

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #87



**KALAMAZOO RIVER/ENBRIDGE SPILL – REMOVAL  
SITE # Z5JS  
MARSHALL, MICHIGAN  
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 Management.  
 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, Federal On-Scene Coordinator  
 Tricia Edwards, U.S. EPA, On-Scene Coordinator  
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**Date:** 02/22/2011

**Reporting Period:** 12:00 hours 02/014/2011 through 12:00 hours 02/21/2011

**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 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 #86.

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). The Operational Period covered in this report is: 02/014/2011 12:00 through 02/21/2011 12:00.

**3. Operations**

This current operational phase of the response consists of: 1) Operations and Maintenance (O&M); 2) Drinking/Groundwater Monitoring; 3) Decontamination; and 4) 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. Additionally, winter O&M operations (i.e., frost driving, ice-road construction, excavation) continued. Teams performed inspection for readily visible contamination. 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	8	B5, 8.50 L2; 10.50 L2; 11.25 R1; 11.50 R1, 11.50 Access Road, 15.00 L1; 19.25 L1
O& M Plans Approved	1	Talmadge Creek
Excavation Work Plans Approved	0	
Aqua Barrier Installation	1	10.75 L3
Pre-Excavation Activities (i.e., dewatering)	3	11.50 R1; 15.00 L1; 19.25 L1
Excavation	3	11.50 R1; 15.00 L1; 19.25 L1

A summary of the quantity 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>2/21/2011</b>
Active	3
Monitoring	39
Recommended to Cleared	8
Signed Off	51

**3.2 Drinking and Groundwater Monitoring**

Drinking water well sampling of 10 wells was performed during this period by Enbridge under MDNRE and public health agencies oversight.

**3.3 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	February 2011						
		21	20	19	18	17	16	15
Frac Tanks	2	0	0	0	1	1	0	0
Vac Trucks-Tankers	0	0	0	0	0	0	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	3	0	0	0	3	0	0	0
Marine Vessels	2	0	0	0	0	0	0	2
Vehicles	0	0	0	0	0	0	0	0
Boom (feet)	350	0	0	0	0	200	100	50

N/R = Not reported by Enbridge.

**3.4 Additional Operations**

**3.4.1 Air Operations**

There were 3 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 investigate/report areas of interest, ice jams, oil mobilization and decontamination.

**3.4.2 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 winter operations.

**3.4.3 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	February 2011						
		21	20	19	18	17	16	15
Surface Water	7	0	0	0	0	0	4	3
Private Well Samples	10	0	0	0	0	0	6	4
Groundwater Samples	6	0	0	0	3	3	0	0
Sediment Samples	94	0	0	0	22	22	18	32
Soil Samples	43	0	0	6	14	14	0	9

**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
1	12	0

**5. Progress Metrics**

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

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

Metric	February 2011						
	21	20	19	18	17	16	15
# Locations	28	28	28	26	26	26	26
Boom Deployed (ft)	9,750	9,750	9,750	8,750	8,750	8,700	8,700
# Locations	17	17	15	15	15	15	15
Aqua Dam Deployed (ft)	1,915	1,915	1,790	1,690	1,690	1,690	1,690

NR = Not Reported by Enbridge

**Table 7 - Soil and Debris Shipped Off Site as of 2/21/2011**

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)	64,815	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)
Non-Haz Impacted Debris (ton)	1,564	

**Table 8 – Oil/Water Collected by Location (as of 2/22/2011)†**

Location	Cumulative (gallons)
Division A	5,338,315
Division B	4,843,782
Division C	1,532,706
Division D	121,106
Division E	47,438
Decontamination	1,151,338
Other Locations*	1,110,440
<b>Total</b>	<b>14,008,102</b>

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

† Data outside of operational period due to reporting by Enbridge.

**Table 9 – Oil/Water Separation 2/21/2011 (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 2/22/2011\***

Item	Cumulative (gallons)
Oil/Water Collected	14,145,125
Oil/Water Shipped Off-Site	14,121,745
<b>Oil/Water Remaining On-Site</b>	<b>23,380</b>

\*Data outside of operational period due to reporting by Enbridge

**Table 11 - Liquid Shipped Off-site as of 2/21/2011**

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	86,408
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	334,720
Sludge			467,660
<b>Total</b>			<b>14,121,745</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 Environmental Unit**

Nothing to report.

### **6.2 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 and/or Houston.

### **6.3 Documentation Unit**

Continued organization and archiving of electronic and paper files.

**6.4 Safety**

The operational period began with a warming trend (e.g. temperatures above freezing) with ice melt and rising river levels. This period was followed by snow and freezing rain. Changing weather conditions caused challenges to operations and emphasized the need for situational awareness of surroundings.

Workers are reminded to wear floatation device when working within 10 feet of the river and to wear appropriate PPE when using a chain saw, face shield, chaps, etc. Safety inspections occurred throughout the operational area.

**6.5 Public Information**

The public information operation Battle Creek Community Center has been discontinued. The quantity of public inquires reported by Enbridge for this period is presented below.

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

Location/Media	Total	February 2011						
		21	20	19	18	17	16	15
Marshall Community Center	11	2	2	0	0	4	3	0
Oil Spill Public Information Hotline	10	3	3	0	0	0	1	3
Enbridge Response Website (www.response.enbridgeUS.com)	0	0	0	0	0	0	0	0
<b>Total Public Inquiries</b>	<b>21</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>3</b>

**6.6 Finance**

The current NPFC issued ceiling is \$27.6 Million. Approximately 90.3% of the ceiling has been spent through February 20, 2011. As of February 20, 2011, the latest weekday average burn rate was \$12,159 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented below.

**Table 13 - Financial Summary**

Item	Expended (Cumulative) as of 2/20/2011
<b>ERRS Contractors</b>	
EQM (EPS50802) T057	\$ 1,250,065
T060	\$ 204,905
LATA (EPS50804) T019	\$ 1,451,396
ER LLC (EPS50905) T040	\$ 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	\$ 9,331,087
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 547,166
<b>Total START Contractor</b>	<b>\$ 10,058,467</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 15,093,502</b>
<b>EPA Funded Costs: Total EPA Costs</b>	<b>\$ 4,963,990</b>
<b>Pollution Removal Funding Agreements – Total Other Agencies</b>	<b>\$ 1,426,909</b>
<b>Sub-Totals</b>	<b>\$ 21,484,401</b>
Indirect Cost (16.00%)	\$ 3,437,504
<b>Total Est. Oil Spill Cost</b>	<b>\$ 24,921,906</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 27,600,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 2,678,094</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	February 2011						
	21	20	19	18	17	16	15
U.S. EPA	4	0	1	5	4	5	4
START	11	2	12	11	11	11	12
Calhoun County Public Health	0	0	0	0	0	0	0
Calhoun County (CC) EM	0	0	0	0	1	0	0
City of Battle Creek	0	0	0	0	1	0	0
City of Marshall	0	0	0	0	1	0	0
Kalamazoo Sheriff	0	0	0	0	0	0	0
MDNRE	1	0	0	4	5	5	4
Michigan State Police EMD	0	0	0	0	0	0	0
NOAA – National Weather	0	0	0	0	0	0	0
USFWS	0	0	0	0	0	0	0
Enbridge – Operations	6	*	*	11	*	*	16
Enbridge – Operations Contractor	57	22	46	99	116	125	110
Enbridge – Field	0	0	0	0	0	0	0
Enbridge – Field Contractors	22	19	68	116	131	123	115
<b>Total</b>							<b>261</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>.