

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #90



**KALAMAZOO RIVER/ENBRIDGE SPILL – REMOVAL**  
**SITE # Z5JS**  
**MARSHALL, MICHIGAN**  
**LATITUDE: 42.2395273 LONGITUDE: -84.9662018**



MP-3.25 IA: Completed Bridge Construction at Island A

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 Management.  
 Mark DuCharme, MDEQ  
 Mike McKenzie, City of Battle Creek  
 Susan Hedman, U.S. EPA Regional Administrator  
 James Sygo, MDEQ

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

**Date:** 03/15/2011

**Reporting Period:** 1200 hours 03/07/2011 through 0700 hours 03/14/2011

**1. Site Data**

<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>Demobilization 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>	

**2. Previous Response Actions and Current Response Governance**

See SITREP #51 for a comprehensive description of preliminary operations. Previous response actions performed to date may be found in Situation Reports (SITREPs) #1 through #89.

Governance for the project is provided by the U.S. Environmental Protection Agency (U.S. EPA) Federal On-Scene Coordinator (FOSC) and the Michigan Department of Natural Resources and the Environment (MDNRE), [as of March 14, 2011 Michigan Department of Environmental Quality (MDEQ)]. The structure of the response is the Incident Command System (ICS), with the FOSC serving as the Incident Commander (IC).

The Operational Period covered in this report is: 1200 03/07/2011 through 0700 03/14/2011.

**3. Operations**

This current operational phase of the response consists of: 1) Operations and Maintenance (O&M); 2) Decontamination; and 3) Other Operations.

**3.1 Operations and Maintenance (O&M)**

Teams inspected O&M locations. In general, team activities included an inspection of containment boom to ensure proper placement and effectiveness and inspection for readily visible oil or oil saturated soils. Additionally, O&M operations (i.e., access road construction, excavation) continued. A summary of significant actions for this period is presented in Table 1.

**Table 1 – O&M Actions**

<b>Activity</b>	<b>Number of Locations</b>	<b>Location (MP)</b>
Sheen and/or Product Observation	22	B5; 2.25 L2; 2.75 I1, 2.50 L1, 3.25 IA; 3.25 R1; 3.25 IA, 4.25 IE; 4.50 IF; 4.50 L1; 5.55 N; 6.00 R4; 7.00 R1; 8.50 L1; 9.00 I1; 10.50 L1, 10.50 L2, 10.75 L2 SO; 11.25 R1; 11.25 R2; 13.50 L1; 15.50 L1
O& M Plans Approved	0	
Excavation Work Plans Approved	0	
Aqua Barrier Installation	0	
Pre-Excavation Activities (i.e., dewatering, bridges, sheet pile, staging, etc.)	3	3.25 IA; 3.75 IC, 10.75L2 SO
Excavation	0	

A summary of the number of sites in the O&M process as reported by Enbridge is summarized below.

**Table 2 – O&M Maintenance and Monitoring Areas**

<b>O&amp;M Process</b>	<b>Area Status</b>
	<b>3/13/2011</b>
Active	3
Monitoring	36
Recommended to Cleared	6
Signed Off	56
<b>Total</b>	<b>101</b>

**3.2 Decontamination**

Equipment and boom that were decontaminated during this operational period as reported by Enbridge is presented below.

**Table 3 - Equipment Decontamination**

Location/Media	Total	March 2011					
		13	12	11	10	9	8
Frac Tanks	2	0	0	0	0	1	1
Vac Trucks-Tankers	3	0	0	0	1	1	1
Roll-Off Boxes	0	0	0	0	0	0	0
Yellow Iron – Light	0	0	0	0	0	0	0
Yellow Iron – Heavy	0	0	0	0	0	0	0
Marine Vessels	0	0	0	0	0	0	0
Vehicles	0	0	0	0	0	0	0
Boom (feet)	700	0	0	300	300	100	0

N/R = Not reported by Enbridge.

**3.3 Additional Operations**

**3.3.1 Air Operations**

There were 2 over-flights for situational awareness during this operational period. Air Operations personnel observed and documented O&M progress in all operational areas and continued to assess areas of interest, such as ice jams, oil mobilization and decontamination activities.

**3.3.2 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 operations.

**3.3.3 Monitoring Branch**

Under MDNRE direction, potable water, groundwater, soil, sediment and surface water sampling were performed 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 below.

**Table 4 – Samples Collected By Enbridge**

Sample Type	Total	March 2011					
		13	12	11	10	9	8
Surface Water	6	0	0	0	0	0	6
Private Well Samples	0	0	0	0	0	0	0
Groundwater Samples	0	0	0	0	0	0	0
Sediment Samples	0	0	0	0	0	0	0
Soil Samples	27	0	0	23	4	0	0

**4. Landowner Environmental Issues**

Landowner environmental issues, as reported by Enbridge for this period are represented below.

**Table 5 – Landowner Environmental Issues**

Issues this Period	Issues Undergoing Evaluation	Issues Considered Addressed
0	11	0

**5. Progress Metrics**

Progress metrics reported in this section are as reported by Enbridge.

**Table 6 - Boom and Aqua Dam Report**

Metric	March 2011					
	13	12	11	10	9	8
# Boom Locations [# control points included]	34 [4]	34 [4]	35 [4]	34 [4]	34 [4]	34 [4]
Total Surface Boom Deployed (ft) [control point qty in ft]	15,500 [3,200]	15,500 [3,200]	15,650 [3,200]	13,700 [3,200]	13,700 [3,200]	13,7000 [3,200]
# Aqua Dam Locations	10	10	10	10	10	10
Aqua Dam Deployed (ft)	1,035	1,035	1,035	1,035	1,035	1,035
Sand-Small Bags	39	39	39	39	39	39
Sand-Super Sacks	1,431	1,431	1,431	1,431	1,431	1,431

NR = Not Reported by Enbridge

**Table 7 - Soil and Debris Shipped Off Site as of 3/13/2011**

Waste Stream	Cumulative	Disposal Facility
Haz Soil (yd <sup>3</sup> )	19,644	Envirosafe (Oregon, OH)
Non-Haz Soil & Debris (yd <sup>3</sup> ) (Excluding Ceresco Dredge)	71,145	Westside Recycling (Three Rivers, MI); Terra/C&C and EQ/Republic (Marshall, MI)
Non-Haz Soil (yd <sup>3</sup> ) (Ceresco Dredge Only)	5,562	
Haz Debris (yd <sup>3</sup> )	12,075	EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)
Non-Haz Household Debris (ton)	236	EQ/Republic (Marshall, MI); C&C
Non-Haz Impacted Debris (ton)	1,564	

**Table 8 – Oil/Water Collected by Location (as of 3/13/2011)**

Location	Cumulative (gallons)
Division A	5,338,315
Division B	4,843,782
Division C	1,751,706
Division D	121,106
Division E	47,438
Decontamination	1,348,540
Site A	75,176
Other Locations*	1,173,440
<b>Total</b>	<b>14,699,503</b>

\* Decontamination Operations, Wildlife Center Operations, Sediment Trap Cleaning, Hydro-Vacuuming.

**Table 9 – Oil/Water Separation 3/13/2011 (Enbridge Facility in Griffith, IN)**

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 3/13/2011**

Item	Cumulative (gallons)
Oil/Water Collected	14,699,503
Oil/Water Shipped Off-Site	14,697,015
<b>Total Oil/Water Remaining On-Site</b> (Oil/Water Remaining at Frac Tank City) [Oil/Water Remaining at Site A]	2,488

**Table 11 - Liquid Shipped Off-site as of 3/13/2011**

Stream	Destination Company	Destination Location	Cumulative Volume (gallons) †
Hazardous Water	Dynecol	Detroit, MI	3,594,579
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
Non-Haz Water	Dynecol	Detroit, MI	361,678
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 POTW	Battle Creek, MI	634,720
Sludge			467,660
<b>Total</b>			<b>14,697,015</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.

## **6. Support Operations**

### **6.1 Planning**

The Planning Department coordinated with Enbridge Planning to transition from project management to full-scale ICS and developed a new planning cycle.

#### **6.1.1 Environmental Unit**

Nothing to report.

**6.1.2 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 Vernon Hills, IL and/or Houston, TX.

**6.1.3 Documentation Unit**

Continued organization and archiving of electronic and paper files.

**6.2 Safety**

A Bloodborne Pathogens (BBP) class on Infectious Waste and Sharps handling was conducted for field personnel. Sharps containers signed out to boat operators, Enbridge Safety, and others as needed.

The Automated External Defibrillator (AED) formerly located in the Incident Command Post (ICP) warehouse has been relocated off-site to the Community Center. There is an AED located in the Enbridge Safety Office of the ICP.

**6.3 Public Information**

The number of public inquires reported by Enbridge for this period is presented below.

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

Location/Media	Total	March 2011					
		13	12	11	10	9	8
Marshall Community Center	5	0	0	2	1	1	1
Oil Spill Public Information Hotline	9	0	0	5	1	1	2
<b>Total Public Inquiries</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>3</b>

## 6.4 Finance

The current NPFC ceiling is \$31.2 Million. Approximately 81.1% of the ceiling has been spent through March 13, 2011. As of March 13, 2011, the weekday average burn rate was \$25,567 per day. These cost summaries reflect only EPA-funded expenditures for the incident. The summary reflects a one-time adjustment to correct over-estimation of EPA Payroll and Travel. A summary of these expenses is presented below.

**Table 13 - Financial Summary**

Item	Expended (Cumulative) as of 3/14/2011
<b>ERRS Contractors</b>	
EQM (EPS50802) <span style="float: right;">T057</span>	\$ 1,250,065
<span style="float: right;">T060</span>	\$ 204,905
LATA (EPS50804) <span style="float: right;">T019</span>	\$ 1,451,396
ER LLC (EPS50905) <span style="float: right;">T040</span>	\$ 723,669
<b>Total ERRS Contractors</b>	<b>\$ 3,630,035</b>
<b>Other Contractors</b>	
Lockheed Martin (EPW09031) – TAGA Support	\$ 150,000
T&T Bisso (EPA:HS800008)	\$ 1,255,000
<b>Total Other Contractors</b>	<b>\$ 1,405,000</b>
<b>START Contractor – WESTON (EPS50604)</b>	
T030-Response	\$ 9,617,473
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 590,242
<b>Total START Contractor</b>	<b>\$ 10,387,929</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 15,422,964</b>
<b>EPA Funded Costs: Total EPA Costs</b>	<b>\$ 4,653,447</b>
<b>Pollution Removal Funding Agreements – Total Other Agencies</b>	<b>\$ 1,723,682</b>
<b>Sub-Totals</b>	<b>\$ 21,800,093</b>
Indirect Cost (16.00%)	\$ 3,488,015
<b>Total Est. Oil Spill Cost</b>	<b>\$ 25,288,108</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 31,200,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 5,911,892</b>

## 7. Participating Entities

A Multi-Agency Coordination (MAC) Group meets weekly regarding the progress of the response. Entities participating in the MAC include:

- U.S. Environmental Protection Agency
- Michigan Department of Natural Resources and the Environment
- Michigan State Police Emergency Management Division
- City of Battle Creek
- City of Marshall
- Calhoun County Public Health Department
- Calhoun County Emergency Management

- Kalamazoo County Sheriff
- Enbridge (Responsible Party)

For a list of cooperating and assisting agencies and the congressional presence, see SITREP #51 (Sections 3.2 and 3.3).

### 8. Personnel On-Site

Staffing numbers for the entities and agencies active in the response are presented in Table 14.

**Table 14 - Personnel On-Site**

Agency/Entity	March 2011					
	13	12	11	10	9	8
U.S. EPA	0	3	4	4	4	4
START	1	5	10	13	12	12
Calhoun County Public Health	0	0	0	1	1	0
Calhoun County (CC) EM	0	0	0	1	0	0
City of Battle Creek	0	0	0	1	1	0
City of Marshall	0	0	0	0	1	0
Kalamazoo Sheriff	0	0	0	0	0	0
MDNRE	0	0	1	1	3	1
Michigan State Police EMD	0	0	0	0	0	0
NOAA – National Weather	0	0	0	0	0	0
USFWS	0	0	0	0	0	0
Enbridge – Operations	0	3	16	19	21	17
Enbridge – Operations Contractor	19	35	86	97	93	99
Enbridge – Field	0	0	0	0	0	0
Enbridge – Field Contractors	15	33	87	100	100	92
<b>Total</b>	<b>35</b>	<b>79</b>	<b>204</b>	<b>237</b>	<b>236</b>	<b>225</b>

\*Enbridge Operations included with contractors as reported by Enbridge

### 9. 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>.