



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

JUN 09 2015

Mr. Tim Hubbard  
Kentucky Department for Environmental Protection  
200 Fair Oaks Lane  
Frankfort, KY 40601

Subject: Wiley Property Site  
Hartford, Ohio County, Kentucky

Dear Mr. Hubbard:

The U.S. Environmental Protection Agency's Emergency Response, Removal and Prevention Branch (ERRPB) conducted a Removal Site Evaluation (RSE) at the above referenced Site for potential removal action eligibility under the National Contingency Plan (NCP).

Based on the information collected during the RSE, the On-Scene Coordinator (OSC) recommends this **Site be given priority** for removal eligibility contingent upon availability of approved funds under the EPA's Superfund Removal Program (see enclosed RSE memo). Concurrent with this recommendation, the EPA may also begin its enforcement activities to determine potentially responsible parties for this Site.

A final determination of removal eligibility will be made by the OSC assigned to the Site. A decision to conduct a removal action will be documented in an Action Memorandum and a copy will be forwarded to the State. Should the OSC make a final determination that a removal action is not warranted you will be subsequently notified of this determination.

Should you have any questions concerning ERRPB's determination, please contact Art Smith, OSC, at (502) 905-7559, or Matt Taylor, Chief of Removal Operations Section, at (404) 562-8759.

Sincerely,

A handwritten signature in black ink, appearing to read "James W. Webster", written over a large, faint circular stamp.

James W. Webster, Chief  
Emergency Response, Removal and Prevention Branch

Enclosure

cc: Dawn Taylor, Tony Moore, James Webster, Matt Taylor, Kerri Sanders, Art Smith, Subash Patel, Anita Davis, Ronald Saskowski, Richard Hammond

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Wiley Property Site  
Removal Site Evaluation POLREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV

**Subject:** POLREP  
Removal Site Evaluation  
Wiley Property Site  
209 Shinkle Chapel Road, Hartford, Ohio County, Kentucky.

**Latitude:** 37.5123000° North  
**Longitude:** 86.9653010° West

**To:** Matt Taylor, USEPA R4 ERRB  
**From:** Art Smith, On-Scene Coordinator  
**Date:** May 26, 2015  
**Reporting Period:** 11/14/2014 – 5/8/2015

A handwritten signature in black ink, appearing to read 'Art Smith', is written over the 'From:' field.

**1. Introduction**

**Site Number:** B45H  
**Response Authority:** CERCLA  
**Response Type:** Time-Critical  
**Response Lead:** EPA  
**Incident Category:** Removal Assessment  
**NPL Status:** Non NPL

**1.1 Site Description**

The Wiley Property Site consists of two residential parcels in Hartford, Ohio County, Kentucky. The first residential tract designated as Tax/Parcel ID 73-17-1 in the records for Ohio County, KY comprising 10.2 acres and is located at 209 Shinkle Chapel Road. This property is currently held by Wells Fargo Bank, following a foreclosure and Master Commissioner's sale in 2014. There are two improvements on Tax/Parcel ID 73-17-1: a single family home and an outbuilding.

The second tract making up the Site is designated as Tax/Parcel ID 73-17 in the records for Ohio County, KY. This parcel is privately owned and a portion of this property was subdivided to sell Parcel 73-17-1 in 2007. There are reports of an old barn on this property which was subsequently destroyed, thus suggesting that the past use of the property was for agricultural purposes.

Both of these tracts are heavily wooded and the surrounding area is rural in nature.

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

In August 2014, the last known occupant of the residence at 209 Shinkle Chapel Road contacted the Kentucky Department for Environmental Protection (KDEP) with a concern about an unknown white powdery substance at the Site. KDEP reported that the former occupant bred dogs at the Site and that the females were found to be sterile while others suffered from tumors. The former occupant was concerned about potential exposure to her family members while they lived at the property.

In September 2014, KDEP performed an initial visual investigation at the Site. They confirmed an area where the white substance was located in an area devoid of vegetation and approximately 30 feet in diameter. Samples were collected in October 2014, and analysis of the samples collected from this area revealed total arsenic at levels up to 525,000 milligrams/kilogram (mg/kg). The Toxicity Characteristic Leaching Procedure (TCLP) was performed on the sample with the highest total arsenic level and the result came back as 618 milligrams/liter (mg/L) leachable arsenic. Additional investigation and sampling in October 2014 documented that the arsenic contamination had migrated downhill a distance of approximately 120 feet to the north and west of the source area.

## **1.3 Site Location**

The Site is located on 10.2 acres of property at 209 Shinkle Chapel Road in Hartford, Ohio County, Kentucky. The geographic coordinates of the Site are 37.5123000° North and 86.9653010° West. The Site is bordered to the north by Shinkle Chapel Road, and by wooded, rural, and agricultural lands to the east, south, and west. There are 10 homes located within a half-mile radius of the Site.

## **2. Removal Site Evaluation**

On November 14, 2014, the KDEP Superfund Branch formally requested that the U.S. EPA conduct a Removal Site Evaluation (RSE) at the Site. On March 24, 2015, the Region 4 Superfund Technical Assistance and Response Team (START) contractor mobilized to the Site to collect samples. The purpose was to confirm the 2014 KDEP findings and to explore the potential for additional migration pathways at the Site. Also, a subset of samples were run for arsenic speciation in an attempt to identify the specific arsenic compound at the Site. See Figure X attached to this report as a map of the Site, and locations of areas which were surveyed for total arsenic.

The sample collected from the source area was analyzed for total arsenic and the analysis revealed the concentration of arsenic to be 747,000 mg/kg. The arsenic speciation determined that the arsenic is an arsenite compound (As+3). The analysis for total metals revealed a relative absence of calcium, lead, sodium and other metals which would help to pinpoint the specific compound. By a process of elimination, the compound is most likely arsenic trioxide, which was used historically as an herbicide, which may explain its presence in the predominantly agricultural area surrounding the site.

The KDEP referral cited the possibility that a portion of the land was once used as a plant nursery or fruit orchard based on historical aerial photography. The START contractors utilized an X-Ray Fluorescence (XRF) instrument for real-time detection of metals in soil. XRF readings for this area were within normal range for background, and the previous existence of a plant nursery or fruit

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orchard could not be confirmed. However, further XRF readings at the Site did confirm the presence of arsenic dust inside the single family home at an estimated concentration of 770 mg/kg.

### 3. Recommendation

Part 302.4 of Title 40 of the Code of Federal Regulations lists arsenic as a hazardous substance under section 102(a) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Based on analytical results provided by KDEP, arsenic present at this Site may also be a hazardous waste pursuant to the Resource Conservation and Recovery Act (RCRA) by virtue of its toxicity characteristic (EPA HW No. D004 in 40 CFR § 261.24(b)).

According to the EPA Air Toxics website <http://www.epa.gov/ttnatw01/hlthef/arsenic.html> “Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic of humans is associated with irritation of the skin and mucous membranes and effects in the brain and nervous system. Chronic oral exposure to elevated levels of inorganic arsenic has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure of humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic by humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. EPA has classified inorganic arsenic as a known human carcinogen.”

Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) lists factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (ii), (iv), (v), and (vii) directly apply to the Site:

**300.415(b)(2)(i): Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

Although the home isn't presently occupied, the extremely high total arsenic concentrations in the source area constitutes a potential human exposure pathway. As mentioned previously, there is documented evidence of arsenic migration into the home. Furthermore, there are limited controls on access to the Site, and the threat of direct contact with the arsenic compound and potential exposure to animals is significant.

**300.415(b)(2)(ii): Actual or potential contamination of drinking water supplies or sensitive ecosystems.**

There is documented evidence of a drinking water well at the Site. It is unknown whether the arsenic contamination has migrated downward to an extent where the drinking water supply would be impacted, but the potential is there due to the high concentrations of arsenic at the surface.

**300.415(b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.**

The evidence of arsenic migration at the surface is documented by the KDEP discovery that arsenic wastes were discovered at distances up to 120 feet away from the source area.

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**300.415(b)(2)(v): Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

The arsenic deposited at the surface is in a physical state that would allow migration to other areas via runoff from significant rain events and high winds.

**300.415(b)(2)(vii): The availability of other appropriate federal or state response mechanisms to respond to the release.**

At this time, there are no other federal or state government mechanisms that are able to respond to this incident in a timely manner and with the resources needed to assume the cleanup.

Actual or threatened releases of hazardous substances and/or pollutants from this Site, if not addressed, may present an imminent and substantial endangerment to public health, welfare, or the environment. As such, I recommend that a time-critical removal action be taken at this Site to mitigate the potential threats human health and the environment.

*Concur - Matt Taylor*  
*6-8-2015*

Figure X – Site Layout with XRF Screening Results and Sample Location

