



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

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Ref: 8SEM-EMR

ACTION MEMORANDUM

SUBJECT: Approval and Funding for an Emergency Removal Action at the Magna Mercury Spill Site in Magna, Salt Lake County, Utah, pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104

FROM: Craig Gigglesman *CG 10/25/19*
Federal On-Scene Coordinator

THRU: Laura Williams, Chief *LW 10/25/19*
Response Section

Deirdre Rothery, Chief *DR 10/29/19*
Emergency Management Branch

TO: Betsy Smidinger, Director
Superfund and Emergency Management Division

Site ID #: B839

I. PURPOSE

The purpose of this memorandum is to document the decision to initiate emergency response actions described herein for the Magna Mercury Spill Site (Site) located in Magna, Salt Lake County, Utah pursuant to the On-Scene Coordinator's delegated authority under CERCLA Section 104. This emergency response action involved the collection and disposal of elemental mercury from a residential property. Conditions existing at the Site presented a threat to public health and the environment and met the criteria for initiating a removal action under 40 CFR §300.415(b)(2) of the National Contingency Plan (NCP).

This removal action involved no nationally-significant or precedent-setting issues. This emergency removal action does not establish any precedent for how future response actions will be taken and does not commit the United States Environmental Protection Agency (EPA) to a course of action that could have a significant impact on future responses or resources.



II. SITE CONDITIONS AND BACKGROUND

Site Name:	Magna Mercury Spill
Superfund Site ID (SSID):	B839
CERCLIS Number:	UTN000821004
Site Location:	3068 S 8000 W, Magna, UT
Lat/Long:	40.705137/-112.0822865
Potentially Responsible Party (PRP):	
NPL Status :	Non NPL
Removal Start Date :	10/05/2019

A. Site Description

1. Removal Site Evaluation

On October 4, 2019, the Utah Department of Health contacted the EPA Region 8 Emergency Operations Center requesting that the EPA assist the Salt Lake County Public Health Department (SLCPHD) with a mercury spill at a single-family residence in a residential neighborhood in Magna, Utah. Elemental mercury had been spilled in a workshop located at the back of a detached garage of the residence (Site). SLCPHD reported that they recovered an intact vial of mercury and approximately one tablespoon of spilled mercury. SLCPHD requested that EPA respond and perform an emergency removal of the remaining spilled mercury.

On October 5, 2019, an EPA On-Scene-Coordinator (OSC) mobilized to the Site with a Superfund Technical Assessment Response Team (START) and an Emergency Response and Removal Services (ERRS) contractor to assess the extent of mercury contamination. Visible, beaded mercury was present and using an Ohio Lumex RA-915M Mercury Analyzer, ambient mercury levels were measured in excess of 15,000 nanograms per cubic meter (ng/m^3) in the workshop. Based on these levels, the OSC initiated an emergency removal action at the Site.

2. Physical Location

The Site is located in a residential neighborhood at 3068 S 8000 W in Magna, Salt Lake County, Utah. Magna, Utah has a population of 26,505 per the 2010 Census.

3. Site Characteristics

The Site consists of a workshop connected to an unattached three-car garage at a one-story, single-family residence. The residence is immediately surrounded by other residential properties. The owner of the Site no longer has children living at the residence, however grandchildren frequently visit and spend several days at the property. Mercury contaminated wood scraps used to build toy furniture had been previously moved from the workshop to the backyard of the residence by the grandchildren, potentially tracking mercury along the entire path. Children were observed playing in the front yards of the adjacent residential properties, immediately

north and south of the Site.

4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant or Contaminant

The contaminant of concern at the Site is elemental mercury. Mercury is 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 or elemental), 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 elemental mercury, the most important route of absorption is through inhalation. Because of the chemical nature of elemental mercury vapor, deposition and retention in the lungs are quite high (on the order of 80 percent in humans).²

In a 1997 Mercury Study Report to Congress the EPA states:

Effects on the nervous system appear to be the most sensitive toxicological endpoint observed following exposure to elemental mercury. Symptoms associated with elemental mercury-induced neurotoxicity include the following: tremors, initially affecting the hands and sometimes spreading to other parts of the body; emotional lability, often referred to as "erethism" and characterized by irritability, excessive shyness, confidence loss, and nervousness; insomnia; neuromuscular changes (e.g., weakness, muscle atrophy, muscle twitching); headaches; polyneuropathy (e.g., paresthesia, stocking glove sensory loss, hyperactive tendon reflexes, slowed sensory and motor nerve conduction velocities); and memory loss and performance deficits in test of cognitive function. At higher concentrations, adverse renal effects and pulmonary dysfunction may also be observed.

EPA's 1997 study, in reference to elemental mercury, concluded:

Neurotoxicity is the most sensitive indicator of adverse effects in humans exposed to elemental mercury and methylmercury.

An RfC for inhaled elemental mercury based on neurotoxic effects in exposed workers is $3 \times 10^{-4} \text{ mg/m}^3$ (300 ng/m³).

Elemental mercury is a developmental toxicant in experimental animals. If the mechanisms of action producing developmental toxicity in animals occur in humans, elemental mercury is very likely to produce developmental effects in exposed human

¹ Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological Profile for Mercury. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service

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

*populations. U.S. EPA has made no estimate of dose response for developmental effects of elemental mercury.*³

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 home or classroom), can raise air concentrations to harmful levels. Metallic mercury is extremely difficult to remove from shoes, clothes, furniture, carpet, and other porous items and is easily tracked and transferred. If these items are not properly disposed or cleaned, the mercury can linger for months or years, continuing to pose a health threat.

5. NPL Status

This Site is neither on nor currently being considered for inclusion on the NPL.

6. Maps, Pictures & Other Graphic Representations

A Site map is presented in Attachment 1. Site photographs are presented in Attachment 2.

B. Other Actions to Date

1. Previous Actions

There were no previous activities performed by EPA at the Site.

2. Current Actions

There are no current activities at the Site.

C. State and Local Authorities' Roles

1. State and Local Action to Date

The SLCPHD responded and recovered an intact vial of mercury and approximately one tablespoon of spilled mercury from the Site. No other actions were previously taken by local or state authorities at the residence.

2. Potential for Continued State/Local Response

Local and state governments did not have the capability or resources to conduct this action in a timely manner.

³ Mercury Study Report to Congress, Volume V: Health Effects of Mercury and Mercury Compounds, December 1997, <http://www.epa.gov/mercury/report.htm>

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Site presented a threat to public health and the environment and met the criteria for initiating a removal action under 40 CFR §300.415(b)(2) of the NCP.

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.

- (i) *“Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants;”*

Elemental mercury was the contaminant of concern at this Site. For elemental mercury, the most important route of absorption is through inhalation. Because mercury is easily tracked to other areas by foot-traffic, it is of immediate concern to remove mercury-contaminated materials and to clean impacted areas of free and residual mercury. If left unabated, mercury from the Site posed an immediate concern to the resident as well as residents at neighboring homes.

- (vii) *“The availability of other appropriate federal or state response mechanisms to respond to the release.”*

No other local, state or federal agency had the capability or the resources to independently implement a timely, effective response action to address the ongoing threat presented at the Site.

IV. SELECTED REMOVAL ACTIONS AND ESTIMATED COSTS

A. Planned Actions

1. Planned Action Description

On October 5, 2019, an EPA On-Scene-Coordinator (OSC) mobilized to the Site with a START and ERRS contractor to assess the extent of mercury contamination and conduct an emergency removal action. The ERRS contractor recovered all visible elemental mercury from the workshop with a Merc-Vac recovery unit and applied a mercury vapor suppressant to the flooring. Cracks in the cement flooring were sealed with caulking. The workshop was then subjected to a series of heating and venting cycles until ambient mercury levels protective of human health in a residential environment were reached (less than or equal to 1,000 ng/m³).

2. Contribution to Remedial Performance

This effort will, to the extent practical, contribute to any future remedial effort at the Site. However, no further federal action is anticipated at this time.

3. Engineering Evaluation/Cost Analysis (EE/CA)

An EE/CA is not required for an emergency response action.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

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

No ARARs have been identified for this removal action. RCRA requirements concerning waste analysis, manifesting, packaging, and transporting, while not ARARs, apply to off-site shipments of hazardous wastes.

5. Project Schedule

This emergency removal action was initiated on October 5, 2019. Waste transportation and disposal activities are anticipated to be completed by December 31, 2019.

B. Estimated Costs*

Contractor costs	
START	\$15,000.00
ERRS	\$15,000.00
Contingency costs (20% of subtotal)	\$6,000.00
Total Removal Project Ceiling	\$36,000.00

*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 ACTIONS BE DELAYED OR NOT TAKEN

A delay in action or no action at this Site would have increased the actual or potential threats to public health and the environment.

VI. OUTSTANDING POLICY ISSUES

None.

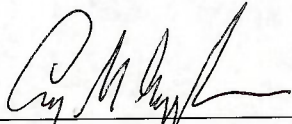
VII. ENFORCEMENT

An investigation to evaluate potential enforcement options will be undertaken. A separate Enforcement Addendum will be prepared if appropriate providing a confidential summary of potential enforcement activities.

VIII. APPROVALS

This decision document represents the selected removal action for the Magna Mercury Spill Site in Magna, Salt Lake County, UT, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site met the NCP section 300.415(b) criteria for an emergency action and, through this document, I am approving the selected removal action. The total project ceiling is \$36,000.00; this amount will be funded from the Regional removal allowance.



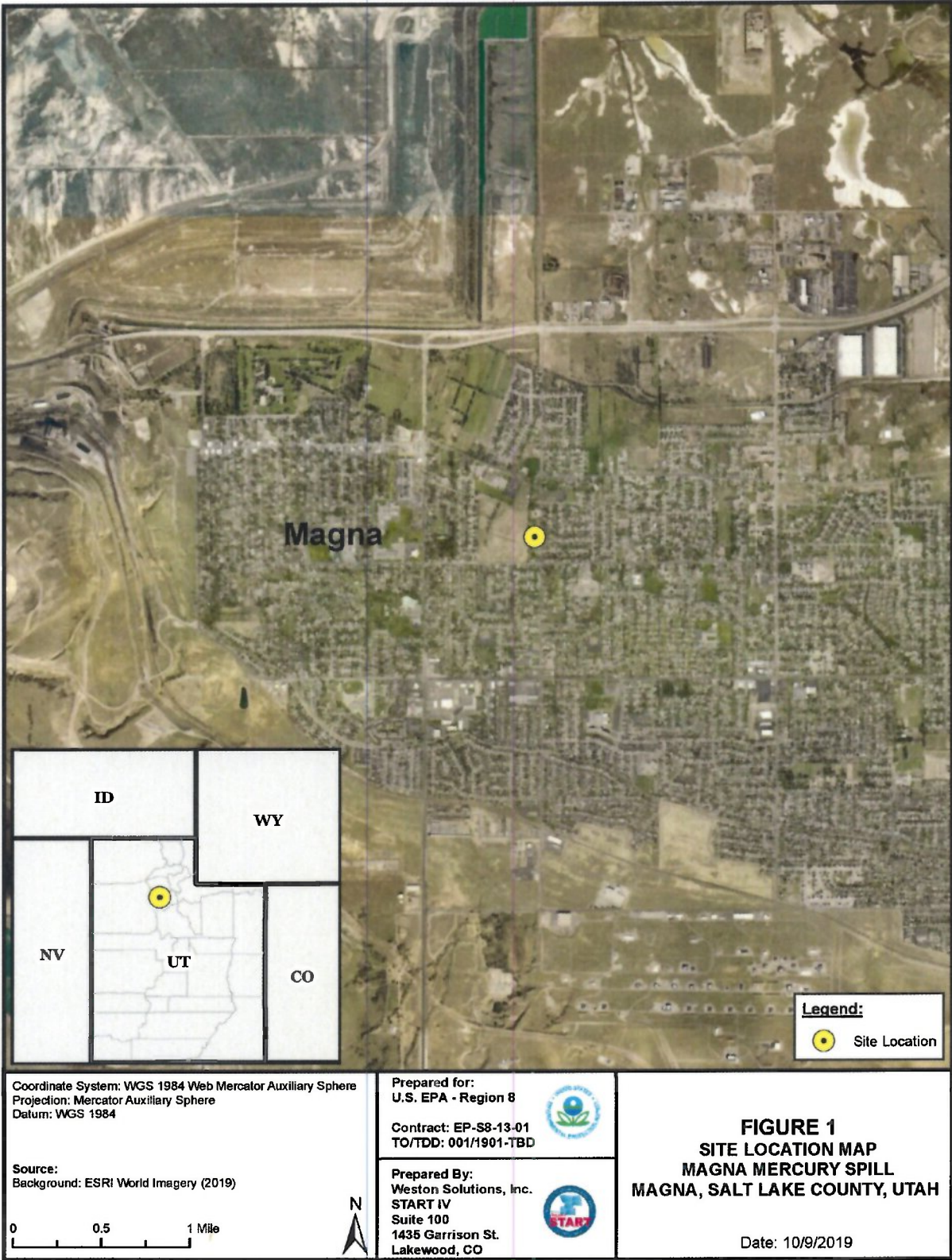
Craig Gigglesman
Federal On-Scene Coordinator

10/25/19

Date

Attachment 1: Site Map
Attachment 2: Site Photographs

Path: Q:\R8START\Magna Mercury Spill\Maps\Fig1 Site Location 8.5x11_P.mxd



Attachment 2 – Site Photographs



Beaded elemental mercury.



ERRS contractor recovering mercury with a Merc-Vac recovery unit.

