

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V  
POLLUTION/SITUATION REPORT #210



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



Dredging Operations in the Morrow Lake Delta (07/16/2014)

US EPA ARCHIVE DOCUMENT

**To:** Susan Hedman, U.S. EPA Regional Administrator  
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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:** 08/12/2014

**Operational Periods:** 0700 hours 07/07/2014 through 0700 hours 07/14/2014  
0700 hours 07/14/2014 through 0700 hours 07/21/2014

**Reporting Period:** 0700 hours 07/07/2014 through 0700 hours 07/21/2014

### ***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 Divisions/Groups: 1) Water Operations; 2) Morrow Lake; and 3) Waste Management.

#### **2.1 Water Operations Group**

- Enbridge continued to monitor and maintain the E4 containment system in the Morrow Lake Delta throughout the reporting period.
- Enbridge continued to monitor and maintain the Ceresco pilot channel containment. River margin restoration work continued throughout the reporting period.
- No sheen responses were conducted during the reporting period.

#### **2.2 Morrow Lake Division**

- On-water dredging activities and Morrow Lake Delta dredge pad operations continued throughout the operational period. Five dredges were in operation throughout the reporting period. As of the close of the reporting period, approximately 52,577 cubic yards of impacted materials were removed from the Morrow Lake Delta, representing approximately 55% of the required dredging.

- Enbridge continued daily dredge pad perimeter air monitoring for particulates throughout the reporting period. U.S. EPA also conducted periodic perimeter air monitoring for particulates. No exceedances of the MDCH 24-hour average concentration for particulates occurred during the reporting period related to dredge pad operations.
- Enbridge continued daily air monitoring using a 5-gas meter throughout the community immediately adjacent and east of the Morrow Lake Delta dredge pad. U.S. EPA conducted air monitoring within the community using handheld particulate monitoring units.

### **2.3 Waste Management Division**

- Enbridge began decommissioning activities at the Frac Tank City decontamination pad on July 15, 2014.
- 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 July 9 and 16, 2014 to document all operational areas and river conditions, including locations of sheening. Photographs were taken and distributed to project participants in a weekly Situation Update photograph log and during the weekly 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***

##### **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.
- On July 8, 2014, an EPA contractor conducted a safety inspection at the Morrow Lake Delta, specifically for the locations at the Morrow Lake Dredge Pad and the E 3.5 boat launch. Observations were made and discussed with Enbridge Safety personnel.

##### **4.2 Public Information**

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

#### ***5. Finance***

- The current National Pollution Funds Center (NPFC) ceiling is \$69.25 million. Approximately 90.8% of the ceiling has been spent through July 20, 2014. The latest average 14-day burn rate was \$23,935 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)***

- No activities were conducted during this operational period.

#### ***7. Participating Entities***

- U.S. EPA and MDEQ continued meeting 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 the reporting period, a Stakeholder group meeting was held on July 10, 2014.
- 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 7.

#### ***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 - Soil and Debris Shipped Off Site (as of 07/20/2014)**

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> )	254,935	SET/C&C
Non-Haz Soil (yd <sup>3</sup> )	4,476	SET/Ottawa County Farms
Non-Haz Soil (yd <sup>3</sup> )	14,673	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)	2,513	SET/C&C
Non-Haz Impacted Debris (ton)	15,432	

*Shaded and italicized items are discontinued waste streams.*

**Table 2 - Liquid Shipped Off-Site (as of 07/20/2014)**

Stream	Destination Company	Destination Location	Cumulative Volume (gallons)†
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,557,407
Non-Haz Water	Plummer	Kentwood, MI	936,009
<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>17,851,445</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 3 – Estimated Recovered Oil (as of 07/21/2014)**

Waste Stream Containing Recovered Oil	Destination Company	Destination Location	Estimated Oil Volume in Waste Stream (gallons)
<b>Soil - Sediment</b> Impacted Soil & Debris	C&C Landfill	Marshall, MI	26,794
	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 - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)</b>	EQ Michigan	Belleville, MI	62,365
<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>1,189,801</b>

Shaded and *italicized* items represent discontinued waste streams.

**Table 4 – Samples Collected By Enbridge**

Sample Type	Total	July 2014													
		19	18	17	16	15	14	13	12	11	10	9	8	7	6
Surface Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Private Well	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Groundwater	29	0	0	0	7	0	7	0	0	5	0	6	0	4	0
Sediment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Soil	6	0	4	0	0	0	0	0	0	0	1	0	0	1	0
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	36	0	0	0	0	12	6	0	0	0	0	4	6	8	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	July 2014														
	18	17	16	15	14	13	12	11	10	9	8	7	6	5	
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 07/20/2014)**

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>	61,917
<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	\$ 39,175,310
Community Relations	\$ 114,563
T032-Sampling	\$ 161,045
T037-Doc Support	2,074,012
<b>Total START Contractor</b>	<b>\$ 41,524,930</b>
<b>Response Contractor Sub-Totals</b>	<b>\$ 45,931,556</b>
<b>U.S. EPA Funded Costs: Total U.S. EPA Costs</b>	<b>\$ 7,085,860</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	\$ 1,511,560
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 670,142
<b>Total Est. Oil Spill Cost</b>	<b>\$ 62,899,003</b>
<b>Oil Spill Ceiling Authorized by USCG</b>	<b>\$ 69,250,000</b>
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 6,350,997</b>

Shaded and *italicized* items are discontinued

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

**Table 7 - Personnel On-Site**

Agency/Entity	July 2014													
	20	19	18	17	16	15	14	13	12	11	10	9	8	7
U.S. EPA	0	0	3	3	3	3	3	0	3	3	4	4	3	2
START	0	7	16	16	15	16	14	0	8	15	14	15	16	15
MDEQ	0	1	3	4	3	10	4	0	0	3	2	3	3	3
MDEQ Contractors	0	0	1	2	1	1	1	0	0	1	2	1	1	1
Other Agencies	0	3	3	4	4	5	3	0	3	3	3	3	3	3
Enbridge –Water Ops*	0	0	2	2	2	2	2	0	0	2	2	2	2	2
Enbridge –Delta/Morrow Lake*	6	105	108	109	111	114	112	12	107	118	122	106	116	106
Enbridge – Waste Management*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enbridge – Office Support*	2	17	40	47	44	43	43	3	18	45	46	46	46	41
<b>Total</b>	<b>8</b>	<b>133</b>	<b>176</b>	<b>187</b>	<b>183</b>	<b>194</b>	<b>182</b>	<b>15</b>	<b>139</b>	<b>190</b>	<b>195</b>	<b>180</b>	<b>190</b>	<b>173</b>

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