

US EPA ARCHIVE DOCUMENT

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V



**Subject:** SITREP # 76  
Kalamazoo River/Enbridge Spill  
Z5JS  
Marshall, MI  
Latitude: 42.2395273 Longitude: -84.9662018

US EPA ARCHIVE DOCUMENT

**To:** Lt. Paul Baker, Kalamazoo County Sheriff's Office  
 James Rutherford, Calhoun County Public Health Department  
 Durk Dunham, Calhoun County Emergency Management  
 Brian Whitsett, Michigan State Police, Emergency Mgt.  
 Mark Ducharme, MDNRE  
 Mike McKenzie, City of Battle Creek  
 Susan Hedman, U.S. EPA Regional Administrator  
 Rebecca Humphries, MDNRE

**From:** Ralph Dollhopf, U.S. EPA Incident Commander  
 Jeff Kimble, U.S. EPA Deputy Incident Commander  
 Mark Durno, U.S. EPA Deputy Incident Commander  
 Stephen Wolfe, U.S. EPA On-Scene Coordinator

**Date:** 11/22/2010

**Reporting Period:** 0700 hours 11/15/2010 to 0700 hours 11/22/2010

## 1 Introduction

### 1.1 Background

#### 1.1.1 Site History

##### Background Information

<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>	

#### 1.1.2 Preliminary Site Inspection and Response Activities

See SITREP #51 for a comprehensive description of preliminary operations.

### 1.2 Response Status

Governance for the project is provided by the Multi-Agency Coordination (MAC) Group. The Operational Period covered in this report is: 11/15/2010 07:00 to 11/22/2010 07:00.

### 1.3 Operations Section

This operational phase of the response consists of: 1) Long Term Operations and Maintenance (O&M); 2) Drinking and Groundwater Studies; 3) Decontamination; and 4) Other Operations.

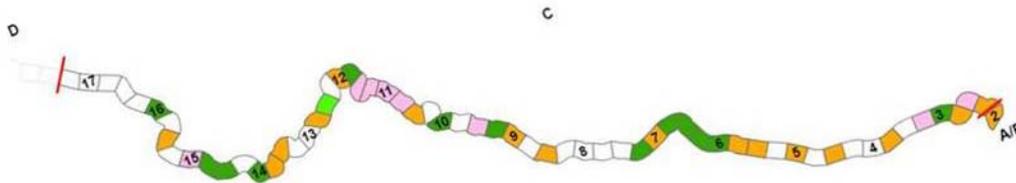
**1.3.1 Long Term Operations and Maintenance (O&M)**

Teams inspected O&M locations. In general, team activities included an inspection of sorbent material (boom, pads and/or pom-pom) to ensure proper placement and effectiveness, as well as visual inspection for readily visible contamination.

- A summary of significant actions/findings is presented below.
  - Observed sheen at 25 locations. Sorbent pads placed and maintained.
  - Observed product at 12 locations. Continuing to maintain and monitor.
  - Bank flushing performed at five locations; sheen captured and collected.
  - New work plans submitted and/or approved for 10 locations.
  - Observed hydro vacuuming activities at nine locations, monitoring will continue.
  - Additional excavation and scraping performed at five locations.
  - Installed French-drain on Island A. Work halted on Island A to reassess remediation approach.
  - Removed oiled vegetation at one location
  - Performed submerged oil recovery via agitation at six locations.
  - Implement riverbank soil erosion restoration.
  - Maintained gabion baskets.
  
- The O&M process is documented in Table 1 and Figures 1-3.

**Table 1 – O&M Maintenance and Monitoring Areas**

O&M Process	Area Status
	11/22
Active	10
Monitoring	35
Cleared	1
Signed Off	50



**Figure 1 - Division A, B, C O&M Areas**

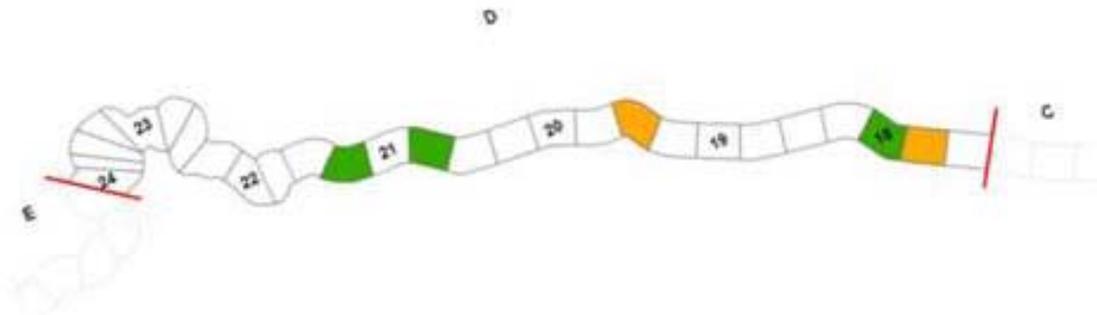


Figure 2 - Division D O&M Areas

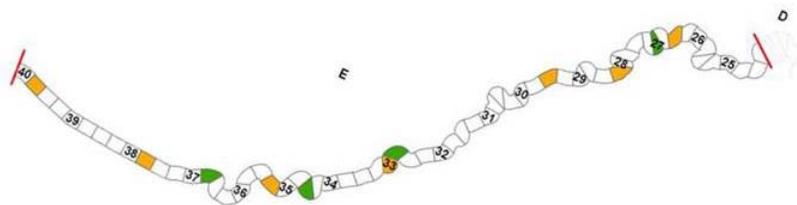


Figure 3 - Division E O&M Areas

1.3.2 Drinking and Groundwater Studies

Drinking water well sampling continued. A total of 19 wells in the drinking water sampling program were sampled this operational period.

1.3.3 Decontamination

Equipment and boom that was decontaminated during this operational period is summarized in Table 2.

Table 2 - Equipment Decontamination

Location/Media	Totals	11/21	11/20	11/19	11/18	11/17	11/16	11/15
Frac Tanks	2	0	0	0	2	0	0	0
Vac Trucks-Tankers	2	0	1	1	0	0	0	0
Roll-Off Boxes	3	0	3	0	0	0	0	0
Yellow Iron - Light	0	0	0	0	0	0	0	0
Yellow Iron - Heavy	0	0	0	0	0	0	0	0
Marine Vessels	0	0	0	0	0	0	0	0
Vehicles	0	0	0	0	0	0	0	0
<b>Daily Total</b>	<b>7</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Boom (feet)</b>	<b>0</b>	0	0	0	0	0	0	0

1.3.4 **Additional Operations**

Air Operations

- During this operational period, there were 6 over-flights.
- Air Ops observed and documented O&M progress in all operational areas.
- Air Ops continued to investigate/report areas of interest, oil mobilization, O&M, and decontamination.

Environmental Compliance and Oversight

- Continued waste management characterization, documentation, and coordination.

Monitoring Branch

- Performed sediment and surface water sampling at Lake Morrow.
- Samples reported by Enbridge are provided in Table 3.

**Table 3 – Samples Collected By Enbridge**

Sample Type	Number Collected							
	Totals	11/21	11/20	11/19	11/18	11/17	11/16	11/15
Mini SUMMA	0	NR	0	0	0	0	0	0
Surface Water	31	NR	5	6	7	13	0	0
Private Well	19	NR	0	4	9	6	0	0
Groundwater	0	NR	0	0	0	0	0	0
Sediment	10	NR	3	4	3	0	0	0
Ceresco	0	NR	0	0	0	0	0	0
Soil Samples	10	NR	10	0	0	0	0	0
Sheen Samples	0	NR	0	0	0	0	0	0
Submerged Oil	0	NR	0	0	0	0	0	0
Other	17	NR	7	4	4	2	0	0

NR – Not Reported

- EPA personnel did not perform any sampling and monitoring events during this operational period, and is only sampling when requested.

Landowner Environmental Issues

Landowner environmental issues (cumulative) as of November 21, 2010 are represented in Table 4.

**Table 4 – Landowner Environmental Issues**

Issues to Date	Issues Undergoing Evaluation	Issues Considered Addressed
106	39	67

1.3.5 **Progress Metrics**

All progress metrics in Section 2.1.5 are as reported by Enbridge unless otherwise indicated.

**Table 5 - Boom Report**

Metric	11/21	11/20	11/19	11/18	11/17	11/16	11/15

Number of Locations (L) and Islands (I)	NR	NR	15	15	15	15	15
Boom Deployed (feet)	NR	NR	38,696	38,696	37,646	37,646	37,646

NR – Not Reported

**Table 6 - Soil and Debris Shipped Off Site as of 11/18**

Waste Stream*	Cumulative <sup>†</sup>
Haz Soil (yd <sup>3</sup> ) <sup>a</sup>	19,644
Non Haz Soil (yd <sup>3</sup> ) <sup>b, d</sup>	62,799
Non Haz Soil (yd <sup>3</sup> ) <sup>b, e</sup>	5,562
Haz Debris (yd <sup>3</sup> ) <sup>c</sup>	12,075
Non Haz Household Debris (ton)	143
Non Haz Impacted Debris (ton) <sup>c</sup>	1,405

\* Information for water (other than daily quantity shipped) is reported in other tables below. Quantity awaiting disposal is estimated.

† Due to the auditing of waste manifests, cumulative quantities may not reconcile with previous reports.

- a. Haz soil (benzene impacted) is being transported to EnviroSAFE (Oregon, OH).
- b. Non Haz soil is being sent to Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI).
- c. Roll-off boxes containing waste sorbents, boom, pads, plastic, PPE, and oiled vegetation and biomass are being sent to EQ facility (Michigan Disposal) in Wayne, MI and Republic (Marshall, MI).
- d. Excludes dredge spoils from Ceresco.
- e. Includes only dredge spoils from Ceresco.

Oil/Water Recovery Tracking:

Note: Some of the values in the tables below have been audited and reconciled by Enbridge and may not correlate with previously reported values.

**Table 7 – Oil/Water Collected by Location (as of 11/21)**

Location	Cumulative (gallons)
Division A	5,332,599
Division B	4,832,005
Division C	1,470,382
Division D	114,832
Division E	47,408
Decon	832,557
Other Locations*	796,206
<b>Total</b>	<b>13,425,989</b>

\* Includes Fractionation, Decontamination, and Wildlife Center.

**Table 8 – Oil/Water Separation 11/21 (Enbridge Facility in Griffith, IN) (Gallons)**

Oil	766,288
Other Material	1,405,525
<b>Total</b>	<b>2,171,813</b>

**Table 9 - Oil/Water Remaining On-Site (Gallons)**

Oil/Water Collected	13,425,989
Oil/Water Shipped Off-Site	12,868,029
<b>Oil/Water Remaining On-Site</b>	<b>557,960</b>

**Table 10 - Liquid Shipped Off-site as of 11/21**

<b>Stream</b>	<b>Destination Company</b>	<b>Destination Location</b>	<b>Cumulative Volume (gallons) †</b>
Hazardous Water	Dynecol	Detroit, MI	3,229,651
Oil/Water	Enbridge Facility	Griffith, IN	2,171,813
Treated Non-Haz Water	Liquid Industrial Waste	Holland, MI	370,200
Treated Non-Haz Water	Plummer	Kentwood, MI	4,976,140
Hazardous Water	Safety Kleen <sup>a</sup>		825
Treated Non-Haz Water*	Dynecol	Detroit, MI	150,700
Treated Non-Haz Water*	Battle Creek POTW	Battle Creek, MI	1,968,700
		Sludge	454,960
		<b>Total</b>	<b>12,868,029</b>

\* Treated Non Haz Water no longer sent to this location.  
 † Cumulative quantities may not reconcile with previous reports (due to auditing).  
 a. New Age lab water and methanol mix generated by mobile laboratory.

**1.4 Planning Section**

Environmental Unit

- Nothing to report.

Data Management Unit

- Continued importing preliminary and validated analytical results, if any, into Scribe, exporting daily briefings; and processing and printing maps as requested.
- Database management is being done in Houston.

**1.5 Safety Reports**

No safety concerns were reported during this operational period. Safety inspections occurred throughout the operational area.

**1.6 Liaison Officer**

Nothing to report.

## 1.7 Public Information Officers

Received public inquires as outlined in 11.

**Table 11 – Public Inquiries Received by EPA and Enbridge**

Location/Media	Inquiries Received							
	Total	11/21	11/20	11/19	11/18	11/17	11/16	11/15
Battle Creek Community Center	24	NR	4	7	8	1	1	3
Marshall Community Center	23	NR	2	10	2	0	4	5
Oil Spill Public Information Hotline	48	NR	0	17	12	5	4	10
Enbridge Response Website (www.response.enbridgeUS.com)	2	NR	0	0	0	0	1	1
<b>Total Public Inquiries</b>	<b>97</b>	<b>NR</b>	<b>6</b>	<b>34</b>	<b>22</b>	<b>6</b>	<b>10</b>	<b>19</b>

NR – not reported

## 1.8 Finance Section

The current NPFC issued ceiling is \$27.6 Million. Approximately, 82.6 % of the ceiling has been spent through November 20, 2010, with the latest average burn rate of \$43,342 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in 12.

**Table 12 - Financial Summary**

Item	Expended (Cumulative) as of 11/20
<b>ERRS Contractors</b>	
EQM (EPA 50802) T057	\$ 1,250,065
T060	\$ 204,905
LATA (EPA 50804)	\$ 1,451,396
ER LLC (EPS 50905)	\$ 723,669
<b>Total ERRS Contractors</b>	\$ 3,630,035
Lockheed Martin (EPW 09031) – TAGA Support	\$ 150,000
T&T Bisso (EPA:HS 800008 USCG:HS CG8410A 800008)	\$ 1,255,000
<b>START Contractor</b> – WESTON (EPS 50604) T030-Response	\$ 8,153,240
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 196,609
<b>Response Contractor Sub-Totals</b>	\$ 13,565,098
<b>EPA Funded Costs: Total EPA Costs</b>	\$ 4,667,481
<b>Pollution Removal Funding Agreements – Total Other Agencies</b>	\$ 1,426,909
<b>Sub-Totals</b>	\$ 19,659,488
Indirect Cost (16.00%)	\$ 3,145,518
<b>Total Est. Oil Spill Cost</b>	\$ 22,805,006
<b>Oil Spill Ceiling Authorized by USCG</b>	\$ 27,600,000
<b>Oil Spill Ceiling Available Balance</b>	\$ 4,794,994

**1.9 Response Actions to Date**

Response Actions to date may be found in SITREPs #1 through #75.

**2 Participating Entities**

**2.1 Multi-Agency Coordination Group**

U.S. Environmental Protection Agency	City of Battle Creek
Michigan Department of Natural Resources and the Environment	Calhoun County Public Health Department
Michigan State Police Emergency Management Division	Calhoun County Emergency Management
	Kalamazoo County Sheriff
	Enbridge (Responsible Party)

**2.2 Cooperating and Assisting Agencies and Congressional Presence**

For a list of cooperating and assisting agencies and the congressional presence, see SITREP #51.

**3 Personnel On-Site**

Staffing numbers for the various entities and agencies active in the response are presented in 13.

**Table 13 - Personnel On-Site**

Agency/Entity	Personnel Count						
	11/21	11/20	11/19	11/18	11/17	11/16	11/15
U.S. EPA	8	6	9	9	7	5	6
START	26	26	26	28	29	22	20
Calhoun County Public Health	0	0	0	1	0	1	0
Calhoun Count (CC) EM	0	0	0	1	1	1	0
City of Battle Creek	0	0	0	1	0	1	0
City of Marshall	0	0	0	1	0	1	0
Kalamazoo Sheriff	0	0	0	1	0	1	0
MDNRE	2	2	4	5	2	4	0
Michigan State Police EMD	0	0	0	1	0	1	0
NOAA – National Weather	0	0	0	0	0	0	0
USFWS	0	0	0	0	0	0	0
Enbridge – Operations	NR	NR	14	18	17	16	9
Enbridge – Operations Contractor	NR	NR	176	172	145	131	127
Enbridge – Field	NR	NR	2	2	2	2	2
Enbridge – Field Contractors	NR	NR	269	268	76	67	258
<b>Total</b>			<b>500</b>	<b>508</b>	<b>279</b>	<b>253</b>	<b>422</b>

\* Estimated value. Actual not tabulated at time of report issuance.  
 NR – Not Reported by Enbridge

## **4 Source of Additional Information**

### **4.1 Additional Information**

For additional information, refer to <http://www.epa.gov/enbridgespill>. For sampling analysis data, see <http://response.enbridge.com/response/main.aspx?id=13168>.