

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 # 78**  
**Kalamazoo River/Enbridge Spill**  
**Z5JS**  
**Marshall, MI**  
**Latitude: 42.2395273 Longitude: -84.9662018**

**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  
 James Sygo, MDNRE

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

**Date:** 12/7/2010

**Reporting Period:** 0700 hours 11/29/2010 to 0700 hours 12/6/2010

## 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 U.S. EPA Federal On-Scene Coordinator (FOOSC) and the Michigan Department of Natural Resources and the Environment (MDNRE). The Operational Period covered in this report is: 11/29/2010 07:00 to 12/6/2010 07:00.

### 1.3 Operations Section

This operational phase of the response consists of: 1) Long Term Operations and Maintenance (O&M); 2) Drinking/Groundwater Monitoring; 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 inspection for readily visible contamination. A summary of significant actions for this period is presented in Table 1.

Table 1 – O&M Actions

Activity	Number of Locations	Location (MP)
Sheen observation	29	Division Road Culvert; 2.25 L2; 2.50 L1; 2.75 I1; 3.25 R1; 3.75 LIC; 3.75 RIC; 4.50 IE; 5.55 N; 7.00 R1; 8.50 L1; 8.50 L2; 9.00 I1; 9.50 L1; 10.50 L2; 10.75 L2; 11.00 R1; 11.25 R1; 11.25 R2; 11.50 R1; 12.00 R1; 12.75 R1; 13.5 L2; 13.75 R1; 15.00 L1; 17.00 (RockTenn); 21.00 L1; C-6; 28.25 R1
Bank Flushing	1	15.0
New Work Plans Prepared or Pending	20	2.50 L1; 2.75 I1; 3.25 IA; 3.25 R1; 3.75 LIC; 3.75 RIC; 4.50 IE; 7.00 R1; 8.50 L1; 8.50 L2; 9.50 L1; 10.50 L2; 10.75 L2; 11.25 R1; 11.25 R2; 11.50 R1; 12.00 R1; 12.75 R1; 17.00 (RockTenn); 28.25 R1
Hydro Vacuuming	2	9.50; 11.25 (oxbow and island)
Additional Excavation	3	4.50 L1; 9.50 L1; 11.0 R1;
Submerged Oil Recovery	4	2.50 L1; 5.55 N; 21.50; 10.75 L2
Off-Site Cleaning	1	17.00 (RockTenn)

The O&M process is documented in Table 2.

Table 2 – O&M Maintenance and Monitoring Areas

O&M Process	Area Status
	12/5
Active	5
Monitoring	40
Cleared	4
Signed Off	49

**1.3.2 Drinking and Groundwater Studies**

Drinking water well sampling of 121 wells was performed during this period by Enbridge under MDNRE oversight.

**1.3.3 Decontamination**

Equipment and boom that were decontaminated during this operational period are summarized in Table 3.

**Table 3 - Equipment Decontamination**

Location/Media	Totals	12/5	12/4	12/3	12/2	12/1	11/30	11/29
Frac Tanks	2	0	0	1	1	0	0	0
Vac Trucks-Tankers	5	0	0	0	2	3	0	0
Roll-Off Boxes	0	0	0	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>0</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>

<b>Boom (feet)</b>	<b>2,200</b>	600	100	300	200	600	400	0
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**1.3.4 Additional Operations**

Air Operations

- During this operational period, there were 5 over-flights for situational awareness.
- 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.
- Coordination with the MDNRE continues, particularly with regards to MDNRE concurrence of work contemplated by Enbridge in ecologically sensitive areas during winter operations.

Monitoring Branch

- Under MDNRE direction, performed sediment and surface water sampling at Lake Morrow in accordance with the existing U.S. EPA-approved Sampling and Analysis Plan (SAP), (adopted by MDNRE) and a reduced sampling frequency as approved by the MDNRE.
- Samples reported by Enbridge are provided in Table 4.

**Table 4 – Samples Collected By Enbridge**

Sample Type	Number Collected							
	Totals	12/5	12/4	12/3	12/2	12/1	11/30	11/29
Surface Water	49	0	10	8	5	6	12	8
Private Well	124	0	0	13	36	27	29	19
Groundwater	6	0	0	0	0	0	2	4
Sediment	11	0	0	0	4	4	0	3
Soil Samples	135	0	0	7	23	42	39	24
Submerged Oil	7	0	2	5	0	0	0	0
Other	89	0	12	33	11	12	7	14

Air samples via Summa canisters are no longer being collected.

Landowner Environmental Issues

Landowner environmental issues for the referenced period are represented in Table 5.

**Table 5 – Landowner Environmental Issues**

Issues this Period	Issues Undergoing Evaluation	Issues Considered Addressed
1	11	23

**1.3.5 Progress Metrics**

All progress metrics in Section 1.3.5 are as reported by Enbridge unless otherwise indicated.

**Table 6 - Boom Report**

Metric	12/5	12/4	12/3	12/2	12/1	11/30	11/29
Number of Locations	42	43	43	44	36	36	36
Boom Deployed (feet)	40,598	42,298	45,478	46,528	45,108	45,258	45,476

NR = Per Enbridge, data not recorded

**Table 7 - Soil and Debris Shipped Off Site as of 12/5**

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>	63,699
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)	181
Non Haz Impacted Debris (ton) <sup>c</sup>	1,440

\* 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 8 – Oil/Water Collected by Location (as of 12/5)**

Location	Cumulative (gallons)
Division A	5,336,921
Division B	4,842,517
Division C	1,521,202
Division D	114,876
Division E	47,426
Decontamination	896,669
Other Locations*	954,083

<b>Total</b>	13,713,694
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\* Includes fluids stored in Fractionation Tanks which was generated from Decontamination Operations, Wildlife Center Operations, Sediment Trap Cleaning, Hydro-Vacuuming activities.

**Table 9 – Oil/Water Separation 12/5 (Enbridge Facility in Griffith, IN) (Gallons)**

Item	Cumulative (gallons)
Oil	766,288
Other Material	1,405,525
<b>Total</b>	<b>2,171,813</b>

**Table 10 - Oil/Water Remaining On-Site (Gallons)**

Item	Cumulative (gallons)
Oil/Water Collected	13,713,694
Oil/Water Shipped Off-Site	13,700,502
<b>Oil/Water Remaining On-Site</b>	<b>13,192</b>

**Table 11 - Liquid Shipped Off-site as of 12/5**

Stream	Destination Company	Destination Location	Cumulative Volume (gallons) †
Hazardous Water	Dynecol	Detroit, MI	3,428,244
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
Non-Haz Water		Battle Creek, MI	166,220
Sludge			467,660
<b>Total</b>			<b>13,700,502</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 into Scribe, exporting daily briefings; and processing and printing maps as requested.
- Database management is being done in Houston.

Documentation Unit

- Continued organization and archiving of electronic files.

**1.5 Safety Reports**

Cold weather (below freezing) has been continuously present and ice formation has been observed in slower moving portions of the river.

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 inquiries as outlined in 12.

**Table 12 – Public Inquiries Received by EPA and Enbridge**

Location/Media	Inquiries Received							
	Total	12/5	12/4	12/3	12/2	12/1	11/30	11/29
Battle Creek Community Center	35	0	1	8	9	8	3	6
Marshall Community Center	33	0	3	10	5	4	5	6
Oil Spill Public Information Hotline	26	0	0	5	6	6	2	7
Enbridge Response Website (www.response.enbridgeUS.com)	4	0	0	2	0	1	0	1
<b>Total Public Inquiries</b>	<b>98</b>	<b>0</b>	<b>4</b>	<b>25</b>	<b>20</b>	<b>19</b>	<b>10</b>	<b>20</b>

**1.8 Finance Section**

The current NPFC issued ceiling is \$27.6 Million. Approximately 83.4% of the ceiling has been spent through December 4, 2010, with the latest average burn rate of \$42,780 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in 13.

**Table 13 - Financial Summary**

Item	Expended (Cumulative) as of 12/4
<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>	<b>\$ 3,630,035</b>
Lockheed Martin (EPW 09031) – TAGA Support	\$ 150,000
T&T Bisso (EPA:HS 800008 USCG:HS CG8410A 800008)	\$ 1,255,000
<b>START Contractor – WESTON (EPS 50604) T030-Response</b>	<b>\$ 8,395,940</b>
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 291,489
<b>Response Contractor Sub-Totals</b>	<b>\$ 13,902,678</b>
<b>EPA Funded Costs: Total EPA Costs</b>	<b>\$ 4,741,561</b>
<b>Pollution Removal Funding Agreements – Total Other Agencies</b>	<b>\$ 1,426,909</b>
<b>Sub-Totals</b>	<b>\$ 20,071,148</b>
Indirect Cost (16.00%)	\$ 3,211,384
<b>Total Est. Oil Spill Cost</b>	<b>\$ 23,282,532</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 27,600,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 4,317,468</b>

**1.9 Response Actions to Date**

Response Actions to date may be found in SITREPs #1 through #77.

**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 Table 14.

**Table 14 - Personnel On-Site**

Agency/Entity	Personnel Count						
	12/5	12/4	12/3	12/2	12/1	11/30	11/29
U.S. EPA	9	10	9	7	7	7	7
START	23	23	22	22	22	17	17
Calhoun County Public Health	0	0	0	1	0	0	0
Calhoun Count (CC) EM	0	0	0	1	0	0	0
City of Battle Creek	0	0	0	1	1	0	0
City of Marshall	0	0	0	1	1	0	0
Kalamazoo Sheriff	0	0	0	1	0	0	0
MDNRE	1	0	5	4	0	5	3
Michigan State Police EMD	0	0	0	1	0	0	0
NOAA – National Weather	0	0	0	0	0	0	0
USFWS	0	0	0	0	0	0	0
Enbridge – Operations*	11	10	10	13	12	11	4
Enbridge – Operations Contractor*	114	157	159	162	158	155	22
Enbridge – Field*	1	3	3	2	2	2	0
Enbridge – Field Contractors*	182	228	221	219	241	238	26
<b>Total</b>	<b>341</b>	<b>431</b>	<b>429</b>	<b>435</b>	<b>444</b>	<b>435</b>	<b>79</b>

\* Enbridge personnel counts are from 07:00 on the day shown.

**4 Source of 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>.