

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Armentrout Excavating Landfill Site - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #2**
Final
Armentrout Excavating Landfill Site
B5A5
Xenia, OH
Latitude: 39.4216420 Longitude: -83.5731990

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From: Steven Renninger, On-Scene Coordinator

Date: 12/2/2010

Reporting Period: 9/11/2010 to 12/2/2010

1. Introduction

1.1 Background

Site Number:	B5A5	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	9/8/2010	Start Date:	9/8/2010
Demob Date:	11/11/2010	Completion Date:	12/2/2010
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	OEPA
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Site Assessment.

1.1.2 Site Description

The Armentrout Excavation Landfill (AEL) Site is located at 766 Hawkins Road in Xenia, Greene County, Ohio. The former AEL occupies approximately 8.25 acres and is surrounded by residential properties and farmland. The extent of the Site, including residential properties, is approximately 100 acres.

Access to the former landfill is through a 2-acre property containing two buildings that were originally part of the landfill but that are now privately owned by a nearby resident. The landfill is covered with soil and

overgrown with vegetation. Two structures for storing materials are located within the landfill. These structures are surrounded by various types of debris, including compressed gas cylinders, tires, and construction materials.

The landfill is on top of a steep hill. Within 0.5 miles of the landfill are 28 residences. Five of these residences are located within 500 feet of the former landfill.

1.1.2.1 Location

The site is located at 66 Hawkins Road in Xenia, Greene County, Ohio. The Site's geographical coordinates are 39° 25' 17.9106" North latitude and 83° 35'23.5164" West Longitude

1.1.2.2 Description of Threat

According to the Ohio Environmental Protection Agency's (Ohio EPA) Armentrout Removal Action Referral Form dated February 11, 2010, Frank L. Armentrout, now deceased, purchased the former AEL in 1934. The AEL operated as a sand and gravel excavation pit beginning in 1944. Mining operations ended in 1971, when the gravel pit became a licensed landfill. During its operation as a sand and gravel pit, sand and gravel were mined from the upper 60 feet. Mining reportedly ceased when an underlying clay layer was encountered. However, unauthorized waste dumping reportedly occurred at the gravel pit before 1971. Authorized filling by the Carboline Company began as early as 1957.

Records indicate that from 1957 to 1979, paint-related wastes, organics, inorganics, solvents, and metals were disposed of at the AEL. The paint-related wastes contained lead, chromium, cadmium, barium pigments, and aluminum flakes.

From 1971 to 1980, AEL operated as a regulated and licensed disposal facility and received construction debris and selected industrial wastes. AEL was approved for the disposal of dry, nonhazardous industrial wastes, demolition material, wastes from PDI Plastics Company, and solid wastes from the Moran Paint Company.

The AEL was closed in January 1980 after the Ohio EPA and the Greene County Health Department discovered that the landfill had accepted unapproved domestic and commercial wastes. In 1981, the landfill was completely filled and covered with 2 feet of clay soil.

On April 8 and 9, 2002, the Ohio EPA conducted the first supplemental environmental site investigation (SESI) at the Site. The SESI included the sampling of monitoring wells on the AEL property and surrounding residential wells. The Central Regional Laboratory (CRL) analyzed water samples from 14 residential wells and 6 AEL monitoring wells for Target Analyte List (TAL) metals, sulfate, chloride, ammonia nitrogen, and nitrate-nitrite. Five of the residential wells contained arsenic at concentrations exceeding the arsenic maximum contaminant level (MCL) of 10 micrograms per liter ($\mu\text{g/L}$). The highest arsenic concentration detected in a residential well was 70.8 $\mu\text{g/L}$.

In October 2009, the Ohio EPA conducted a second SESI under an agreement with the U.S. EPA. This SESI focused on documenting releases of arsenic in residential wells and determining if the AEL was responsible for the elevated arsenic concentrations observed in residential well samples. The Ohio EPA collected samples from 37 wells in the Site area, including 6 AEL monitoring wells, 24 residential wells, 4 Greene County wells, and 3 commercial wells. The CRL analyzed the samples for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, silver, thallium, vanadium, zinc, aluminum, iron, potassium, sodium, fluoride, chloride, sulfate, bromide, ammonia, nitrate, and nitrite. Seven of the samples from residential wells contained arsenic at concentrations exceeding the MCL of 10 $\mu\text{g/L}$. Two additional wells contained arsenic at concentrations approaching the MCL. The highest arsenic concentration of 50.9 $\mu\text{g/L}$ was detected in a residential well.

On March 1, 2010, Ohio EPA submitted a letter to U.S. EPA requesting assistance from the U.S. EPA Region V Superfund Division in conducting a potential time-critical removal action involving exposure to arsenic in residential drinking water.

On May 6, 2010, the Ohio Department of Health (ODH) submitted a draft Health Consultation to the U.S. EPA indicating that drinking water contaminated with arsenic at concentrations exceeding the 10- $\mu\text{g/L}$ MCL represents a public health hazard. In the Health Consultation, ODH recommended that residences with well sample results exceeding the 10- $\mu\text{g/L}$ MCL for arsenic be connected to a safe drinking water supply or that home water treatment systems be installed to reduce or eliminate arsenic at the tap and prevent further exposure.

On April 7, 2010, U.S. EPA conducted a site assessment at the AEL Site.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

On March 12, 2010, U.S. EPA met with the property owners of the 10 residential properties identified for sampling and obtained signed access agreement from each property owner granting permission to U.S. EPA to access the property in order to conduct sampling. All of the property owners signed an access agreement.

On April 7, 2010, U.S. EPA conducted a site assessment at the AEL Site and collected 13 samples from the 10 residential properties. Ten groundwater samples were collected before any filtration or treatment system, if present. Arsenic was detected in 11 of the 13 samples at concentrations ranging from 6.09 to 49.4 $\mu\text{g/L}$ resulting in seven locations with arsenic concentrations exceeding the established action level of 10 $\mu\text{g/L}$. In addition, arsenic was detected at a concentration near the established action level at one residential location. Sampling conducted at this location by Ohio EPA in October 2009 indicated an arsenic concentration exceeding the established action level.

In addition to field sampling, an evaluation and summation of all previous and current analytical and

hydrogeological information available for the Site and surrounding area was performed in a technical memorandum to EPA concluding that the landfill was the source of arsenic contamination in nearby residential drinking wells.

Based on site assessment sample analytical results, the Site meets three criteria for a removal action pursuant to 40 CFR 300.415(b)(2).

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On July 13, 2010, the Action Memorandum was signed by the Director of the U.S. EPA Region V Superfund Division approving the removal action at the AEL Site.

On July 30, 2010, U.S. EPA began delivering sample result letters to the 10 residential property owners. In addition to the letter, the U.S. EPA offered to install a residential drinking water treatment system at the eight residential locations with arsenic concentration exceeding the established action level of 10 µg/L.

On August 9, 2010, a delivery order was issued to the ERRS contractor (EQM) to conduct removal activities (design and install arsenic drinking water treatment systems) at the site.

2.1.2 Response Actions to Date

On September 8, 2010, U.S. EPA and ATSDR met with 8 residents with drinking water arsenic levels above the MCL of 10 ug/L. ATSDR provided an arsenic fact sheet and answered health questions. All 8 residents agreed to the installation of a drinking water treatment system. Locations were determined for the water treatment system within each residence including a brine tank and three treatment cylinders. Following installation of the treatment system, water sampling was conducted by U.S. EPA at 7 days and 21 days (post treatment system installation) to determine system performance.

On September 9, 2010, U.S. EPA provided temporary supplemental drinking water to one resident located on Hawkins Road.

Week of September 20, 2010, U.S. EPA completed installation of drinking water treatment systems at 3 residential locations. One same day proficiency sample was collected upon completion of the drinking water treatment system and analyzed for arsenic. The same day proficiency sample result was <3 ug/L for arsenic which is less than the established standard of 10 ug/L.

Week of September 27, 2010, U.S. EPA completed installation of a drinking water treatment system at one residential location. A total of 4 out of 8 locations have completed the drinking water treatment system installation. Three 7-day proficiency samples were collected and analyzed for arsenic concentrations. All three 7-day proficiency sample result were <3 ug/L for arsenic which is less than the established standard of 10 ug/L. A total of 3 out of 8 locations have passed the first round of proficiency sampling.

Week of October 4, 2010, U.S. EPA completed installation of a drinking water treatment system at one residential location. A total of 5 out of 8 locations have completed the drinking water treatment system installation. One 7-day proficiency sample was collected and analyzed for arsenic. The 7-day proficiency sample result was 18.4 ug/L for arsenic which is greater than the established standard of 10 ug/L. Upon review it was noted that the piping at the residential location had not been properly flushed due to inoccupancy. A total of 3 out of 8 locations have passed the first round of proficiency sampling.

Week of October 11, 2010, U.S. EPA completed installation of a drinking water treatment systems at two residential locations. A total of 7 out of 8 locations have completed the drinking water treatment system installation. One 7-day proficiency sample was collected and analyzed for arsenic. The 7-day proficiency sample result was 5.03 ug/L for arsenic which is less than the established standard of 10 ug/L. In addition, one location that previously failed the proficiency sampling was properly flushed and re-sampled for arsenic. The follow-up proficiency sample result was <3 ug/L for arsenic which is less than the established standard of 10 ug/L. A total of 5 out of 8 locations have passed the first round of proficiency sampling. Three 21-day proficiency samples were collected and analyzed for arsenic concentrations. All three 21-day sample results were <3 ug/L which is less than the established standard of 10 ug/L. A total of 3 out of 8 locations have completed the proficiency sampling requirements established by U.S. EPA.

Week of October 18, 2010, U.S. EPA completed installation of a drinking water treatment system at two residential locations. A total of 8 out of 8 locations have completed the drinking water treatment system installation. Two 7-day proficiency samples were collected and analyzed for arsenic concentrations. Both 7-day proficiency sample results were <3 ug/L for arsenic which is less than the established standard of 10 ug/L. A total of 7 out of 8 locations have passed the first round of proficiency sampling.

Week of October 25, 2010, U.S. EPA collected one 7-day proficiency sample which was analyzed for arsenic concentration. The 7-day proficiency sample result was <3 ug/L for arsenic which is less than the established standard of 10 ug/L. A total of 8 out of 8 locations have passed the first round of proficiency sampling. Two 21-day proficiency samples were collected and analyzed for arsenic concentrations. Both 21-day sample results were <3 ug/L which is less than the established standard of 10 ug/L. A total of 5 out of 8 locations have completed the proficiency sampling requirements established by U.S. EPA.

Week of November 1, 2010, U.S. EPA collected two 21-day proficiency samples which were analyzed for arsenic concentration. Both 21-day sample results were <3 ug/L which is less than the established standard of 10 ug/L. A total of 7 out of 8 locations have completed the proficiency sampling requirements

established by U.S. EPA.

Week of November 8, 2010, U.S. EPA collected one 21-day proficiency sample which was analyzed for arsenic concentration. The 21-day proficiency sample result was <3 ug/L for arsenic which is less than the established standard of 10 ug/L. A total of 8 out of 8 locations have completed the proficiency sampling requirements established by U.S. EPA.

On December 2, 2010, U.S. EPA shipped the final O&M Manuals (containing sample results, warranty information) to the homeowners of all locations where a DWTS was installed via UPS.

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

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
N/A drinking water treatment system install only					

2.2 Planning Section

2.2.1 Anticipated Activities

None

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

None

2.2.2 Issues

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	\$200,000.00	\$61,334.00	\$138,666.00	69.33%
TAT/START	\$20,000.00	\$12,500.00	\$7,500.00	37.50%
Intramural Costs				
USEPA - Direct	\$10,000.00	\$2,500.00	\$7,500.00	75.00%
Total Site Costs				
	\$230,000.00	\$76,334.00	\$153,666.00	66.81%

* 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

2.6 Liaison Officer

2.7 Information Officer

2.7.1 Public Information Officer

2.7.2 Community Involvement Coordinator

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Ohio EPA DERR
Ohio Department of Health
ATSDR

4. Personnel On Site

No information available at this time.

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.

POLREP #2 Last Updated 12/2/2010