

US EPA ARCHIVE DOCUMENT

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #197**



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

**US EPA ARCHIVE DOCUMENT**



**Morrow Lake Delta (01/15/2014)**

**To:** Susan Hedman, U.S. EPA Regional Administrator  
 James Sygo, MDEQ  
 Michelle DeLong, MDEQ  
 Dr. Linda Dykema, MDCH  
 Deb Cardiff, Kalamazoo County Public Health  
 Richard Fuller, Kalamazoo County Sheriff's Office  
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 Durk Dunham, Calhoun County Emergency Management  
 Scott Corbin, Allegan County Emergency Management  
 Tiffany Eichorst, City of Battle Creek  
 Cheryl Vosburg, City of Marshall  
 Christine Kosmowski, Calhoun County Water Resources Commissioner

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

**Date:** 02/10/2014

**Operational Period:** 0700 hours 01/06/2014 through 0700 hours 01/13/2014  
 0700 hours 01/13/2014 through 0700 hours 01/20/2014

**Reporting Period:** 0700 hours 01/06/2014 through 0700 hours 01/20/2014

**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**

- Management of oil sheen and/or globules continued throughout the period. No responses were conducted during this reporting period.

**2.1.3 Compliance Division**

- As of the close of the reporting period, Enbridge's MDEQ Ceresco Dam removal permit is in public comment period and in review with MDEQ. A public hearing was held on January 14, 2014.

## 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.
- Sediment removal from the MP 26.0 RDB sediment trap via Toyo pump suction dredging was conducted from January 13 – 17, 2014. Work was suspended for the remainder of the reporting period due to a frozen pipe caused by heavy snow and extreme cold conditions.
- On January 8, 2013, U.S. EPA met with Enbridge to discuss plans and status of options for continued sediment removal actions at Morrow Lake and Morrow Lake Delta as required by the March 14, 2013 Order.
- Table 1 presents the quantities of water treated at each dredge location during the reporting period. Table 2 presents the estimated dredge waste on-site in Geotube bags, the cumulative estimated dredge waste (cubic yards), and the cumulative waste shipped off-site for disposal (tons).
- Work area air monitoring, dissolved oxygen water quality monitoring, and turbidity water quality monitoring were conducted during dredging activities.

### 2.2.2 Waste Management Division

- 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 Section

### 3.1 Situation Unit

- During the reporting period, overflights were conducted on January 8 and 15, 2014 to document all operational areas and locations of oil sheen and/or globules. 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.
- U.S. EPA and USGS completed and reviewed preliminary HDM runs for the Morrow Lake Delta and Morrow Lake to identify potential locations for 2014 in-river containment.
- U.S. EPA continued review of oil fingerprinting analytical results from sheen and globule samples collected by Enbridge to determine the presence/absence of Line 6B oil.

### 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 7.

## 5. *Finance*

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- The current National Pollution Funds Center (NPFC) ceiling is \$63.25 million. Approximately 94.0% of the ceiling has been spent through January 20, 2014. The latest average 14-day burn rate was \$16,062 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)*

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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. Due to weather conditions, the Stakeholders Group did not meet during this reporting period.
- 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 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 – Water Treated During Dredging Operations for the Reporting Period**

Dredge Location	Water Treated (gal)
Ceresco	1,213,100
Mill Ponds	0
Sediment Traps	0
Morrow Lake	0

**Table 2 – Dredging Waste (as of 01/20/2014)**

Waste Stream	Estimated Dredge Waste On-Site in Geotube bags (yd <sup>3</sup> )	Waste Transferred to Ceresco Dredge Pad (yd <sup>3</sup> )	Cumulative Estimated Dredge Waste (yd <sup>3</sup> )	Cumulative Waste Shipped Off-Site for Disposal (tons)
Ceresco Pad Total	3,171*	0	112,781	115,984
Mill Ponds	6,743	1,250	22,433	15,877
Sediment Traps	0	324	12,136	10,877
Morrow Lake Delta	0	1,597	1,982	186
C0.4/Wildlife Center/C3.2/FTC	N/A	0	919**	189
<b>Total</b>	<b>9,914</b>	<b>3,171*</b>	<b>150,251</b>	<b>143,114</b>

\*Estimate of Ceresco Pad waste includes waste from multiple sites as indicated.

\*\*Estimated dredge waste related to oily debris.

**Table 3 - Soil and Debris Shipped Off Site (as of 01/19/2014)**

Waste Stream	Cumulative	Disposal Facility
<i>Haz Soil (yd<sup>3</sup>)</i>	<i>19,644</i>	<i>Envirosafe (Oregon, OH)</i>
Non-Haz Soil (yd <sup>3</sup> )	196,582	SET/C&C
Non-Haz Soil (yd <sup>3</sup> )	4,436	SET/Ottawa County Farms
Non-Haz Soil (yd <sup>3</sup> )	14,303	SET/WM Westside
<i>Non-Haz Soil &amp; Debris (yd<sup>3</sup>) (Excluding 2010 Ceresco Dredge)</i>	<i>64,815</i>	<i>Westside Recycling (Three Rivers, MI)</i>
<i>Non-Haz Soil (yd<sup>3</sup>) (2010 Ceresco Dredge Only)</i>	<i>5,562</i>	<i>EQ/Republic (Marshall, MI)</i>
<i>Haz Debris (yd<sup>3</sup>)</i>	<i>12,075</i>	<i>EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)</i>
Non-Haz Household Debris (ton)	2,229	SET/C&C
Non-Haz Impacted Debris (ton)	13,643	

*Shaded and italicized items are discontinued waste streams.*

**Table 4 - Liquid Shipped Off-Site (as of 01/19/2014)**

<b>Stream</b>	<b>Destination Company</b>	<b>Destination Location</b>	<b>Cumulative Volume (gallons)†</b>
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,519,707
Non-Haz Water	Plummer	Kentwood, MI	837,946
<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>17,715,682</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 01/20/2014)**

<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	23,551*
	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</b> - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)	EQ Michigan	Belleville, MI	56,547*
<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	46,183
	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>	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>1,180,700</b>

*Shaded and italicized items represent discontinued waste streams.*

\*Total updated for analytical received after report generation.

**Table 6 – Samples Collected By Enbridge**

Sample Type	Total	January 2014													
		18	17	16	15	14	13	12	11	10	9	8	7	6	5
Surface Water	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Private Well	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Groundwater	16	0	3	3	0	0	0	0	0	4	6	0	0	0	0
Sediment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soil	11	0	6	5	0	0	0	0	0	0	0	0	0	0	0
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	4	0	2	0	0	0	0	0	0	2	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 2014															
	17	16	15	14	13	12	11	10	9	8	7	6	5	4		
Marshall Community Center	0	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	0	
Website	0	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>	<b>0</b>	

**Table 8 - Financial Summary (as of 01/20/2014)**

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>	61,886
<i>T&amp;T Bisso (EPA:HS800008)</i>	\$ 882,087
<b>Total Other Contractors</b>	<b>\$ 1,142,352</b>
<b>START Contractor – WESTON (EPS50604)</b>	
T030-Response	\$ 36,788,374
Community Relations	\$ 114,563
T032-Sampling	\$ 161,045
T037-Doc Support	2,064,533
<b>Total START Contractor</b>	<b>\$ 39,128,515</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 43,535,110</b>
<b>U.S. EPA Funded Costs: Total U.S. EPA Costs</b>	<b>\$ 6,815,923</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	\$ 1,240,922
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 592,017
<b>Total Est. Oil Spill Cost</b>	<b>\$ 59,466,091</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 63,250,000</b>
<b>Oil Spill Ceiling Available Balance**</b>	<b>\$ 3,783,909</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 9 - Personnel On-Site**

Agency/Entity	January 2014													
	19	18	17	16	15	14	13	12	11	10	9	8	7	6
U.S. EPA	0	0	0	0	0	0	0	0	0	2	2	2	0	0
START	1	2	11	12	12	12	12	1	2	9	9	9	4	0
MDEQ	0	0	3	6	4	4	3	0	0	3	5	2	1	0
MDEQ Contractors	0	0	2	2	2	2	2	0	0	2	2	1	1	1
Other Agencies	2	2	2	3	3	2	2	2	2	2	2	1	1	1
Enbridge – Environmental Field Teams – Science*	5	7	19	22	22	20	22	5	5	20	20	21	21	11
Enbridge – Environmental Field Teams – Water Ops*	11	11	15	12	10	8	11	11	11	11	11	2	0	0
Enbridge – Dredge Operations – Ceresco*	14	48	60	66	68	71	70	25	83	86	75	70	24	19
Enbridge – Dredge Operations – Mill Ponds*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Dredge Operations – Delta/Morrow Lake*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Dredge Operations – Sediment Traps*	23	26	25	25	25	24	24	10	10	27	20	15	11	3
Enbridge – Waste Management*	37	67	81	73	73	79	67	3	11	68	41	17	7	4
Enbridge – Office Support*	18	21	38	41	43	39	38	10	24	42	44	41	36	17
<b>Total</b>	<b>111</b>	<b>184</b>	<b>256</b>	<b>262</b>	<b>262</b>	<b>261</b>	<b>251</b>	<b>67</b>	<b>148</b>	<b>272</b>	<b>231</b>	<b>181</b>	<b>106</b>	<b>56</b>

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