

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



MP-3.25 R1 Winter Work Area River Ice Conditions

**Subject: SITREP # 83  
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 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  
 Jeff Kimble, U.S. EPA, On-Scene Coordinator  
 Stephen Wolfe, U.S. EPA, On-Scene Coordinator

**Date:** 01/25/2011

**Reporting Period:** 12:00 hours 01/17/2011 to 12:00 hours 01/24/2011

## 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>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> |                |

#### 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 (FOSC) and the Michigan Department of Natural Resources and the Environment (MDNRE). The Operational Period covered in this report is: 01/17/2011 12:00 to 01/24/2011 12:00.

### 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. Additionally, winter O&M operations (i.e., frost driving, ice-road construction) 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       | 6                          | 2.25 L2; 2.50 L1; 3.25 R1; 7.00 R; 15.00 L1; 21.50 oxbow   |
| Site Access Plans Approved             | 17                         | 2.5 L1; 3.25 R1; 7.00 R1; 8.50 L1*; 8.50 L2*; 9.00 I1; 10.5 L2; 11.0 R1; 11.25 R1*; 11.5 R1; 11.75 R1; 12.00 R1; 13.0 R1; 15.0 L1; 19.25 L1; 21.5 R1*; 28.25 R1* |
| Excavation Work Plans Approved         | 6                          | 2.5 L1; 3.25 R1; 7.00 R1; 10.5 L2; 11.0 R1, 12.00 R1   |
| Aqua Barrier Installation              | 1                          | 10.5L2   |
| Frost Driving                          | 2                          | 3.25 R1; 10.5 L2   |
| Vegetation Removal                     | 1                          | 3.25 R1  |
| Dewatering; Preparation for Excavation | 2                          | 2.5L1, 3.25R1  |
| Excavation                             | 2                          | 2.50 L1, 3.25R1  |

\*Remedial Investigation Site under MDNRE oversight.

The excavation at 2.50 L1 was expanded beyond the original plan due to the presence of oil and/or oil saturated soils after the planned excavation was complete. Excavations and or/dewatering operations at 3.25 R1 and 10.5 L2 were suspended due to river water and ice intrusion into the excavation areas. Ice road building and clearing operations resumed at 3.25 R1.

A summary of the quantity of sites in the O&M process is summarized in Table 2 (as reported by Enbridge unless otherwise indicated).

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

| <b>O&amp;M Process</b> | <b>Area Status</b> |
|------------------------|--------------------|
|                        | <b>1/24/2011</b>   |
| Active                 | 10                 |
| Monitoring             | 32                 |
| Recommended to Cleared | 8                  |
| Signed Off             | 51                 |

**1.3.2 Drinking and Groundwater Studies**

Drinking water well sampling of 66 wells was performed during this period by Enbridge under MDNRE and public health agencies oversight.

**1.3.3 Decontamination**

Equipment and boom that were decontaminated during this operational period are summarized in Table 3 (as reported by Enbridge unless otherwise indicated).

**Table 3 - Equipment Decontamination**

| Location/Media      | Total | January 2011 |    |    |     |     |     |     |
|---------------------|-------|--------------|----|----|-----|-----|-----|-----|
|                     |       | 24           | 23 | 22 | 21  | 20  | 19  | 18  |
| Frac Tanks          | 2     | 0            | 0  | 0  | 0   | 0   | 1   | 1   |
| Vac Trucks-Tankers  | 1     | 0            | 0  | 0  | 0   | 1   | 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  | 0   | 3   | 0   | 0   |
| Marine Vessels      | 0     | 0            | 0  | 0  | 0   | 0   | 0   | 0   |
| Vehicles            | 0     | 0            | 0  | 0  | 0   | 0   | 0   | 0   |
| Boom (feet)         | 2,500 | 450          | 0  | 0  | 750 | 450 | 300 | 550 |

N/R = Not reported by Enbridge.

**1.3.4 Additional Operations**

Air Operations

- There were 4 over-flights for situational awareness during this operational period.
- 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 (as reported by Enbridge unless otherwise indicated).

**Table 4 – Samples Collected By Enbridge**

| Sample Type          | Total | January 2011 |    |    |    |    |    |    |
|----------------------|-------|--------------|----|----|----|----|----|----|
|                      |       | 24           | 23 | 22 | 21 | 20 | 19 | 18 |
| Surface Water        | 9     | 0            | 0  | 0  | 0  | 0  | 2  | 7  |
| Private Well Samples | 66    | 33           | 0  | 0  | 6  | 8  | 10 | 9  |
| Groundwater Samples  | 4     | 4            | 0  | 0  | 0  | 0  | 0  | 0  |
| Sediment Samples     | 99    | 0            | 0  | 0  | 8  | 44 | 47 | 0  |
| Soil Samples         | 10    | 0            | 0  | 0  | 0  | 0  | 8  | 2  |

**1.3.5 Landowner Environmental Issues**

Landowner environmental issues for the referenced period are represented in Table 5 (as reported by Enbridge unless otherwise indicated).

**Table 5 – Landowner Environmental Issues**

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

**1.3.6 Progress Metrics**

All progress metrics in Section 1.3.6 are as reported by Enbridge unless otherwise indicated.

**Table 6 - Boom Report**

| Metric             | January 2011 |       |       |       |       |       |       |
|--------------------|--------------|-------|-------|-------|-------|-------|-------|
|                    | 24           | 23    | 22    | 21    | 20    | 19    | 18    |
| # Locations        | 26           | 26    | 26    | 26    | 26    | 26    | 26    |
| Boom Deployed (ft) | 8,700        | 8,700 | 8,700 | 8,700 | 8,700 | 8,700 | 8,700 |

**Table 7 - Soil and Debris Shipped Off Site as of 1/24/2011**

| Waste Stream*  | Cumulative† | Disposal Facility  |
|--|-------------|--|
| Haz Soil (yd <sup>3</sup> )  | 19,644      | Envirosafe (Oregon, OH)  |
| Non Haz Soil & Debris (yd <sup>3</sup> )<br>(Excluding Ceresco Dredge) | 65,485      | Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI) |
| Non Haz Soil (yd <sup>3</sup> )<br>(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)   | 232         | EQ/Republic (Marshall, MI)   |
| Non Haz Impacted Debris (ton)  | 1,550       |  |

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 1/24/2011)**

| Location         | Cumulative (gallons) |
|------------------|----------------------|
| Division A       | 5,338,315            |
| Division B       | 4,843,782            |
| Division C       | 1,532,706            |
| Division D       | 114,906              |
| Division E       | 47,438               |
| Decontamination  | 1,084,295            |
| Other Locations* | 982,440              |
| <b>Total</b>     | <b>13,943,882</b>    |

\* 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 1/24/2011 (Enbridge Facility in Griffith, IN) (Gallons)**

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

**Table 10 - Oil/Water Remaining On-Site (Gallons) 1/24/2011**

| Item                               | Cumulative (gallons) |
|------------------------------------|----------------------|
| Oil/Water Collected                | 0                    |
| Oil/Water Shipped Off-Site         | 0                    |
| <b>Oil/Water Remaining On-Site</b> | <b>36,545</b>        |

**Table 11 - Liquid Shipped Off-site as of 1/24/2011**

| 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                           |
| 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     | 206,720                       |
| Sludge                 |                           |                      | 467,660                       |
| <b>Total</b>           |                           |                      | <b>13,907,337</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 Vernon Hills and/or 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.

Cold weather safety continues to be the emphasis. Safety inspections occurred throughout the operational area.

**1.6 Liaison Officer**

- Nothing to report.

**1.7 Public Information Officers**

The public information operation Battle Creek Community Center has been discontinued. Received public inquires as outlined in Table 12 and as reported by Enbridge unless otherwise indicated.

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

| Location/Media  | Total     | January 2011 |          |          |          |          |          |          |
|---|-----------|--------------|----------|----------|----------|----------|----------|----------|
|   |           | 24           | 23       | 22       | 21       | 20       | 19       | 18       |
| Marshall Community Center                               | 7         | 1            | 0        | 0        | 0        | 1        | 3        | 2        |
| Oil Spill Public Information Hotline                    | 17        | 4            | 1        | 0        | 2        | 3        | 5        | 2        |
| Enbridge Response Website (www.response.enbridgeUS.com) | 0         | 0            | 0        | 0        | 0        | 0        | 0        | 0        |
| <b>Total Public Inquiries</b>                           | <b>34</b> | <b>5</b>     | <b>1</b> | <b>0</b> | <b>2</b> | <b>4</b> | <b>8</b> | <b>4</b> |

**1.8 Finance Section**

The current NPFC issued ceiling is \$27.6 Million. Approximately 88.3% of the ceiling has been spent through January 23, 2011, with the latest weekday average burn rate of \$19,937 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 13.

**Table 13 - Financial Summary**

| Item   | Expended<br>(Cumulative) as of<br>1/23/2011 |
|--|---|
| <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>                         |
| Lockheed Martin (EPW09031) – TAGA Support                          | \$ 150,000                                  |
| T&T Bisso (EPA:HS800008)   | \$ 1,255,000                                |
| <b>START Contractor – WESTON (EPS50604) T030-Response</b>          | <b>\$ 8,995,265</b>                         |
| T032-Sampling  | \$ 180,214                                  |
| T037-Doc Support   | \$ 500,715                                  |
| <b>Total START Contractor</b>                                      | <b>\$ 9,676,194</b>                         |
| <b>Response Contractor Sub-Totals</b>                              | <b>\$ 14,711,229</b>                        |
| <b>EPA Funded Costs: Total EPA Costs</b>                           | <b>\$ 4,867,190</b>                         |
| <b>Pollution Removal Funding Agreements – Total Other Agencies</b> | <b>\$ 1,426,909</b>                         |
| <b>Sub-Totals</b>  | <b>\$ 21,005,328</b>                        |
| Indirect Cost (16.00%)   | \$ 3,360,853                                |
| <b>Total Est. Oil Spill Cost</b>                                   | <b>\$ 24,366,181</b>                        |
| <b>Oil Spill Ceiling Authorized by USCG</b>                        | <b>\$ 27,600,000</b>                        |
| <b>Oil Spill Ceiling Available Balance</b>                         | <b>\$ 3,233,819</b>                         |

**1.9 Response Actions to Date**

Response Actions to date may be found in SITREPs #1 through #82.

**2 Participating Entities**

**2.1 Multi-Agency Coordination Group**

- 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)

**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                     | January 2011 |            |            |            |            |            |            |
|-----------------------------------|--------------|------------|------------|------------|------------|------------|------------|
|                                   | 24           | 23         | 22         | 21         | 20         | 19         | 18         |
| U.S. EPA                          | 4            | 5          | 4          | 4          | 5          | 5          | 5          |
| START                             | 13           | 11         | 12         | 11         | 11         | 11         | 11         |
| Calhoun County Public Health      | 0            | 0          | 0          | 0          | 1          | 1          | 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          | 1          | 0          | 0          |
| MDNRE                             | 3            | 0          | 0          | 4          | 5          | 6          | 3          |
| Michigan State Police EMD         | 0            | 0          | 0          | 0          | 0          | 0          | 0          |
| NOAA – National Weather           | 0            | 0          | 0          | 0          | 0          | 2          | 0          |
| USFWS                             | 0            | 0          | 0          | 0          | 0          | 2          | 0          |
| Enbridge – Operations*            | 12           | 2          | 4          | 16         | 16         | 14         | 13         |
| Enbridge – Operations Contractor* | 82           | 31         | 39         | 87         | 89         | 96         | 90         |
| Enbridge – Field*                 | 0            | 0          | 0          | 0          | 0          | 0          | 0          |
| Enbridge – Field Contractors*     | 98           | 60         | 67         | 87         | 90         | 87         | 82         |
| <b>Total</b>                      | <b>212</b>   | <b>109</b> | <b>126</b> | <b>209</b> | <b>221</b> | <b>224</b> | <b>204</b> |

**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>.