

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #200



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

**US EPA ARCHIVE DOCUMENT**



**Morrow Lake Delta Overview (02/21/2014)**

**To:** Susan Hedman, U.S. EPA Regional Administrator  
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Tiffany Eichorst, City of Battle Creek  
Cheryl Vosburg, City of Marshall  
Christine Kosmowski, Calhoun County Water Resources Commissioner  
Ann Nieuwenhuis, Comstock Township

**From:** Jeffrey Kimble, U.S. EPA, Federal On-Scene Coordinator

**Date:** 03/21/2014

**Operational/Reporting Period:** 0700 hours 02/17/2014 through 0700 hours 03/03/2014

### ***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>	RP	<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) Environmental Field Teams; and 2) Dredge Operations.

#### **2.1 Environmental Field Teams Branch**

##### ***2.1.1 Science Division***

- No activities were performed during this reporting period.

##### ***2.1.2 Water Operations Division***

- No sheen responses were conducted during this reporting period.

##### ***2.1.3 Compliance Division***

- On February 20, 2014, MDEQ issued Enbridge a permit for Ceresco Dam removal and river restoration.

## 2.2 Dredge Operations Branch

### 2.2.1 Ceresco, Mill Ponds, Morrow Lake and Sediment Trap Divisions

- Dredging operations at the Mill Ponds impoundment and the MP 36.1 sediment trap remained suspended throughout the reporting period due to icing conditions.
- Enbridge continued planning and preparations for construction of the dredge pad for continued sediment removal actions at Morrow Lake and the Morrow Lake Delta, as required by the March 14, 2013 Order. Construction is scheduled to begin during the last week in March.
- On February 28, 2014, Enbridge submitted a draft Air Monitoring and Sampling Work Plan for the Benteler Dredge pad site. U.S. EPA met with Enbridge and gave initial feedback to the draft plan. U.S. EPA will continue to work with Enbridge until an approvable plan is submitted.
- During the reporting period, Enbridge continued with the decommissioning and repurposing of the Ceresco dredge pad. Waste disposal activities associated with the dredge pad decommissioning continued throughout the period.

### 2.2.2 Waste Management Division

- Cumulative quantities of soil, debris, and liquid shipped off-site during the response are presented in Tables 1 and 2.
- 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 3.

## 3. Planning Section

### 3.1 Situation Unit

- During the reporting period, overflights were conducted on February 21 and 26, 2014 to document all operational areas and river ice conditions. Photographs were taken and distributed to project participants in a Situation Update photograph log and during the Consolidated ICS Meeting.

### 3.2 Environmental Unit

- U.S. EPA, USGS, and the U.S. Army Corps of Engineers held weekly meetings to discuss Hydrodynamic Model (HDM) activities. Development of the HDM and sediment transport model continued throughout the reporting period.

### 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*

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### 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.
- The USCG is providing the U.S. EPA with on-site support by monitoring safety throughout all active work areas.

### 4.2 Public Information

- The number of public inquires reported by Enbridge for this period is presented in Table 5.

## 5. *Finance*

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- The current National Pollution Funds Center (NPFC) ceiling is \$69.25 million. Approximately 86.5% of the ceiling has been spent through March 2, 2014. The latest average 14-day burn rate was \$14,645 per day. These cost summaries reflect only U.S. EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 6.

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

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- No activities were conducted during this operational period.

## 7. *Participating Entities*

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- U.S. EPA and MDEQ continued to meet bi-weekly with a group of stakeholders to discuss how to continue to effectively communicate, share information about site progress, and receive feedback about the communication needs of the local communities. During this reporting period, the Stakeholder group met on February 20, 2014.
- For a list of cooperating and assisting agencies, see SITREP #51 (Sections 3.2 and 3.3).

## 8. *Personnel On-Site*

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- Staffing numbers for the entities and agencies active in the response are presented in Table 7.

## 9. *Source of Additional Information*

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- 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 - Soil and Debris Shipped Off Site (as of 03/02/2014)**

Waste Stream	Cumulative	Disposal Facility
<i>Haz Soil (yd<sup>3</sup>)</i>	19,644	<i>Envirosafe (Oregon, OH)</i>
Non-Haz Soil (yd <sup>3</sup> )	233,121	SET/C&C
Non-Haz Soil (yd <sup>3</sup> )	4,476	SET/Ottawa County Farms
Non-Haz Soil (yd <sup>3</sup> )	14,463	SET/WM Westside
<i>Non-Haz Soil &amp; Debris (yd<sup>3</sup>) (Excluding 2010 Ceresco Dredge)</i>	64,815	<i>Westside Recycling (Three Rivers, MI)</i>
<i>Non-Haz Soil (yd<sup>3</sup>) (2010 Ceresco Dredge Only)</i>	5,562	<i>EQ/Republic (Marshall, MI)</i>
<i>Haz Debris (yd<sup>3</sup>)</i>	12,075	<i>EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)</i>
Non-Haz Household Debris (ton)	2,257	SET/C&C
Non-Haz Impacted Debris (ton)	14,561	

*Shaded and italicized items are discontinued waste streams.*

**Table 2 - Liquid Shipped Off-Site (as of 03/02/2014)**

Stream	Destination Company	Destination Location	Cumulative Volume (gallons) <sup>†</sup>
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,557,407
Non-Haz Water	Plummer	Kentwood, MI	863,989
<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
Treated Non-Haz Water	Liquid Industrial Waste	Holland, MI	370,200
Treated Non-Haz Water	Plummer	Kentwood, MI	4,976,140
<i>Hazardous Water</i>	<i>Safety Kleen<sup>a</sup></i>		825
Treated Non-Haz Water	Dynecol	Detroit, MI	150,700
Treated Non-Haz Water	Battle Creek POTW	Battle Creek, MI	1,968,700
<b>Total</b>			<b>17,779,425</b>

*Shaded and italicized items are discontinued waste streams.*

<sup>†</sup> Cumulative quantities may not reconcile with previous reports (due to auditing).

<sup>a</sup> New Age lab water and methanol mix generated by mobile laboratory.

**Table 3 – Estimated Recovered Oil (as of 03/03/2014)**

Waste Stream Containing Recovered Oil	Destination Company	Destination Location	Estimated Oil Volume in Waste Stream (gallons)
<b>Soil</b> Impacted Soil & Debris	C&C Landfill	Marshall, MI	25,152*
	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	56,977*
<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	46,183
	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>1,182,771</b>

Shaded and *italicized* items represent discontinued waste streams.  
 \*Total updated for analytical received after report generation.

**Table 4 – Samples Collected By Enbridge**

Sample Type	Total	February/March 2014													
		1	28	27	26	25	24	23	22	21	20	19	18	17	16
Surface Water	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Private Well	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Groundwater	34	0	0	0	1	5	6	0	3	6	6	4	3	0	0
Sediment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soil	21	0	5	2	2	0	1	0	0	6	0	1	1	3	0
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0
Sheen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Table 5 – Public Inquiries Received by Enbridge**

Location/Med	February 2014														
	28	27	26	25	24	23	22	21	20	19	18	17	16	15	
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	0	
<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>0</b>	



**Table 6 - Financial Summary (as of 03/02/2014)**

Item	Expended (Cumulative)
<b><i>ERRS Contractors</i></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><i>Other Contractors</i></b>	
<i>Lockheed Martin (EPW09031) – TAGA Support</i>	\$ 198,379
<i>Lockheed Martin (EPW09031) -Biodegradability Study</i>	61,917
<i>T&amp;T Bisso (EPA:HS800008)</i>	\$ 882,087
<b>Total Other Contractors</b>	<b>\$ 1,142,383</b>
<b>START Contractor – WESTON (EPS50604)</b>	
T030-Response	\$ 37,075,814
Community Relations	\$ 114,563
T032-Sampling	\$ 161,045
T037-Doc Support	2,074,674
<b>Total START Contractor</b>	<b>\$ 39,426,096</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 43,832,722</b>
<b>U.S. EPA Funded Costs: Total U.S. EPA Costs</b>	<b>\$ 6,855,766</b>
<b>Pollution Removal Funding Agreements</b>	
Total Other Agencies	\$ 3,637,081
Indirect Cost (16.00%)	\$ 3,520,519
Indirect Cost (8.36%)-payments after 10/1/2011	\$ 1,310,859
Indirect Cost (10.15%)-payments after 10/1/2012	\$ 1,275,174
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 601,905
<b>Total Est. Oil Spill Cost</b>	<b>\$ 59,880,142</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 69,250,000</b>
<b>Oil Spill Ceiling Available Balance**</b>	<b>\$ 9,369,858</b>

Shaded and *italicized* items are discontinued

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

\*\*USCG personnel may increase to compensate for EPA not having all available funds to fully staff the site to execute the OPA Project Plan as approved through 12/31/2013. USCG personnel will fill gaps in contractor/EPA staff planned resources as appropriate.



**Table 7 - Personnel On-Site**

Agency/Entity	March 2014		February 2014											
	2	1	28	27	26	25	24	23	22	21	20	19	18	17
U.S. EPA	0	0	2	3	3	3	2	0	0	1	3	3	2	0
START	0	1	9	10	10	11	9	0	2	13	14	14	14	12
MDEQ	0	0	3	3	3	4	3	0	0	3	4	4	2	0
MDEQ Contractors	0	0	0	1	2	2	2	0	0	1	2	2	2	2
Other Agencies	0	2	2	0	2	2	2	0	2	3	3	1	2	2
Enbridge – Environmental Field Teams – Science*	0	1	12	14	14	12	12	0	3	16	15	13	15	15
Enbridge – Environmental Field Teams – Water Ops*	0	0	0	0	0	0	0	0	0	0	0	0	10	12
Enbridge – Dredge Operations – Ceresco*	0	20	28	29	27	32	30	5	35	29	35	36	33	32
Enbridge – Dredge Operations – Mill Ponds*	0	0	0	0	0	0	0	1	4	6	6	8	6	7
Enbridge – Dredge Operations – Delta/Morrow Lake*	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Dredge Operations – Sediment Traps*	0	0	1	0	0	0	0	0	1	3	3	4	10	4
Enbridge – Waste Management*	0	52	53	0	4	54	54	0	30	55	53	55	54	48
Enbridge – Office Support*	0	6	18	22	25	29	25	3	12	24	26	29	30	32
<b>Total</b>	<b>0</b>	<b>82</b>	<b>130</b>	<b>82</b>	<b>90</b>	<b>149</b>	<b>139</b>	<b>9</b>	<b>89</b>	<b>154</b>	<b>164</b>	<b>169</b>	<b>180</b>	<b>166</b>

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