

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #179



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

US EPA ARCHIVE DOCUMENT



Ceresco Dam Boom Configuration (04/30/2013)

To: Susan Hedman, U.S. EPA Regional Administrator
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Cheryl Vosburg, City of Marshall
Christine Kosmowski, Calhoun County Water Resources Commissioner

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

Date: 05/22/2013

Reporting/Operational Period: 0700 hours 04/22/2013 through 0700 hours 05/06/2013

1. Site Data

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

- Quarterly sediment trap bathymetry continued throughout the operational period, pursuant to the Sediment Trap Monitoring and Maintenance Plan.
- Monthly CSD sampling was conducted from April 22 - 24, 2013. Stabilization supports were attached to the CSD structures during reinstallation.
- Walling tubes were reinstalled at 20 locations throughout the river system from April 29 – May 1, 2013.
- Round 2 of 2013 Morrow Lake Delta and Morrow Lake monitoring (poling) began on May 6, 2013, pursuant to the 2012 Morrow Lake Delta and Morrow Lake Monitoring and Management Work Plan.
- Enbridge completed single beam sonar bathymetric surveys of the proposed dredge areas on May 4, 2013.

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

- Enbridge re-installed the conifer tree structure at the MP 36.1 RDB sediment trap on May 4, 2013. Water quality monitoring was conducted during the installation. CSDs were installed at the sediment trap location on May 5, 2013.
- On April 25, 2013, U.S. EPA directed Enbridge to re-install surface containment boom at Ceresco Dam. Re-installation of 725 feet of surface hard boom was completed on April 27, 2013. Enbridge continued to maintain the control point, including debris removal from within the boomed area.
- Enbridge began installation of the E4.0 Containment System on April 30, 2013 and continued throughout the operational period.
- 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 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 the operation period. Refer to Table 1.
- Management of oil sheen and/or globules continued. Sheen responses were conducted on April 23, 27, 29, 30, and May 2, 2013 at the Ceresco Dam impoundment. 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, overflights were conducted on April 26 and 30, 2013. See Section 2.2.2 for additional details regarding the EOMP.
- During this operational period, oil sheen and/or globules were observed at:
 - Ceresco Dam Impoundment at various locations between MP 5.95 and MP 5.89 on April 22 – 25, 27, and April 29 – May 4;
 - MP 7.00 RDB on May 3;
 - C3.2 Boat Launch (MP 10 LDB) on April 23;

- Mill Pond Impoundment at various locations between MP 14.8 – 15.75 on April 22, 23, 25, 27, 29, and May 4;
 - MP 23.10 RDB on April 26;
 - Morrow Lake Delta on April 24 and 27;
 - Morrow Lake Delta neck on April 23, 24, 27, 29, and May 3;
 - Morrow Lake E4.0 Boat Launch on April 24, 27, 29, and May 2;
 - Morrow Lake North Cove on April 24, 29, and May 1 – 3; and
 - Morrow Lake South Cove on April 23 and May 1 - 4.
- Photographs were taken and distributed to project participants during the weekly Consolidated ICS Meetings.

3.2 Environmental Unit

- U.S. EPA, USGS, and the U.S. Army Corps of Engineers held weekly meetings to discuss upcoming Hydrodynamic Model (HDM) activities.
- Enbridge resubmitted its 2013 Submerged Oil Removal and Assessment Work Plan (required by the March 14, 2013 U.S. EPA Order) on April 23 and submitted a revised plan May 1, 2013, based on comments received from the U.S. EPA. As of the close of the operational period, the May 1, 2013 plan is in review with U.S. EPA.
- Enbridge's Quantification of Submerged Oil Report (March 21, 2013) is in review with U.S. EPA.

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 92.9% of the ceiling has been spent through May 6, 2013. The latest average 14-day burn rate was \$34,180 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)

- No activities were conducted during this operational period.

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)
- 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	May 2013					April 2013								
		5	4	3	2	1	30	29	28	27	26	25	24	23	22
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	May 2013					April 2013								
	5	4	3	2	1	30	29	28	27	26	25	24	23	22
5	0	0	0	1	0	1	1	0	1	0	0	0	1	0

Table 3 - Soil and Debris Shipped Off Site (as of 5/5/2013)

Waste Stream	Cumulative	Disposal Facility
<i>Haz Soil (yd³)</i>	19,644	<i>Envirosafe (Oregon, OH)</i>
Non-Haz Soil (yd ³) (Excluding Ceresco Dredge)	78,118	SET/C&C
<i>Non-Haz Soil & Debris (yd³) (Excluding Ceresco Dredge)</i>	64,815	<i>Westside Recycling (Three Rivers, MI)</i>
<i>Non-Haz Soil (yd³) (Ceresco Dredge Only)</i>	5,562	<i>EQ/Republic (Marshall, MI)</i>
<i>Haz Debris (yd³)</i>	12,075	<i>EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)</i>
Non-Haz Household Debris (ton)	1,806	SET/C&C
Non-Haz Impacted Debris (ton)	7,163	

Shaded and italicized items are discontinued waste streams.

Table 4 - Liquid Shipped Off-Site (as of 5/5/2013)

Stream	Destination Company	Destination Location	Cumulative Volume (gallons)†
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^a</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
Total			17,346,512

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 5/6/2013)

Waste Stream Containing Recovered Oil	Destination Company	Destination Location	Estimated Oil Volume in Waste Stream (gallons)
Soil 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>	<i>1,298</i>
Debris - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)	EQ Michigan	Belleville, MI	34,513
<i>Frac Tank City - Influent to Carbon Filtration System</i>	<i>C&C Landfill</i>	<i>Marshall, MI</i>	<i>8,109</i>
Frac Tank City - Water	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&C Landfill</i>	<i>Marshall, MI</i>	<i>90</i>
<i>A-1 Pretreatment System</i>	<i>C&C Landfill</i>	<i>Marshall, MI</i>	<i>9</i>
Oily Water - RPP	Enbridge Facility	Griffith, IN	766,288
Total			1,149,183

Shaded and *italicized* items represent discontinued waste streams.

Table 6 – Samples Collected By Enbridge

Sample Type	Total	May 2013					April 2013								
		5	4	3	2	1	30	29	28	27	26	25	24	23	22
Surface Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Private Well	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Groundwater	21	0	0	4	8	8	1	0	0	0	0	0	0	0	0
Sediment	69	0	0	0	0	0	2	2	0	0	0	0	13	34	18
Soil	79	0	0	0	0	5	8	9	0	0	12	15	11	11	8
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	6	0	0	0	0	0	1	1	0	1	0	0	0	2	1

Table 7 – Public Inquiries Received by Enbridge

Location/Med	May 2013					April 2013								
	5	4	3	2	1	30	29	28	27	26	25	24	23	22
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
Total Public Inquiries	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Table 8 - Financial Summary (as of 5/6/2013)

Item	Expended (Cumulative)
<i>ERRS Contractors</i>	
<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
<i>Total ERRS Contractors</i>	\$ 3,257,571
<i>Other Contractors</i>	
<i>Lockheed Martin (EPW09031) – TAGA Support</i>	\$ 198,379
<i>Lockheed Martin (EPW09031) -Biodegradability Study</i>	31,554
<i>T&T Bisso (EPA:HS800008)</i>	\$ 882,087
<i>Total Other Contractors</i>	\$ 1,112,020
START Contractor – WESTON (EPS50604)	
T030-Response	\$ 31,237,528
Community Relations	\$ 114,563
T032-Sampling	\$ 184,992
T037-Doc Support	1,896,194
Total START Contractor	\$ 33,433,277
Response Contractor Sub-Totals	\$ 37,802,868
U.S. EPA Funded Costs: Total U.S. EPA Costs	\$ 6,356,887
Pollution Removal Funding Agreements	
Total Other Agencies	\$ 2,797,081
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	\$ 612,507
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 410,613
Total Est. Oil Spill Cost	\$ 52,278,816
Oil Spill Ceiling Authorized by USCG	\$ 56,250,000
Oil Spill Ceiling Available Balance	\$ 3,971,184

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	May 2013					April 2013									
	5	4	3	2	1	30	29	28	27	26	25	24	23	22	
U.S. EPA	0	0	3	3	5	4	3	0	0	3	3	3	2	2	
START	1	3	16	18	19	18	13	0	2	12	12	16	17	15	
MDEQ	0	0	3	3	3	3	3	0	0	3	3	2	3	2	
MDEQ Contractors	0	0	3	3	2	2	2	0	0	1	2	2	2	2	
Other Agencies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Calhoun County (CC) Public Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CC Emergency Management (EM)	0	0	0	0	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	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 County EM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kalamazoo County Sheriff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MDEQ	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	6	6	5	6	6	0	0	8	9	9	7	7	
Enbridge – Containment*	6	12	11	11	11	9	5	0	6	2	2	4	2	2	
Enbridge – Submerged Oil*	0	2	11	13	14	14	14	0	1	3	4	13	15	16	
Enbridge – Waste Management*	0	1	2	1	1	1	1	0	0	1	1	1	1	1	
Enbridge – Marshall Office*	16	13	54	55	58	56	57	4	10	50	56	57	57	53	
Total	23	31	109	113	118	113	104	4	19	83	92	107	106	100	

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