

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Seerley Road Fire - Removal Polrep  
 Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region V

**Subject:** POLREP #1  
 Initial  
 Seerley Road Fire  
 C59J  
 Indianapolis, IN  
 Latitude: 39.7137550 Longitude: -86.2579630

**To:** Amanda Sierp, Marion County Public Health Dept  
 Max Michael, IDEM  
 Mark Johnson, ATSDR  
 Valencia Darby, U.S. DOI  
 Sam Borries, U.S. EPA  
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 Charlie Gebien, U.S. EPA  
 Brian Schlieger, U.S. EPA  
 Todd Taylor, Wayne TWP Fire / Hazmat  
 Pascal Arnes, Decatur TWP FD

**From:** Jason Sewell, On Scene Coordinator

**Date:** 10/21/2015

**Reporting Period:** 10/20/2015 to 10/21/2015

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>		<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Emergency
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/20/2015	<b>Start Date:</b>	10/20/2015
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>		<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

CERCLA Emergency - waste storage at vacant farm

#### 1.1.2 Site Description

The Site is the location of a barn fire that involved water reactive materials. The reactive materials are contained within five approximately 35 gallon steel containers. Container markings had read, "Caution, Potassium Metal, Keep Water Away".

The Site is a vacant farm homestead consisting of approximately 54 acres of farm field, wooded areas, a farm house and several barns. The Site is generally unmaintained and barnyard areas are grown up with shrubs and small trees. Numerous items have been discarded around the property, including old vehicles, concrete pipe, metals plating equipment, and more.

Surrounding land uses include a residential neighborhood located immediately to the northeast, grass fields and wooded areas to the east and south, and Interstate 70 and commercial/industrial lands to the west and north.

#### **1.1.2.1 Location**

The Seerley Road Fire Site is located at 5453 Seerley Road, Indianapolis, Marion County, Indiana, 46241. The approximate coordinates of the barn where the potassium containers are located are 39.715886, -86.256444.

#### **1.1.2.2 Description of Threat**

The threat of fire and explosion exists at the Site. Metal potassium is a water reactive element. When potassium comes into contact with water (precipitation, humidity, other) a violent reaction is possible, hydrogen gas is created, and the hydrogen gas can auto-ignite.

The actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants exists at the Site. When water and metal potassium react, potassium hydroxide is created. Potassium hydroxide is a CERCLA hazardous substance with a reportable quantity of 1000 pounds. A residential neighborhood is located nearby. Homes located at the Site are currently vacant and the Site owner states children and adults routinely trespass on the Site. Trespassers may come into contact with metal potassium or potassium hydroxide.

Containers of metal potassium, a hazardous substance, are located at the Site and pose a threat of release exist at the Site. The containers of potassium have been involved in at least two fires and show signs of compromise, including: rust, metal flaking, rupture, and bulging.

#### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

Two fires have resulted from these containers of metal potassium since May 19, 2015. The containers had been stored for an undetermined number of years in a barn at the Site. On May 19, the Site owner disturbed one of the potassium containers. The movement of the container caused a waist-high flash fire. Not knowing the hazards of metal potassium, the owner tried to apply water to the fire which caused an even larger flash fire and burns to his face. The fire department, Marion County Public Health Department (MCPHD) and Indiana Department of Environmental Management (IDEM) investigated the flash fire and water reactivity. MCPHD issued an order to the Site owner to stabilize and dispose of the five containers of potassium. The owner hired an environmental contractor who moved the containers from the barn (to avoid any future fire from burning the barn down), over-packed and wrapped the containers to keep them dry pending disposal arrangements. The owner stated he has had difficulty with finding disposal options. One bid from a local contractor was for \$75,000 and the owner had not made any further progress.

On October 20, 2015, a fire started in the barn where the potassium containers had been stored. The fire fully engulfed the barn and the heat from the fire spread to the drums. The plastic visqueen wraps and poly/plastic overpacks in which the drums had been stored were burned away and the metal drums were compromised. The drums show degradation, including rust, metal flaking, rupture and bulging. The fire department reported sparking and reactivity to fire suppression water around one of the potassium containers. The MCPHD responded to the fire and requested assistance with stabilization and disposal of the potassium containers from IDEM and EPA.

On October 20, 2015, On-Scene Coordinator (OSC) Jason Sewell responded to the Site and mobilized EPA Superfund Technical Assessment and Response Team (START) contractors to assist with fire suppression water runoff and ambient air monitoring. START used air monitors for particulates, volatile

organic compounds (VOC), hydrogen cyanide (HCN), hydrogen sulfide (H<sub>2</sub>S), and oxygen to monitor ambient air quality in the residential neighborhood downwind of the fire. The fire had been mostly extinguished by the time of arrival of the OSC and START; however, the fire continued to smolder for several more hours. START documented no detections of VOCs, HCN or H<sub>2</sub>S. START documented particulate (PM<sub>10</sub>) levels ranging from 3 to 60 micrograms per cubic meter (ug/m<sup>3</sup>) with a brief peak detection of 300 ug/m<sup>3</sup>. The EPA National Ambient Air Quality Standard (NAAQS) for PM<sub>10</sub> is 150 ug/m<sup>3</sup> over a 24 hour period. There were no sustained particulate levels over 150 ug/m<sup>3</sup>. START performed visual observations of nearby Little Seerley Creek to look for signs of fire water runoff; START found Little Seerley Creek to be dry and with no recent signs of water.

On October 21, 2015, Wayne Township Fire/Hazmat team collected small samples of white powdery materials near the base of one potassium vessel. START conducted several field tests on the samples, including:

-Xray Fluorescence (XRF) for potassium: no potassium was detected

-Water reactivity: no reaction was observed

-pH: the pH of the aqueous sample had a pH of 13 and was believed to be potassium hydroxide

-FTIR: hydroxide was detected, but hydroxide could indicate simple water (the materials were well wetted the night before during active fire suppression).

The results of the field testing were somewhat inconclusive. The material sampled was near one of the vessels, but it was unclear whether the material came from the vessel itself. The XRF instrument did not detect potassium in the sample, but XRF is only good for detecting metals. If the material was potassium that had already reacted to water, it may not have been detectable to the XRF. The pH of the sample was a strong corrosive (pH of 13) and judged to be consistent with potassium hydroxide. The FTIR detection of hydroxide was determined to be inconclusive; the detection of hydroxide could not discern between (potential) potassium or other metal hydroxides or water.

Given the previously documented water reactivity of the containers, the results of field tests or potential lab tests are unnecessary to establish the reactive, ignitable and corrosive hazards of the vessels.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

On October 20, 2015, the Site owner granted EPA access to stabilize the potassium containers. The OSC mobilized EPA Emergency and Rapid Response Services (ERRS) contractors to assess the site and to begin planning for stabilization. START also provides support.

#### **2.1.2 Response Actions to Date**

As of October 20 and 21, 2015:

-The OSC mobilized to the Site, met with MCPHD and the Site owner

-The OSC mobilized START to monitor fire suppression water runoff and ambient air

-The OSC received access to begin stabilizing the Site; the OSC mobilized ERRS to begin stabilization planning

-ERRS established 24 hour site security

-ERRS established a site health and safety plan

-Sampling and simple field testing was conducted to assist in stabilization planning

-The OSC established a technical workgroup to determine safe stabilization of the containers pending offsite transportation. The workgroup consists of several EPA OSCs, EPA ERT, MCPHD, IDEM, ERRS

and START. A high hazard subcontractor is also being explored for their possible expertise with reactive metals. Two conference calls were conducted October 21 to discuss sampling and stabilization options.

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

The OSC contacted an EPA Region 5 Office of Regional Counsel (ORC) attorney. The OSC has identified potentially responsible parties as: Joel Williamson, Steven Williamson, and Williamson and Cathy Sue Spurgeon Trustee-Spurgeon Revocable Trust.

The OSC will be assembling a site team consisting of the ORC attorney and an Enforcement Specialist.

### 2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

Research is currently being conducted in order to determine the best way to render the metal (elemental) potassium containers safe and to dispose of the potassium wastes.

#### 2.2.1.1 Planned Response Activities

No response activities are anticipated until the render-safe and disposal strategy is determined.

#### 2.2.1.2 Next Steps

A technical workgroup call is planned for October 22, 2015

ERRS will maintain site security and prevent unauthorized access to the potassium containers.

### 2.2.2 Issues

The age of the potassium containers is unknown. It is suspected the containers used an oil bath or possibly nitrogen blanket to prevent water and moisture contact with potassium. The age of the containers are such that the bath or blanket that prevented reactivity had likely degraded or disappeared even prior to their involvement in two fires. The fires have created or aggravated failure of the containers, including flaking metal, rust, piercings and bulging. Contact with moisture and water reactivity could occur with minimal disturbance; any contact with the containers to render them safe will need to be well planned, cautious and conducted with proper personal protective equipment.

## 2.3 Logistics Section

ERRS is providing for EPA's logistics needs at the Site.

## 2.4 Finance Section

### 2.4.1 Narrative

The OSC mobilized START to the Site. A START Technical Directive Document will be eventually be issued for the scope of START support.

The OSC mobilized ERRS to the Site. An ERRS Task Order will eventually be issued with a scope of work for ERRS support.

### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$10,000.00	\$1,200.00	\$8,800.00	88.00%
TAT/START	\$10,000.00	\$1,500.00	\$8,500.00	85.00%
<b>Intramural Costs</b>				
USEPA - Direct	\$10,000.00	\$1,200.00	\$8,800.00	88.00%
<b>Total Site Costs</b>				
	\$30,000.00	\$3,900.00	\$26,100.00	87.00%

\* 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

### 2.5.1 Safety Officer

The EPA OSC is responsible for overall safety at the Site; however, the ERRS Response Manager will serve as the Safety Officer and all workers are expected to follow established safety practices.

### 2.5.2 Liaison Officer

The EPA OSC serves as the Liaison Officer for EPA at the Site.

### 2.5.3 Information Officer

The EPA OSC serves as the EPA Information Officer at the Site. All participating agencies will be sharing information and may respond to respective media inquiries.

## 3. Participating Entities

### 3.1 Unified Command

EPA OSC

MCPHD

IDEM

### 3.2 Cooperating Agencies

EPA ERT

Wayne Twp Fire Hazmat Team

#### **4. Personnel On Site**

EPA - 1

MCPHD - 1

IDEM - 3

START - 1

ERRS - 1

#### **5. Definition of Terms**

No information available at this time.

#### **6. Additional sources of information**

##### **6.1 Internet location of additional information/report**

[www.epaosc.org/seerleyroadfire](http://www.epaosc.org/seerleyroadfire)

##### **6.2 Reporting Schedule**

The next POLREP will be issued October 22, 2015.

#### **7. Situational Reference Materials**

No information available at this time.