

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #175



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



MP 28.25 Sediment Trap (03/06/2013)

US EPA ARCHIVE DOCUMENT

**To:** Susan Hedman, U.S. EPA Regional Administrator  
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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:** 03/21/2013

**Reporting/Operational Period:** 0700 hours 02/25/2013 through 0700 hours 03/11/2013

### *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*

- On February 26, 2013, Enbridge recovered one Cylindrical Sampling Device (CSD) from the Morrow Lake Delta. The CSD had been displaced by high flow and/or ice conditions in recent weeks.
- All submerged oil field activities were stood down from February 26, 2013 through the end of this operational period due to river icing conditions.
- Teams continued to evaluate sediment trap bathymetry data collected in December 2012.

##### *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. No sheen differentiation tests were conducted during this reporting period. Refer to Table 1.
- Management of oil sheen and/or globules continued. No sheen responses were conducted during this reporting period. Refer to Table 2.

## 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 cumulative quantity of recovered oil 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 conducted field observations and overflights to document all operational areas, including the locations and integrity of CSDs, buoys and sediment trap structures; and locations of oil sheen and/or globules. During this operational period, an overflight was conducted on February 26, 2013. See Section 2.2.2 for additional details regarding the EOMP.
- During this operational period, sheen and/or tar globules were observed at:
  - Ceresco Dam Impoundment area at locations between MP 5.15 and MP 5.75 on March 1, 6, 7, and 9, 2013;
  - Mill Ponds (MP 15.25 RDB) on March 1, 2013;
  - E2 Boat launch on March 9, 2013;
  - MP 36.25 LDB on March 7, 2013;
  - Morrow Lake Delta Neck on March 9, 2013; and
  - Morrow Lake North Cove on February 26, 2013.
- Situation Unit personnel continued documenting occurrences of ice formation, ice melt, and elevated water levels throughout the river system.
- Photographs were taken and distributed to project participants during the weekly Consolidated ICS Meetings and the MAC Meeting.

### 3.2 Environmental Unit

- U.S. EPA continued to track the progress of the submerged oil quantification process by reviewing core logs submitted by Enbridge and tracking the samples submitted for laboratory analysis.

### 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

- Enbridge 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 90.1% of the ceiling has been spent through March 10, 2013. The latest average 14-day burn rate was \$16,816.73 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 submerged 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 Commission
  - Kalamazoo County Health and Community Services Department
  - Kalamazoo County Sheriff
  - Enbridge (Responsible Party)
- A MAC meeting was held on March 7, 2013.
  - 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	March 2013										February 2013				
		10	9	8	7	6	5	4	3	2	1	28	27	26	25	
Sheen Tests Performed	0	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	0
Results Indicated Biogenic Source	0	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	0

**Table 2 – Sheen Responses**

Total	March 2013										February 2013			
	10	9	8	7	6	5	4	3	2	1	28	27	26	25
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 3/11/2013)**

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)	78,112	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)	1,805	SET/C&C
Non-Haz Impacted Debris (ton)	7,162	

Shaded items are discontinued waste streams.

**Table 4 - Liquid Shipped Off-Site (as of 3/11/2013)**

<b>Stream</b>	<b>Destination Company</b>	<b>Destination Location</b>	<b>Cumulative Volume (gallons)†</b>
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,376,757
Non-Haz Water	Plummer	Kentwood, MI	611,726
<i>Non-Haz Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	981,792
<i>Non-Haz Water</i>	<i>Battle Creek POTW</i>	<i>Battle Creek, MI</i>	1,143,280
<i>Hazardous Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	3,594,579
<i>Oil</i>	<i>Enbridge Facility</i>	<i>Griffith, IN</i>	766,288
<i>Other Material</i>			1,405,525
<i>Treated Non-Haz Water</i>	<i>Liquid Industrial Waste</i>	<i>Holland, MI</i>	370,200
<i>Treated Non-Haz Water</i>	<i>Plummer</i>	<i>Kentwood, MI</i>	4,976,140
<i>Hazardous Water</i>	<i>Safety Kleen<sup>a</sup></i>		825
<i>Treated Non-Haz Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	150,700
<i>Treated Non-Haz Water</i>	<i>Battle Creek POTW</i>	<i>Battle Creek, MI</i>	1,968,700
<b>Total</b>			<b>17,346,512</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 3/11/2013)**

<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	14,034
	Envirosafe/ Westside RDF	Oregon, OH	278,665
<i>Geotube Sediment - (Impacted Sediment)</i>	<i>Envirosafe/ Westside RDF</i>	<i>Oregon, OH</i>	1,298
<b>Debris - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)</b>	EQ Michigan	Belleville, MI	34,510
<i>Frac Tank City - Influent to Carbon Filtration System</i>	<i>C&amp;C Landfill</i>	<i>Marshall, MI</i>	8,109
<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>	90
<i>A-1 Pretreatment System</i>	<i>C&amp;C Landfill</i>	<i>Marshall, MI</i>	9
<b>Oily Water - RPP</b>	Enbridge Facility	Griffith, IN	766,288
<b>Total</b>			<b>1,149,180</b>

*Shaded and italicized items represent discontinued waste streams.*

**Table 6 – Samples Collected By Enbridge**

Sample Type	Total	March 2013										February 2013			
		10	9	8	7	6	5	4	3	2	1	28	27	26	25
Surface Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	17	0	0	3	0	1	0	8	0	0	1	1	2	0	1
Soil	115	0	0	8	10	12	16	12	0	0	14	14	10	12	7
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	March 2013										February 2013			
	10	9	8	7	6	5	4	3	2	1	28	27	26	25
Marshall Community Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oil Spill Public Information Hotline	0	0	1	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	0
<b>Total Public Inquiries</b>	<b>0</b>	<b>0</b>	<b>1</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>

**Table 8 - Financial Summary (as of 3/10/2013)**

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	\$ 30,180,150
T032-Sampling	\$ 184,992
T037-Doc Support	\$ 1,866,843
<b>Total START Contractor</b>	<b>\$ 32,231,985</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 36,601,576</b>
<b>U.S. EPA Funded Costs: Total U.S. EPA Costs</b>	<b>\$ 6,270,037</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	\$ 481,761
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 372,870
<b>Total Est. Oil Spill Cost</b>	<b>\$ 50,698,890</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 56,250,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 5,551,110</b>

Shaded and *italicized* items are discontinued

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

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Table 9 - Personnel On-Site\*

Agency/Entity	March 2013										February 2013			
	10	9	8	7	6	5	4	3	2	1	28	27	26	25
U.S. EPA	0	0	2	3	3	1	0	0	0	1	3	2	1	1
START	0	1	11	11	11	11	9	0	1	8	8	6	7	7
Other Agencies	0	0	0	0	1	0	0	0	0	0	1	2	1	1
Calhoun County (CC) Public Health	0	0	0	1	0	0	0	0	0	0	0	0	0	0
CC EM	0	0	0	1	0	0	0	0	0	0	0	0	0	0
CC Water Resources Commission	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	1	0	0	0	0	0	0	0	0	0	0
Kalamazoo County Public Health	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Kalamazoo County Sheriff	0	0	0	1	0	0	0	0	0	0	0	0	0	0
MDEQ	0	0	0	2	0	0	0	0	0	0	0	0	0	0
MDCH	0	0	0	1	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	8	11	10	10	10	0	0	8	9	10	11	11
Enbridge – Containment*	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Enbridge – Submerged Oil*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Waste Management*	0	0	1	1	1	1	1	0	0	0	0	1	0	0
Enbridge – Marshall Office*	0	3	38	43	43	42	32	2	2	39	37	36	40	32
<b>Total</b>	<b>0</b>	<b>4</b>	<b>60</b>	<b>77</b>	<b>69</b>	<b>65</b>	<b>52</b>	<b>2</b>	<b>3</b>	<b>56</b>	<b>58</b>	<b>57</b>	<b>61</b>	<b>52</b>

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