

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #172



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

US EPA ARCHIVE DOCUMENT



**To:** Susan Hedman, U.S. EPA Regional Administrator  
James Sygo, MDEQ  
Michelle DeLong, MDEQ  
Dr. Linda Dykema, MDCH  
Lt. Barry Reber, Michigan State Police, Emergency Management  
Deb Cardiff, Kalamazoo County  
Lt. Paul Baker, Kalamazoo County Sheriff's Office  
James Rutherford, Calhoun County Public Health Department  
Durk Dunham, Calhoun County Emergency Management  
Scott Corbin, Allegan County Emergency Management  
Andrew Michalowski, City of Battle Creek  
Cheryl Vosburg, City of Marshall  
Christine Kosmowski, Calhoun County Water Resources Commissioner

**From:** Ralph Dollhopf, U.S. EPA, Federal On-Scene Coordinator

**Date:** 02/01/2013

**Reporting/Operational Period:** 0700 hours 01/14/2012 through 0700 hours 01/28/2013

### *1. Site Data*

<b>Site Number:</b>	Z5JS	<b>Response Type:</b>	Emergency
<b>Response Authority:</b>	OPA	<b>Incident Category:</b>	Removal Action
<b>Response Lead:</b>	PRP	<b>NPL Status:</b>	Non-NPL
<b>Mobilization Date:</b>	7/26/2010	<b>Start Date:</b>	7/26/2010
<b>FPN#:</b>	E10527		

### *2. Operations Section*

- The organizational response structure consisted of the following Branches: 1) Submerged Oil; 2) Containment; and 3) Waste Management.

#### **2.1 Submerged Oil Branch**

##### *2.1.1 Submerged Oil Science Group*

- All submerged oil field activities were stood down during this operational period due to river icing conditions.

##### *2.1.2 Submerged Oil Compliance Group*

- No activities were conducted during this operational period.

#### **2.2 Containment Branch**

##### *2.2.1 Containment Compliance Group*

- No activities were conducted during this operational period.

### 2.2.2 Containment Recovery Group

- Pursuant to the Emerging Oil Management Program (EOMP), Enbridge and U.S. EPA continued to track the location, response, and sheen differentiation test results (when necessary) of each identified location of sheen and/or oil globules in the main channel and overbank areas. Observations of sheen and/or oil globules were reported back to Operations Section Chiefs for response, if appropriate. See Table 1 for a summary of sheen differentiation tests conducted during the reporting period.
- Management of oil sheen and/or globules continued. During this reporting period, no sheen responses were conducted. See Table 2 for a summary of responses to oil sheen and/or globules by date.

### 2.4 Waste Management Branch

- Cumulative quantities of soil, debris, and liquid shipped off-site during the response are presented in Tables 3 and 4.
- The total amount of recovered oil from the inception of the response has been estimated using actual waste stream volumes, analytical data, and physical parameters of oil-containing media. A summary of the estimated volume of recovered oil is presented in Table 5.

## 3. Planning

### 3.1 Situation Unit

- Situation Unit personnel observed and documented progress in operational areas, and documented locations of oil sheen and/or globules through field observations and overflights. During this operational period, overflights were conducted on January 16 and 22, 2013. Personnel reported observations of oil sheen and/or globules to Operations for follow-up testing and/or response, consistent with the EOMP. See Section 2.2.2 for additional details regarding the EOMP.
- Specific observations during this period include the observation of oil sheen and globules at the Ceresco Dam impoundment at locations between MP 5.15 RDB and MP 5.80 RDB on January 14, 17, 18 and 19, 2013; at MP 15.25 in the South Mill Pond on January 18 and 19, 2013; at MP 36.5 RDB on January 18, 2013; and at the Morrow Lake Delta on January 15, 2013.
- Situation Unit personnel continued documenting occurrences of ice formation throughout the river system.
- Photographs were taken and distributed to project participants during the weekly Consolidated ICS Meetings.
- Enbridge collected and logged soil cores from near the Source Area as part of its Line 6B 2012 Maintenance and Rehabilitation Program. U.S. EPA observed and documented subsurface soil conditions at the Source Area during these activities.

### 3.2 Environmental Unit

- U.S. EPA continued to track the progress of the Oil Quantification process by reviewing core logs submitted by Enbridge and tracking the samples submitted for laboratory analysis.
- Review and evaluation of bathymetry data submitted by Enbridge from the E4.0 Containment System (post removal) and quarterly sediment trap bathymetry tasks continued.

### 3.3 Documentation Unit

- The Documentation Unit continued organizing and archiving electronic and paper files for post-incident use.

### 3.4 Resource Unit

- The Resources Unit continued to support production of the Incident Action Plan (IAP), supported the planning efforts of operations, and provided information to Logistics personnel in order to properly prepare and procure resources.

## 4. *Command*

### 4.1 Safety Officers

- Safety personnel continued conducting work-site safety inspections and implementing the plan for integration of public safety and worker safety on the Kalamazoo River.

### 4.2 Public Information

- The number of public inquires reported by Enbridge for this period is presented in Table 7.

## 5. *Finance*

- The current National Pollution Funds Center (NPFC) ceiling is \$56.25 Million. Approximately 89.1% of the ceiling has been spent through January 27, 2012. The latest average 14-day burn rate was \$19,192 per day. These cost summaries reflect only U.S. EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 8.

## 6. *Scientific Support Coordination Group (SSCG)*

- SSCG and Enbridge forensic chemists continued regular conference calls to examine the oil chemical fingerprinting results and compare procedures for applying oil fingerprinting results to measuring Line 6B oil remaining in the Kalamazoo River sediments.

## 7. *Participating Entities*

- Entities participating in the MAC include:
  - U.S. Environmental Protection Agency
  - Michigan Department of Environmental Quality
  - Michigan Department of Community Health
  - City of Battle Creek
  - City of Marshall
  - Allegan County Emergency Management
  - Calhoun County Public Health Department
  - Calhoun County Emergency Management
  - Calhoun County Water Resources Commissioner
  - Kalamazoo County Health and Community Services Department
  - Kalamazoo County Sheriff

- Enbridge (Responsible Party)
- For a list of cooperating and assisting agencies, 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 9.

### 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/>.

### 10. Clean-up Progress Metrics

**Table 1 – Sheen Differentiation Test Results**

Description	Total	January 2013													
		27	26	25	24	23	22	21	20	19	18	17	16	15	14
Sheen Tests Performed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Results Indicated Petroleum Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Results Indicated Biogenic Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inconclusive Test Results	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 2 – Sheen Responses**

Total	January 2013													
	27	26	25	24	23	22	21	20	19	18	17	16	15	14
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 3 - Soil and Debris Shipped Off Site (as of 1/27/2013)**

Waste Stream	Cumulative	Disposal Facility
Haz Soil (yd <sup>3</sup> )	19,644	Envirosafe (Oregon, OH)
Non-Haz Soil (yd <sup>3</sup> ) (Excluding Ceresco Dredge)	78,111	SET/C&C
Non-Haz Soil & Debris (yd <sup>3</sup> ) (Excluding Ceresco Dredge)	64,815	Westside Recycling (Three Rivers, MI)
Non-Haz Soil (yd <sup>3</sup> ) (Ceresco Dredge Only)	5,562	EQ/Republic (Marshall, MI)
Haz Debris (yd <sup>3</sup> )	12,075	EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)
Non-Haz Household Debris (ton)	1,802	SET/C&C
Non-Haz Impacted Debris (ton)	7,153	

Shaded items are discontinued waste streams.

**Table 4 - Liquid Shipped Off-Site (as of 1/27/2013)**

<b>Stream</b>	<b>Destination Company</b>	<b>Destination Location</b>	<b>Cumulative Volume (gallons)†</b>
Non-Haz Water	Dynecol	Detroit, MI	981,792
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,376,757
Non-Haz Water	Plummer	Kentwood, MI	521,726
<i>Non-Haz Water</i>	<i>Battle Creek POTW</i>	<i>Battle Creek, MI</i>	<i>1,143,280</i>
<i>Hazardous Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	<i>3,594,579</i>
<i>Oil</i>	<i>Enbridge Facility</i>	<i>Griffith, IN</i>	<i>766,288</i>
<i>Other Material</i>			<i>1,405,525</i>
<i>Treated Non-Haz Water</i>	<i>Liquid Industrial Waste</i>	<i>Holland, MI</i>	<i>370,200</i>
<i>Treated Non-Haz Water</i>	<i>Plummer</i>	<i>Kentwood, MI</i>	<i>4,976,140</i>
<i>Hazardous Water</i>	<i>Safety Kleen<sup>a</sup></i>		<i>825</i>
<i>Treated Non-Haz Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	<i>150,700</i>
<i>Treated Non-Haz Water</i>	<i>Battle Creek POTW</i>	<i>Battle Creek, MI</i>	<i>1,968,700</i>
<b>Total</b>			<b>17,256,512</b>

*Shaded and italicized items are discontinued waste streams.*

† Cumulative quantities may not reconcile with previous reports (due to auditing).

a New Age lab water and methanol mix generated by mobile laboratory.

**Table 5 – Estimated Recovered Oil (as of 1/27/2013)**

<b>Waste Stream Containing Recovered Oil</b>	<b>Destination Company</b>	<b>Destination Location</b>	<b>Estimated Oil Volume in Waste Stream (gallons)</b>
<b>Soil</b> Impacted Soil & Debris	C&C Landfill	Marshall, MI	14,032*
	Envirosafe/ Westside RDF	Oregon, OH	278,665
<i>Geotube Sediment - (Impacted Sediment)</i>	<i>Envirosafe/ Westside RDF</i>	<i>Oregon, OH</i>	<i>1,298</i>
<b>Debris</b> - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)	EQ Michigan	Belleville, MI	34,493
<i>Frac Tank City - Influent to Carbon Filtration System</i>	<i>C&amp;C Landfill</i>	<i>Marshall, MI</i>	<i>8,109</i>
<b>Frac Tank City - Water</b>	Dynecol	Detroit, MI	46,176
	Liquid Industrial Waste Services, Inc.	Kentwood, MI	
	Plummers Env. Inc.	Holland, MI	
	BC POTW	Battle Creek, MI	
<i>Ceresco Pretreatment System</i>	<i>C&amp;C Landfill</i>	<i>Marshall, MI</i>	<i>90</i>
<i>A-1 Pretreatment System</i>	<i>C&amp;C Landfill</i>	<i>Marshall, MI</i>	<i>9</i>
<b>Oily Water - RPP</b>	Enbridge Facility	Griffith, IN	766,288
<b>Total</b>			<b>1,149,160</b>

*Shaded and italicized items represent discontinued waste streams.*

\*Not all analytical is available at the time of report generation.

**Table 6 – Samples Collected By Enbridge**

Sample Type	Total	January 2013													
		27	26	25	24	23	22	21	20	19	18	17	16	15	14
Surface Water	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Private Well	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groundwater	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sediment	10	0	0	4	0	3	1	0	0	0	0	0	0	1	1
Soil	106	0	0	9	12	10	8	6	0	0	12	13	13	12	11
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 7 – Public Inquiries Received by Enbridge**

Location/Med	January 2013														
	27	26	25	24	23	22	21	20	19	18	17	16	15	14	
Marshall Community Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oil Spill Public Information Hotline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Website	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
<b>Total Public Inquiries</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	

**Table 8 - Financial Summary (as of 1/27/2013)**

Item	Expended (Cumulative)
<b>ERRS Contractors</b>	
<i>EQM (EPS50802)</i> T057	\$ 1,199,522
T060	\$ 213,636
<i>LATA (EPS50804)</i> T019	\$ 1,161,082
<i>ER LLC (EPS50905)</i> T040	\$ 683,330
<b>Total ERRS Contractors</b>	<b>\$ 3,257,571</b>
<b>Other Contractors</b>	
<i>Lockheed Martin (EPW09031) – TAGA Support</i>	\$ 198,379
<i>Lockheed Martin (EPW09031) -Biodegradability Study</i>	31,554
<i>T&amp;T Bisso (EPA:HS800008)</i>	\$ 882,087
<b>Total Other Contractors</b>	<b>\$ 1,112,020</b>
<b>START Contractor – WESTON (EPS50604)</b>	
T030-Response	\$ 29,645,446
T032-Sampling	\$ 183,567
T037-Doc Support	\$ 1,858,107
<b>Total START Contractor</b>	<b>\$ 31,687,120</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 36,056,711</b>
<b>U.S. EPA Funded Costs: Total U.S. EPA Costs</b>	<b>\$ 6,286,131</b>
<b>Pollution Removal Funding Agreements</b>	
Total Other Agencies	\$ 2,063,535
Indirect Cost (16.00%)	\$ 3,598,252
Indirect Cost (8.36%)-payments after 10/1/2011	\$ 1,310,859
Indirect Cost (10.15%)-payments after 10/1/2012	\$ 428,091
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 357,377
<b>Total Est. Oil Spill Cost</b>	<b>\$ 50,100,956</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 56,250,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 6,149,044</b>

Shaded and *italicized* items are discontinued

\* Effective on EPA Enbridge costs billed to USCG for bills issued after 6/5/12.

Table 9 - Personnel On-Site\*

Agency/Entity	January 2013													
	27	26	25	24	23	22	21	20	19	18	17	16	15	14
U.S. EPA	0	0	1	1	1	1	1	0	0	0	1	1	1	1
START	0	1	14	14	14	12	11	0	2	12	14	15	14	14
Other Agencies	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Calhoun County Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calhoun County (CC) EM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
City of Battle Creek	0	0	0	0	0	0	0	0	0	0	0	0	0	0
City of Marshall	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalamazoo County Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalamazoo Sheriff	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Michigan State Police EMD	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allegan County Emergency Mgmt.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MDNR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Kalamazoo River*	0	0	13	15	12	14	13	0	0	5	5	4	7	13
Enbridge – Containment*	0	0	0	0	0	0	0	0	0	0	0	3	2	0
Enbridge – Submerged Oil*	0	0	0	0	0	0	0	0	0	7	8	8	13	0
Enbridge – Waste Management*	0	0	1	1	1	1	1	0	0	1	1	1	1	1
Enbridge – Marshall Office*	0	1	26	30	32	32	31	0	0	28	33	32	33	31
<b>Total</b>	<b>0</b>	<b>2</b>	<b>55</b>	<b>62</b>	<b>61</b>	<b>60</b>	<b>57</b>	<b>0</b>	<b>2</b>	<b>53</b>	<b>62</b>	<b>64</b>	<b>71</b>	<b>60</b>

\*Enbridge Operations and Field include Enbridge and contractors as reported by Enbridge