployed the evening of November 24, 2015.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

The EPA OSC and 2 START responders were deployed and arrived in Post Falls late evening, November 24, 2015. Two additional START responders with a response rig, equipment, and supplies departed the morning of November 25, 2015, arriving later that day.

The OSC, START, and an EPA ERRS contractor (ERRS) representative, attended an 0800 Situational Briefing at the school with School Clergy/Staff, Idaho Department of Environmental Quality (DEQ), Panhandle Health District 1, and Kootenai County Fire/Regional Response Team personnel. Unified Command (UC) was established and roles, resources, and a preliminary Incident Action Plan were established.

Sixteen high school students were identified as having some form of exposure to mercury during the two days of release and clean up. In order to evaluate potential migration of mercury contamination from the school to the homes and families of the sixteen students, the UC established a primary objective of assessing the public health exposure of the students and families by assessing each of the 16 homes.

******* The Site Screening and Action Levels section below has been added to this POLREP to replace and clarify the action level paragraph presented in POLREP 1.*******

Site Screening and Action Levels

Several screening and action levels consistent with EPA/ATSDR documentation were designated for use during site activities. These include screening and actions levels for ambient air in residential buildings, ambient air in school/church facilities, and contaminated personal/school items. Prior to establishing an action level for personal possessions and/or school property, screening level ranges were utilized to triage contaminated items and determine pathways for decontamination and/or disposal.

Screening levels for contaminated personal items screened at residences were established to aid field Assessment teams in assessing unbagged personal items that may have come into contact with elemental mercury. These levels were as follows:

- Items less than 3000 ng/m³ could be retained for use or disposed of through municipal waste;
- Items between 3000 and 6000 ng/m³ could be either 1.) retained for use; 2.) provided to the assessment team for decontamination/possible return; or 3.) disposed of through municipal waste;
- Items above 6,000 ng/m³ were requested by EPA for decontamination and possible return to the owner.

Three screening levels were established for assessing the headspace of bagged, contaminated items to aid Assessment teams in determining the appropriate decontamination procedures. These levels were as follows:

- Items less than 3000 ng/m³ were designated as Low Level Contamination Items and were subjected to a single session of decontamination via thermal treatment while remaining in an open, vented plastic bag.
- Items ranging from 3000 to 10,000 ng/m³ were designated as Medium Level Contaminated Items and were subject to at least one session of decontamination via thermal treatment

while hanging on a hanger to increase surface area contact with heat.

- Items measuring above 10,000 ng/m³ were designated as High Level Contaminated Items and were subject to at least one session of decontamination via thermal treatment while hanging on a hanger to increase surface area contact with heat. These sessions typically lasted longer than Medium Level Contaminated Items.

The Unified Command established 1000 ng/m³ as the residential action level for residential ambient air and building surfaces and established an action level range of 1000 to 3000 ng/m³ for school/Chapel ambient air and surfaces.

The action level for personal possessions and/or school property was established at 10,000 ng/m³. Items that were decontaminated to be below this level were returned to their owners. Items received or collected that exceeded 10,000 ng/m³ or could not be decontaminated to below this level were disposed of.

2.1.2 Response Actions to Date

Saturday, November 28 - One 2-person Lumex air monitoring team (START) returned to one of the student's home where elevated levels of mercury at 50,000 ng/m³ were found in the bedroom carpet of the student's bedroom. Focused heating and ventilation of that space was conducted overnight, resulting in the carpet measurement dropping to 9000 ng/m³. Advised the family to do one more night of mitigation and the Team will return the next day. Next, the Lumex team assessed the home of the teacher that discovered the mercury spill and directed the student cleanup. No contamination was found above the action levels.

Three other STARTs continued inventorying and assessing personal belongings in the thermal treatment decontamination box and reassessing all of the various rooms/floors/buildings on the school campus with a focus on floor 2 of south school building where the initial spill occurred. The START also inventoried and bagged the personal belongings and school equipment left in the locker room building and then segregated into thermal treatment/decontamination categories.

The ERRS continued supporting the START in inventorying, assessing, and rotating personal belongings through the thermal treatment conex box. Decontaminated clothing continue to be bagged and staged in the chapel auditorium. Highly contaminated personal belongings, and other articles were staged in the thermal treatment conex box for all day treatment.

Due to high mercury concentrations in rooms and on carpet in those rooms, the OSC directed the removal of carpeting from the band room of the 2nd floor of south school building and from the locker room building. The ERRS conducted two rounds of decontamination of the floor and counter/table surfaces, using the mercury absorbent/cleaning agent, in all rooms of the 2nd floor. Increased heating and ventilation will be conducted on floor 2 of the south school building overnight.

Sunday, November 29 - One 2-person Lumex air monitoring team (START) returned to one student's home where initial elevated levels of mercury of 50,000 ng/m³ were found in the bedroom carpet of the student's bedroom but had been reduced to 9000 ng/m³ through focused heating and ventilation during the first overnight. The second reassessment found the carpet measurement remaining at 10,000 ng/m³. The EPA team offered to remove the carpet which the family declined, indicating that they will continue heating/venting. The team reassessed a second household that had elevated ambient levels and a carpet hotspot and determined that the levels had decreased and cleared.

START assessed the school dumpster and found elevated mercury levels even though it was below freezing. OSC directed the ERRS to remove the trash as mercury-contaminated and decontaminate the dumpster for continued use.

START and ERRS continued rotation and decontamination of personal belongings, school supplies, household goods between the low, medium, and high contamination batches through the 2 thermal decontamination boxes. START and ERRS inventoried bags of personal belongings and other items that remain contaminated above the action level of 10,000 ng/m³, after decontamination processing, and then bagged the items for disposal.

After removal of outside door mats at south school building for decontamination, the OSC directed the ERRS to use a propane torch to vaporize any residual mercury contamination from the outside stairs, landings of the south school building and on the sidewalks leading from the building to the dumpster and chapel auditorium.

The ERRS conducted a third decontamination of the second floor of the south school building and the heat was raised and floor ventilated overnight.

Monday, November 30 - START and ERRS continued rotation and decontamination of personal belongings, school supplies, household goods between the low, medium, and high contamination batches through the 2 thermal decontamination boxes. START and ERRS inventoried bags of personal belongings and other items that remain contaminated above the action level of 10,000 ng/m³, after decontamination processing, and then bagged the items for disposal.

START conducted spot checks of previously decontaminated and cleared personal belongings staged in bags in the chapel auditorium and found elevated levels in 3 bags. Those bags were pulled, all smaller bags were re-measured and items segregated into low, medium, hot batches for further treatment or disposal.

The START inventoried the original source mercury materials collected from the school chemical locker as well as additional vials returned by students who had taken some home. A total of 3 ounces of elemental mercury (of the original 4 ounces thought to have been present at the school when the spill occurred) was estimated to be present in the various containers. The elemental mercury containers were overpacked and secured by the ERRS for appropriate disposal.

The OSC conducted an inspection of the south school building science room chemical locker where the mercury had been located and spilled. No large volumes of hazardous materials were found improperly stored or leaking. The inspection did find a few loose beads of free mercury in a sink and cabinet. The OSC directed the ERRS to recover the free mercury using the mercury vacuum cleaner, remove all chemicals and boxes from chemical locker and decontaminate followed by air monitoring before returning items to the cabinet. The ERRS conducted a 4th decontamination of the science room floor and all surfaces with isolated heating/ventilation of the room. In addition, the ERRS did several rounds of decontamination and purging of the janitor closets sinks and traps. All plumbing p-traps in the south school building restrooms and janitor closet sinks were either replaced or decontaminated.

The START set up 8 air sampling pumps with sorbent tubes and tripods (to collect clearance air samples at child or adult breathing zones) in the kindergarten (background), locker room building (1 location), chapel auditorium (2 locations), and both floors of north school building (2 locations each floor).

The OSC and School Principal identified six additional residences/families were identified beyond the initial 16 students/families, that were associated with high school students that had touched and/or cleaned up the mercury. The Principal will contact the families to request access and identify time slots that the Lumex air monitoring teams can assess on Tuesday, December 1.

Tuesday, December 1 - Two 2-person Lumex air monitoring teams (START and ERRS) assessed 5 of the 6 homes (of students that contacted and/or cleaned up the mercury) that granted access yesterday. One family declined the assessment of their home. No further personal belongings, household items, hot spots or elevated ambient levels were found in the 5 homes.

One 2-person Lumex air monitoring team (START) returned to one student's home where initial elevated levels of mercury of 50,000 ng/m³ were found in the bedroom carpet of the student's bedroom but had been reduced to 9000 ng/m³ through focused heating and ventilation during the first overnight. The second reassessment found the carpet measurement remaining at 10,000 ng/m³. The family continued heating/ventilation until the third reassessment today, found the carpet measurement to have dropped to 4000 ng/m³. Ambient air levels were below the action level of 1000 ng/m³. In consultation with the family, who did not want the carpet hotspot cut and removed, the EPA determined this hotspot to be decontaminated to a safe level.

START and ERRS continued thermal decontamination of personal belongings, school items, and household goods remaining in the 2 thermal decontamination cones boxes. The decontamination process concluded in the early afternoon and any items monitored to still be above the 10,000 ng/m³ action levels were inventoried and then bagged for disposal.

The START set up 8 air sampling pumps with sorbent tubes and tripods (to collect clearance air samples at child or adult breathing zones) in the chapel (2 locations), and both floors of south school building (2 locations on first floor, 4 locations on 2nd floor).

After air sampling was complete, the OSC, START Project Manager, the Church Pastor and School Principal walked through the campus visiting all of the buildings and discussing decontamination activities, what items were taken/removed as contaminated, where clearance samples were collected, and highlighted what the school staff might need to do before school opened on Wednesday. Keys and site control were returned to the Pastor and Principal.

Wednesday, December 2 - OSC and ERRS finalized disposal paperwork for transportation and disposal of site waste.

START generated and printed property disposal receipt forms (items photos, inventory of items) for personal, household, and school items that were not successfully decontaminated, that will not be returned and requires disposal by EPA. A total of 22 families had at least one item, many with multiple items, that required disposal. In addition, the school had multiple items (carpeting, mats, brooms, mops, vacuum cleaner) that were not returned and were inventoried on a report. Many personal belongings and school items of unknown ownership were collected from the locker room and classrooms, that had not pass decontamination criteria and were inventoried in a separate disposal receipt report provided to the school.

The family property disposal receipt forms, and lists of school items disposed by EPA were provided to the Principal for distribution to families/students. The Principal also arranged for the students/families to pick up decontaminated personal belongings at 1500 hours today in the chapel auditorium.

The OSC conducted a Idaho State Communications Bridge call today at 1315 to brief involved parties. The OSC and START demobilized.

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

To be determined.

2.1.4 Progress Metrics

3 of the original 4 ounces of elemental mercury were recovered, inventoried, and secured for disposal.

1 fiber drum of mercury-contaminated vacuum parts/filters will be packaged/transported for disposal.

Approximately, 10 cubic yards of used PPE, contaminated personal belongings, carpeting, school supplies were staged in a roll-off box for disposal at Chemical Waste Management Facility in Arlington, Oregon.

2.2 Planning Section

2.2.1 Planned Response Activities

No further response activities anticipated.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

School Clergy and Principal

Kootenai County Fire/Regional Response Team

Idaho Department of Environmental Quality

US EPA

3.2 Cooperating Agencies

Panhandle Health District 1

4. Personnel On Site

1 EPA OSC

4-5 START contractors

4-7 ERRS Contractors

1-2 IDEQ personnel on as needed basis.

1-2 Kootenai Fire/RRT members on as needed basis.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

7. Situational Reference Materials

No information available at this time.