U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Velsicol Athletic Fields Site - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #3**
Continuation of Removal Action
Velsicol Athletic Fields Site
0532-OU3
St. Louis, MI
Latitude: 43.4112240 Longitude: -84.6009850

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From: Jon Gulch, On-Scene Coordinator
Date: 6/30/2015
Reporting Period: June 15-30, 3015

1. Introduction

1.1 Background

Site Number:	0532	**Contract Number:**	EP-S5-08-04
D.O. Number:	0079	**Action Memo Date:**	5/5/2015
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	NPL	**Operable Unit:**	03
Mobilization Date:	5/18/2015	**Start Date:**	5/18/2015
Demob Date:		**Completion Date:**	
CERCLIS ID:	MID00722439	**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Time Critical Removal Action

1.1.2 Site Description
The United States Environmental Protection Agency (EPA) Velsicol Chemical Corporation/Pine River Superfund Site (Site), National Superfund Database Identification Number MID00722439, is located in St. Louis, Gratiot County, Michigan. The Site has been divided into three Operable Units (OUs). OU1 includes 52-acres commonly referred to as the former plant site (FPS) and adjacent residential areas. The Pine River flows along the western and northern boundary of the FPS into Mill Pond, where a hydroelectric dam

is located (about ¼-mile east of the FPS). OU2 consisted of contaminated sediments in the Pine River upstream of the St. Louis dam and adjacent to the FPS. The remedy for OU2 was completed in 2006. OU3 consists of contaminated sediments in the Pine River downstream of the St. Louis dam, including the Athletic Fields of the St. Louis Public Schools.

The FPS was used for modern industrial operations beginning in the mid-1930s until the plant was closed in 1977. Historical operations at the FPS included a lumber mill, oil refinery, salt processing plant, and chemical manufacturing plant. In 1935, Michigan Chemical Corporation (MCC) purchased the property and operated a chemical manufacturing business. In 1965, Velsicol Chemical Corporation gained a controlling interest in MCC.

MCC manufactured a wide variety of products at the FPS from 1936 through 1977, including various salts, magnesium oxide, rare earth chemicals, fire retardants (hexabromobenxene [HBB], polybrominated biphenyl [PBB], tris (2,3-dibromopropyl) phosphate [TRIS]), and pesticides (dichlorodiphenyl trichlorethane [DDT] and 1,2-dibromo-3-chloropropane [DBCP]).

Velsicol closed the chemical plant in 1977 and demolished the facility. An agreement was reached through a consent judgment between Velsicol Chemical, EPA and the Michigan Department of Environmental Management (MDEQ) in 1982 to address the FPS. A slurry wall and cap was placed over the 52-acre FPS. The consent judgment did not require remediation of the contaminated sediments in the Pine River because the parties to the consent judgment concluded that the most appropriate alternative was to leave the contaminated sediments in place. The 1982 consent judgment gave Velsicol Chemical Corporation a release from any liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Resource Conservation and Recovery Act of 1976 (RCRA), and State laws, with a limited reopener.

In January 2015, EPA sampled the St. Louis High School Athletic Fields as part of the Velsicol-OU3 Superfund Site. The objective of the investigation was to further define the nature and extent of hexabromobenzene and DDT at the fields. The field investigation activities were based on the additional scope of work identified in the Technical Directive Memorandum received from EPA on July 21, 2014. The results of the sampling event indicate that thirty-eight (38) sample results exceed the ecological Preliminary Remediation Goal (PRG) established for DDT (5 mg/kg) at the Site.

1.1.2.1 Location
The Site is located at the St. Louis High School athletic field complex in St. Louis, Gratiot County, Michigan. The Site includes a baseball field, softball field, practice football field, and green area near the flood plain of the Pine River. The Site is located behind the NS Nurnberger Middle School. The Site is located within OU03 and includes the flood plain associated with the Pine River. Land use around the Site includes school property, park and residential. Residential homes are located within 100 feet of the Site. The Site topography is relatively flat and dips slightly to the southwest towards the Pine River.

1.1.2.2 Description of Threat
Ecological receptors could become exposed to site contaminants through direct contact with soils contaminated by off-site deposited sediments; ingestion of soils contaminated by off-site deposited sediments; and ingestion of contaminated food (e.g., sediment- or soil-dwelling insects, vegetation).

Analytical results described above indicate that hazardous substances, as defined by CERCLA Section 101(14), pollutants, and contaminants are present at the Site, and represent an actual or potential exposure threat to nearby animal populations. Concentrations of DDT exceed the PRG (5 mg/kg). An initial PRG range of 2-9 mg/kg total DDT in soil for robin reproduction is based on a high quality laboratory toxicological study (performed with Japanese quail showing decreased post-hatch chick survival) and a robin exposure model based on site-specific data on soil-earthworm bioaccumulation. A laboratory study of ring doves performed with a single exposure treatment at a dose intermediate to the ones bracketing adverse effects in the Japanese quail study also showed decreased post-hatch chick survival. The soil PRG for Velsicol conditions derived from this study is 5.6 mg/kg. Selection of this PRG decreases the likelihood of encountering the possible developmental effects indicated by the aforementioned studies. A spatially-averaged 5 mg/kg total DDT soil concentration is recommended for a preliminary remedial goal (PRG) for acceptable robin reproduction and development of offspring.

The Site is located behind the Pine River Elementary School in a residential neighborhood and includes a baseball field, softball field, track and practice football field, and open play fields associated with the St. Louis High School. The Site is bordered on the south by the Pine River and by additional adjacent residential houses and properties to the north within 100 feet of the Site.

According to the Agency for Toxic Substances and Disease Registry (ATSDR), DDT (dichlorodiphenyltrichloroethane) is a pesticide once widely used to control insects in agriculture and insects that carry diseases such as malaria. DDT is a white, crystalline solid with no odor or taste. Its use in the U.S. was banned in 1972 because of damage to wildlife, but is still used in some countries.

DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took small daily doses of DDT by capsule for 18 months. A study in humans showed that women who had high amounts of a form of DDE in their breast milk were unable to breast feed their babies for as long as women who had little DDT in the breast milk. Another study in humans showed that women who had high amounts of DDT in the blood had an increased chance of having premature babies. In animals, short-term exposure to large amounts of DDT in food affected the nervous system, while long-term exposure to smaller amounts affected the liver. Also in animals, short-term oral exposure to small amounts of DDT or its breakdown products may also have harmful effects on reproduction.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
EPA documented the presence of elevated levels of hazardous substances at the Site, as defined by

Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), including DDT within the flood plain boundary. Samples taken in the area showed total DDT in the soil at depths of 1-2 bgs in levels exceeding the PRG (5 mg/kg).

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

From June 13-30, 2015, EPA performed the following activities: established daily perimeter air monitoring with DataRAM 4000 particulate monitors; continued excavation activities; repaired drainage tile under the excavation in the practice football field area (B5); performed continuous watering to eliminate fugitive dust; removed the fence from the baseball field area (A2-A4); performed a private utility locate in the project area near the football stadium and baseball field (A1-A4); and sampled the topsoil pile that will be used for backfill at the entire Site. To date, an estimated 3,426 tons of contaminated soil have been disposed of at the Brent Run Landfill (MID985632819) in Montrose, Michigan.

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

N/A

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Contaminated Soil	Soil	3,284 Tons	N/A	N/A	Brent Run Landfill, 8335 Vienna Road, Montrose, MI 48457

2.2 Planning Section

2.2.1 Anticipated Activities

- Continue perimeter air monitoring;
- Continue excavation; and
- Conduct restoration activities.

2.2.1.1 Planned Response Activities

- Complete excavation; and
- Perform restoration.

2.2.1.2 Next Steps

- Continue Removal Action.

2.2.2 Issues

Throughout this reporting period, excavation and disposal activities were delayed several times due to large rain events in the area. This caused temporary damage to the contaminated area access road and alternative equipment was mobilized to minimize down time due to weather events. The anticipated project schedule may be modified if additional rain events slow down progress.

2.3 Logistics Section

N/A

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

N/A

2.5.2 Liaison Officer

N/A

2.5.3 Information Officer

The Information Officer for this site is Diane Russell, U.S. EPA Community Involvement Coordinator. For more information regarding the Remedial Project: http://www.epa.gov/region5/cleanup/velsicol/index.htm

3. Participating Entities

3.1 Unified Command

N/A

3.2 Cooperating Agencies

U.S. EPA-Remedial Team
MDEQ

4. Personnel On Site

EPA - 1
START - 1
ERRS - 8

5. Definition of Terms

No information available at this time.

6. Additional sources of information

6.1 Internet location of additional information/report

http://www.epa.gov/region5/cleanup/velsicol/index.htm

6.2 Reporting Schedule

N/A

7. Situational Reference Materials

N/A