

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Kalamazoo River/Enbridge Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V

**Subject:** POLREP #7  
Kalamazoo River/Enbridge Spill  
Z5JS  
Marshall, MI  
Latitude: 42.2395273 Longitude: -84.9662018

**To:**  
**From:** Ralph Dollhopf, On-Scene Coordinator  
Stephen Wolfe, On-Scene Coordinator  
Jeffrey Kimble, On-Scene Coordinator  
**Date:** 8/1/2010  
**Reporting Period:**

## 1. Introduction

### 1.1 Background

|                            |           |                                |                |
|----------------------------|-----------|--------------------------------|----------------|
| <b>Site Number:</b>        | Z5JS      | <b>Contract Number:</b>        |                |
| <b>D.O. Number:</b>        |           | <b>Action Memo Date:</b>       |                |
| <b>Response Authority:</b> | OPA       | <b>Response Type:</b>          | Emergency      |
| <b>Response Lead:</b>      | PRP       | <b>Incident Category:</b>      | Removal Action |
| <b>NPL Status:</b>         | Non NPL   | <b>Operable Unit:</b>          |                |
| <b>Mobilization Date:</b>  | 7/26/2010 | <b>Start Date:</b>             | 7/26/2010      |
| <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>               | E10527    | <b>Reimbursable Account #:</b> |                |

#### 1.1.1 Incident Category

Emergency Response -- Pipeline Rupture

#### 1.1.2 Site Description

A 30 inch pipeline ruptured releasing crude oil (NRC report of 19,500 barrels) into a culvert leading to Talmadge Creek. Talmadge Creek is a tributary the Kalamazoo River. The response site is along the River running from Marshall, Michigan to Battle Creek, Michigan. The River is bordered by marshland, residential properties, farm land, and commercial properties for the approximate 30 mile stretch of the affected river.

##### 1.1.2.1 Location

Spill location origin is in Marshall, Michigan, in a wetland adjacent to Talmadge Creek and extends 30 miles down the Kalamazoo River.

##### 1.1.2.2 Description of Threat

Western Canadian crude oil was released from the pipeline and has entered a navigable waterway.

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

Approximately 30 miles of the Kalamazoo River have been impacted. The Kalamazoo River experienced flooding before and after the spill. The River levels are continuing to fall in some areas stranding oil in backwater and wetland areas. Talmadge Creek has been boomed at the confluence to the Kalamazoo River. Containment boom has been placed in thirty five locations along the Kalamazoo River and Talmadge Creek. Precautionary boom has also been deployed in Morrow Lake.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

The spill protection area, considered the source area to the dam at the end of Morrow Lake, has been geographically divided into Divisions. There are 5 divisions with Division A being the source area and

Division E being the westernmost area with active protection points and monitoring.

Also, the Divisions are split into two Branches, with the East Branch housing Divisions A and B. Divisions A and B were the most severely impacted.

### **River Branch East**

In Division A, U.S. EPA and MDNRE Office of Criminal Investigations (OCI) entered the Hot Zones in Division A and conducted air monitoring for VOCs, LEL and benzene. All levels within the Hot Zone were under 5.0 ppm. All levels outside the Hot Zone were below 0.5 ppm. The RP is putting in sheet piling around the pipeline leak site and has initiated the installation of a new collection point east of the pipeline.

In Division B, U.S.EPA personnel accompanied MDNRE OCI on an entry into the Hot Zone within Division B locations to observe RP oil collection activities. Air monitoring was conducted with an Ultra RAE. All levels within the Hot Zone were under 5.0 ppm and all levels outside the Hot Zone below 0.5 ppm for benzene.

### **River Branch West - U.S. EPA**

U.S.EPA provided oversight and air monitoring activities at Boom Locations ranging from 5.5 miles to 8.9 miles downstream of the first protective structure near the spill origination point. During these activities, active air monitoring was conducted with multiple instruments for health and safety verification. No health and safety-related issues were observed, and no actionable air monitoring results were seen from any of the air monitoring locations.

In Division C at location C0, additional boom was deployed downstream near Easterly Dibble Drive. A heavy sheen was noted bank to bank in this area during reconnaissance on 31Jul2010. Boom change out was conducted at the 15 Mile Road bridge.

In Division D at location D2.5, additional absorbent boom was deployed. U.S. EPA continued to adjust deployment positions of containment and absorbent boom to maximize natural collection areas; and continued oil/water collection in areas of accumulation.

In Division E at location E3, U.S. EPA deployed containment boom at East Michigan Street bridge and continued with reconnaissance activities and additional boom deployment as needed. An alternative type of absorbent boom is being tested at 35<sup>th</sup> Street bridge.

### **Shoreline Branch**

At multiple locations in Division C, RP personnel and contractors repositioned existing boom, deployed additional absorbent booms and pads, and conducted shoreline water flushing and removed oil contaminated debris. This Branch is initiating SCAT team deployment on 3Aug2010.

### **Monitoring Branch**

A total of 36 surface water samples, 8 sediment samples, 14 potable water samples were collected. Air quality samples to be analyzed for H<sub>2</sub>S, VOC's and benzene were also collected today.

### **Enbridge**

#### **River Branch East**

In Division A, the RP installed sheet piling to isolate and protect the pipeline break area to allow for removal of damaged section and repair of the line and to protect an adjacent undamaged pipeline. Other work conducted in Division A included activities and mobilization of equipment and resources to continue and expand source material removal.

In Division B, RP personnel conducted shoreline cleanup in the vicinity of deployed oil skimmers, installed 50' of absorbent boom at B1.5, and replaced saturated absorbent boom throughout Division B. Continuous oil recovery and skimming operations occurred throughout Division B today.

#### **River Branch West**

In Division C, there was oil collection at all active sites and boom was repositioned at location C3 to improve effectiveness.

In Division D, absorbent boom deployment, oily debris collection, and sheen/oil recovery were conducted.

In Division E, adjustments to boom deployed at E2.2 were made to improve it's effectiveness, and sheen/oil collection occurred at Location E.5. Absorbent boom was also removed and replaced at this location.

Note: Due to resident concerns, additional absorbent boom was added near the town of Augusta.

**Air Ops Branch** – Five over flights were conducted to detect stranded oil, to document collection points, and to review boom deployed to evaluate if adjustments are needed.

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

Approximately 70,000 feet of boom, skimming equipment, and other equipment to support oil collection and removal have been deployed at thirty five locations along Talmadge Creek and the Kalamazoo River. Recovered material is being temporarily stored in frac tanks on site. Tanker trucks are transporting

the material to a facility owned by the RP with available storage in Griffith, Indiana. To date, approximately 13,500 barrels of oil/water have been transported to the Enbridge facility in Griffith, Indiana, from the approximate 43,000 barrels that have been collected.

U.S. EPA and RP contractors, with the support of the U.S. ARMY 51st Civil Support Team, are monitoring and sampling air quality along the river and throughout multiple residential areas. Monitoring equipment being utilized includes UltraRAE, PPB RAE, Multi RAE, Draeger CMS Chip Reader, AreaRAE and Hapsite portable GC/MS. A heavy emphasis is being placed on specific monitoring for benzene as it is a recognized contaminant of concern for this response.

Samples were collected for analysis at an off site laboratory from surface water, river and lake water columns and private drinking wells along the length of the impacted areas of the Kalamazoo River and areas downstream of the Morrow Lake Dam. The Mud Puppy boat (U.S. EPA owned asset) also collected samples at five sites. Three types of samples are being collected by the Mud Puppy at each location, and are; 1) sediment, 2) water column, and 3) surface water.

US Fish and Wildlife Service is working with the Wildlife Branch to address wildlife impacts. A rehabilitation center for oiled wildlife has been established. A total of 47 geese, 4 ducks, 6 muskrats, 30 turtles, 2 swans, and 2 domestic geese have been recovered and are being cleaned and rehabilitated.

The USCG Atlantic Strike Team is on scene to provide assistance with RP and contractor oversight. USCG District 9 staff are also on site and have been integrated into the response effort by U.S. EPA.

NTSB and USDOT-PHMSA are on site conducting an investigation of the pipeline incident and are working with the appropriate State, Local, and Federal agencies. Enbridge has been given permission from NTSB to excavate the pipeline break. Due to high water tables and saturated conditions, excavation collapses have hindered progress. U.S. EPA will coordinate with USDOT-PHMSA and NTSB to ensure pipeline repair activities and the environmental and health and safety considerations are accounted for.

The voluntary evacuation issued by Calhoun County Health Department in consultation with Michigan Department of Community Health and Agency for Toxic Substances and Disease Registry remains in effect for several residences located immediately downstream of the spill site along the Talmadge Creek, up to its confluence with the Kalamazoo River. This voluntary evacuation was based on review of air monitoring results for benzene around oil collection areas. Sixty one residences were given notices. Twelve residences evacuated, twenty seven chose to stay and twenty two did not answer. An additional five families from outside the evacuation zone chose to evacuate.

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

Enbridge is the RP.

On 27 July 2010, USEPA issued an Administrative Order under section 311(c) of the Clean Water Act to Enbridge. Enbridge is actively addressing all the deliverables of the Order including but not limited to; drafting an overall site work plan; health and safety plan; and sampling and analysis plan.

## **2.2 Planning Section**

A second planning cycle was conducted on 01 Aug 2010 and an Incident Action Plan (IAP) was completed.

The Environmental Unit (EU) has completed a Decision Tree for evaluating real-time air monitoring data of benzene concentrations for determining if evacuation of residents should be recommended. A parallel Decision Tree has been prepared to guide field staff for specific notifications that should occur based on the sampling results. Both documents have been submitted for review and approval by Unified Command.

Decision criteria for re-occupancy of evacuated areas have been drafted and will be finalized by 08 Aug 2010.

The TAGA field laboratory bus arrived at the EPA Incident Command Post. The EPA EU will meet with ERT staff and the TAGA chemist to extend the Sampling and Analysis Plan for the use of this asset. EU provided information to ERT to facilitate entry of all available data into the Scribe database. All private wells that have been sampled are non-detect for contamination. MDCH is leading the collection of health complaints and health surveillance data covering the impacted areas. The EU is preparing presentation materials for the public meeting to be held Monday evening at the Marshall High School.

### **2.2.2 Issues**

The RP has been informed that a Superfund site (PCB cleanup) is occurring on the Kalamazoo River Downstream of Morrow Lake (approximately 35 river miles downstream). The RP has been advised to make all efforts necessary to ensure the oil does not reach the Superfund Site. The City of Plainwell, Michigan, has proposed a strategy involving boom diversion and oil collection as a contingency in the event oil impacts the Superfund Site.

U.S. EPA is supporting twenty four hour operations.

The U.S. EPA EOC in Region 5 Chicago Headquarters was activated and staff assisted with ordering personnel and making small purchases.

### 2.3 Logistics Section

Below is the response equipment deployed as reported by Enbridge.

|   |                       |        |        |
|---|-----------------------|--------|--------|
|   | Control point count   | 32     | 32     |
| <b>Length of Boom Deployed in River</b> | Containment Boom (ft) | 36,705 | 37,495 |
|   | Absorbent (ft)        | 31,730 | 32,330 |
|   | Total boom deployed   | 68,435 | 69,825 |
| <b>Length of Boom in Yard</b>           | Containment Boom (ft) | 98,000 | 98,000 |
|   | Absorbent (ft)        | 76,760 | 76,760 |
|   |                       |        |        |
| <b>Total Recovery</b>                   | Marshall (bbls)       | 39,828 | 43,257 |
|   | Griffith (bbls)       | 13,325 | 13,325 |

### 2.4 Finance Section

No information available at this time.

### 2.5 Other Command Staff

#### 2.5.1 Safety Officer

U.S. EPA has mobilized a full time safety officer (SO) to the site for this incident. The SO is in charge of, and is conducting, review of the Site HASPs. The safety officer worked with the RP and U.S. EPA contractors towards the completion of a unified HASP.

USCG provided additional safety personnel. U.S. EPA continues to work with and direct Enbridge on-site safety officer and serves as assistant safety officers for Divisions A and B, reporting daily to the IMT SO.

#### 2.6 Liaison Officer

The Liaison Officer was dispatched to work in the State Emergency Operations Center in Lansing. An additional Liaison Officer will arrive in Marshall, MI on 02Aug2010.

### 2.7 Information Officer

#### 2.7.1 Public Information Officer

The PIO developed a News Release entitled *EPA Solicits Innovative Ideas and Technological solutions for Enbridge Oil Spill Press Advisory*.

U.S. EPA PIO Anne Rowan is in place at the Marshall, Michigan ICP.

A public meeting is planned for Monday evening. In preparation for the meeting, details for the following topics are being developed; spill estimates, U.S. EPA notice of deficiency, updates of the information on the size and quantities of boom deployed; and updates on the number of barrels of oil and water collected. Consideration of the anticipated questions which may be raised at the public meeting is also occurring so that U.S. EPA can properly, honestly and adequately answer the public's inquiries.

#### Community Involvement Coordinator

A community meeting is scheduled and has been planned for Monday, 02Aug2010 at 7 pm. The location will be the Marshall High School.

## 3. Participating Entities

### 3.1 Unified Command

Enbridge (Responsible Party)  
 United States Environmental Protection Agency  
 Michigan Department of Natural Resources and Environment  
 Michigan State Police Emergency Management Division  
 Calhoun County Public Health Department  
 Calhoun County Sheriff  
 Kalamazoo County Sheriff

### **3.2 Cooperating Agencies**

#### **Cooperating Agencies**

Allegan County Emergency Management  
American Red Cross  
Augusta Police Department  
B&B Fire Safety Emergency Response  
Calhoun Conservation District  
Calhoun County Commissioners  
Calhoun County Drain Commission  
Calhoun County Sheriff's Office  
Calhoun County Treasurers Office  
Calhoun Conservation District  
Calhoun Greenation District  
City of Battle Creek, Michigan  
City of Marshall, Michigan  
Federal Energy Regulatory Commission  
Fredonia Township Fire Department  
Huron Potawatomi  
Kalamazoo County Office of Emergency Management  
Kalamazoo Public Safety  
Kalamazoo Watershed Council  
Marshall Township Government and Fire Department  
Marshall Police Department  
Natural Resource Group  
National Transportation Safety Board  
Pipeline Hazardous Materials Safety Administration  
U.S. Department of Commerce, NOAA  
U.S. Department of Transportation  
U.S. Fish & Wildlife Service  
U.S. Department of Labor, OSHA  
**Congressional Presence**

-  
State Representative Jase Bolger  
State Representative Kate Segal  
State Representative Ken Kurtz  
State Representative Phil Browne  
State Representative Phyllis Browne  
State Representative Bob Geuck  
State Representative Tanya Schuitmaker  
State Senator Mike Nofs  
U.S. Congressman Mark Schauer  
U.S. Senator Carl Levin  
U.S. Senator Stabenow

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

These numbers reflect all EPA numbers and River only for Enbridge.

|                              |     |
|------------------------------|-----|
| Enbridge                     | 36  |
| Enbridge Contractors         | 354 |
| EPA                          | 34  |
| ERRS                         | 84  |
| START                        | 32  |
| Night crew total             | 247 |
| Grand Total Workers on River | 787 |

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

|       |  |
|-------|--|
| NRC   | National Response Center                         |
| USEPA | United States Environmental Protection Agency    |
| ERRS  | Emergency and Rapid Response Contractor          |
| RP    | Responsible Party                                |
| IN    | Indiana  |
| START | Superfund Technical Assessment and Response Team |
| CST   | Civil Support Team                               |
| CTEH  | Center for Toxicology and Environmental Health   |
| GC/MS | Gas Chromatograph/Mass Spectroscopy              |
| USFWS | United States Fish and Wildlife Service          |

|        |  |
|--------|--|
| USCG   | United States Coast Guard                                |
| NTSB   | National Transportation Safety Board                     |
| USDOT  | United States Department of Transportation               |
| PHMSA  | Pipeline and Hazardous Materials Administration          |
| ATSDR  | Agency for Toxic Substances and Disease Registry         |
| CWA    | Clean Water Act  |
| OSC    | On-scene Coordinator                                     |
| OSHA   | Occupational Safety and Health Administration            |
| VOCs   | Volatile Organic Compounds                               |
| FOB    | Field Observers  |
| PCB    | Polychlorinated Biphenyls                                |
| GIS    | Geographical Information System                          |
| FPN    | Federal Project Number                                   |
| OSLTP  | Oil Spill Liability Trust Fund                           |
| HASP   | Health and Safety Plan                                   |
| LNO    | Liaison Officer  |
| JIC    | Joint Information Center                                 |
| PIO    | Public Information Officer                               |
| CIC    | Community Involvement Coordinator                        |
| MDNRE  | Michigan Department of Natural Resources and Environment |
| MSPEMD | Michigan State Police Emergency Management Division      |
| CCPH   | Calhoun County Public Health                             |
| NOAA   | National Oceanic and Atmospheric Administration          |
| DOC    | Department of Commerce                                   |
| MI     | Michigan   |

## 6. Additional sources of information

### 6.1 Internet location of additional information/report

Information for this section will be included at the direction of the PIO.

### 6.2 Reporting Schedule

Sitreps have been created daily and will continue until the Incident Commander establishes a different reporting schedule.

## 7. Situational Reference Materials

No information available at this time.