

US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #188



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

US EPA ARCHIVE DOCUMENT



Ceresco Dredging Operations (08/30/2013)

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 Cheryl Vosburg, City of Marshall
 Christine Kosmowski, Calhoun County Water Resources Commissioner

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

Date: 09/20/2013

Operational Period: 0700 hours 08/26/2013 through 0700 hours 09/02/2013
 0700 hours 09/02/2013 through 0700 hours 09/09/2013

Reporting Period: 0700 hours 08/26/2013 through 0700 hours 09/09/2013

1. Site Data

Site Number:	Z5JS	Response Type:	Emergency
Response Authority:	OPA	Incident Category:	Removal Action
Response Lead:	RP	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) Environmental Field Teams; and 2) Dredge Operations.

2.1 Environmental Field Teams Branch

2.1.1 Science Division

- Sediment trap monitoring continued throughout the reporting period, in accordance with the approved Sediment Trap Monitoring and Maintenance Plan (July 10, 2012). Round 3 of 2013 quarterly bathymetry surveys continued throughout the reporting period.
- Sediment trap Round 3 re-poling was conducted at MP 26.00 and MP 28.25 on September 4 and 5, 2013.
- Monthly Walling tube sampling was conducted on August 29, 2013, in accordance with the 2013 Submerged Oil Removal and Assessment Work Plan (May 13, 2013).
- Monthly Morrow Lake Delta and Morrow Lake monitoring (poling) was conducted from September 4 – 6, 2013, in accordance with the 2012 Morrow Lake Delta and Morrow Lake Monitoring and Management Work Plan (November 15, 2012).

- E4.0 Containment System monitoring and maintenance continued in accordance with the 2012 Morrow Lake Delta and Morrow Lake Monitoring and Management Work Plan (November 15, 2012). Monthly poling and turbidity monitoring was conducted upstream and downstream of the containment structures from August 26 – 29, 2013.

2.1.2 Water Operations Division

- Enbridge monitored and maintained 725 feet of surface hard boom at the Ceresco Dam control point, and 4,900 feet of surface hard boom and 4,250 feet of subsurface half-curtain at the E 4.0 Containment System.
- Pursuant to the Emerging Oil Management Program (EOMP), Enbridge and U.S. EPA continued to track the 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. Refer to Section 3.1 for locations of oil sheen and globule observations.
- Management of oil sheen and/or globules continued throughout the period. Twelve responses were conducted during this reporting period. Refer to Table 1 for a summary of sheen responses by day.

2.1.3 Compliance Division

- On August 26, 2013, MDEQ issued a dredge permit to Enbridge for the Morrow Lake Delta.
- On September 3, 2013, MDEQ issued a permit to Enbridge for the notching of Ceresco Dam and drawdown of the Ceresco impoundment.
- As of the close of the reporting period, Enbridge's dredging permit applications for MP 10.5 sediment trap and the MP 21.50 sediment trap were pending issuance by MDEQ.

2.2 Dredge Operations Branch

2.2.1 Ceresco, Mill Ponds, Delta/Morrow Lake, and Sediment Trap Divisions

- Dredging continued at the Ceresco Dam impoundment. During the reporting period, a total of 29,172,161 gallons of water was treated at the Ceresco Dredge water treatment facility. Throughout the period, 5,775 feet of dredging containment was maintained, installed, and relocated as appropriate. At the close of the reporting period, a total of 21,288 yd³ of dredged sediment was onsite in Geotube bags. Once adequately dewatered, sediment will be solidified and transported off-site for disposal. As of the close of the reporting period, no sediment from the Ceresco dredge pad has been shipped off site for disposal.
- Dredging began at the Mill Ponds impoundment on August 29, 2013. During the reporting period, a total of 552,768 gallons of water was treated at the Mill Ponds water treatment facility. Throughout the period, 1,625 feet of dredging containment was installed, maintained, and relocated as appropriate. At the close of the reporting period, a total of 420 yd³ of dredged sediment was onsite in the Geotube bags. Once adequately dewatered, sediment will be solidified and transported off-site for disposal. As of the close of the reporting period, no sediment from the Mill Ponds dredge pad has been shipped off site for disposal.
- Preparations continued throughout the period for dredging activities at the MP 10.50 L2 and MP 21.50 RDB sediment traps.

- Work area air monitoring, dissolved oxygen water quality monitoring, and turbidity water quality monitoring were conducted during dredging activities at the Ceresco Dam impoundment and at the Mill Ponds impoundment.

2.2.2 Waste Management Division

- Cumulative quantities of soil, debris, and liquid shipped off-site during the response are presented in Tables 2 and 3.
- 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 4.

3. Planning Section

3.1 Situation Unit

- Situation Unit personnel conducted field observations and overflights to document all operational areas, including the dredging activities; locations and integrity of CSDs, buoys and sediment trap structures; and locations of oil sheen and/or globules. During the reporting period, overflights were conducted on August 30 and September 4, 2013. See Section 2.1.2 for additional details regarding the EOMP.
- During the reporting period, oil sheen and/or globules were observed at:
 - Ceresco Dam impoundment at multiple locations between MP 4.25 and MP 5.89 on August 26 – 31, and September 3 – 7;
 - Mill Ponds impoundment at multiple locations between MP 14.00 and MP 15.65 on August 26 – 31, and September 5 – 7;
 - Multiple locations between MP 21.5 and MP 36.5 on August 26 – 31, and September 3 – 7;
 - Morrow Lake Delta and/or Neck on August 26 – 31, and September 3 – 7;
 - Morrow Lake North and/or South Coves on August 26 – 31, and September 3 – 7; and
 - Morrow Lake on August 28, 30 – 31, and September 6 – 7.
- 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 Hydrodynamic Model (HDM) activities.
- U.S. EPA continued review of sediment sample analytical results from legacy cores collected by Enbridge.
- 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*

4.1 Safety Officers

- On September 3, 2013, an Enbridge contractor employee was cleaning the exterior of a geotextile dewatering tube when the tube ruptured. The employee was covered with water and sediment. Emergency Medical Services were called and the employee was transported to a local emergency room for evaluation. No medical treatment was required and the employee returned to work. In response to the incident, Enbridge reconfigured the bag field piping.
- 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 6.

5. *Finance*

- The current National Pollution Funds Center (NPFC) ceiling is \$63.25 million. Approximately 89.6% of the ceiling has been spent through September 10, 2013. The latest average 14-day burn rate was \$29,498 per day. These cost summaries reflect only U.S. EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 7.

6. *Scientific Support Coordination Group (SSCG)*

- No activities were conducted during this operational period.

7. *Participating Entities*

- 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.
- 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 8.

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 Responses

Total	September 2013								August 2013					
	8	7	6	5	4	3	2	1	31	30	29	28	27	26
12	0	3	0	0	0	0	0	0	0	0	1	3	2	3

*Beginning August 21, 2013, sheen responses are no longer requested at the Ceresco Dam impoundment if the sheen is identified to be within containment, despite sheen observations meeting response criteria. Sheen collecting within containment is managed by crews maintaining the containment booms.

Table 2 - Soil and Debris Shipped Off Site (as of 9/8/2013)

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)	79,255	SET/C&C
<i>Non-Haz Soil & Debris (yd³)</i> (Excluding Ceresco Dredge)	64,815	<i>Westside Recycling (Three Rivers, MI)</i>
<i>Non-Haz Soil (yd³)</i> (Ceresco Dredge Only)	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)	1,963	SET/C&C
Non-Haz Impacted Debris (ton)	7,373	

Shaded and italicized items are discontinued waste streams.

Table 3 - Liquid Shipped Off-Site (as of 9/8/2013)

Stream	Destination Company	Destination Location	Cumulative Volume (gallons)†
Non-Haz Water	Liquid Industrial Waste	Holland, MI	1,447,957
Non-Haz Water	Plummer	Kentwood, MI	620,526
<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			17,426,512

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 4 – Estimated Recovered Oil (as of 9/9/2013)

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	14,125
	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	34,652*
<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	46,178
	Liquid Industrial Waste Services, Inc.	Kentwood, MI	
	Plumbers 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			1,149,414

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

Table 5 – Samples Collected By Enbridge

Sample Type	Total	September 2013								August 2013					
		8	7	6	5	4	3	2	1	31	30	29	28	27	26
Surface Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Private Well	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0
Groundwater	10	0	0	3	2	0	0	0	0	0	2	0	3	0	0
Sediment	46	0	0	0	0	0	0	0	0	0	0	34	8	4	0
Soil	26	0	0	4	8	4	0	0	0	5	0	4	1	0	0
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	52	0	0	0	6	20	0	0	0	0	6	4	8	0	8
Sheen	3	0	0	0	0	2	0	0	0	0	0	0	1	0	0

Table 6 – Public Inquiries Received by Enbridge

Location/Med	September 2013							August 2013							
	6	5	4	3	2	1	31	30	29	28	27	26	25	24	
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	
Total Public Inquiries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 7 - Financial Summary (as of 9/10/2013)

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>	57,790
<i>T&T Bisso (EPA:HS800008)</i>	\$ 882,087
<i>Total Other Contractors</i>	\$ 1,138,256
START Contractor – WESTON (EPS50604)	
T030-Response	\$ 34,571,513
Community Relations	\$ 114,563
T032-Sampling	\$ 161,045
T037-Doc Support	1,992,064
Total START Contractor	\$ 36,839,185
Response Contractor Sub-Totals	\$ 41,241,684
U.S. EPA Funded Costs: Total U.S. EPA Costs	\$ 6,615,356
Pollution Removal Funding Agreements	
Total Other Agencies	\$ 2,897,081
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	\$ 987,782
Cost Documentation/Billing Admin Fee (2.93%)*	\$ 518,943
Total Est. Oil Spill Cost	\$ 56,684,237
Oil Spill Ceiling Authorized by USCG	\$ 63,250,000
Oil Spill Ceiling Available Balance	\$ 6,565,763

Shaded and *italicized* items are discontinued

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

Table 8 - Personnel On-Site

Agency/Entity	September 2013								August 2013					
	8	7	6	5	4	3	2	1	31	30	29	28	27	26
U.S. EPA	4	4	3	4	3	3	0	0	0	2	3	4	6	7
START	2	8	22	23	23	6	3	3	5	21	24	24	25	26
MDEQ	0	0	6	4	7	3	0	0	0	2	4	4	5	9
MDEQ Contractors	0	0	3	3	3	3	0	0	0	2	3	3	3	3
Other Agencies	3	2	2	2	0	0	2	2	2	2	2	0	0	2
Enbridge – Environmental Field Teams – Science*	6	10	42	43	40	11	7	6	7	38	40	45	47	45
Enbridge – Environmental Field Teams – Water Ops*	14	45	51	58	61	26	21	20	26	52	56	58	55	56
Enbridge – Dredge Operations – Ceresco*	77	82	94	87	89	99	99	71	74	83	75	83	85	75
Enbridge – Dredge Operations – Mill Ponds*	0	29	32	36	27	4	0	0	4	27	30	30	27	31
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*	0	0	5	10	14	0	0	1	1	5	17	17	16	13
Enbridge – Waste Management*	0	1	10	14	10	0	0	0	0	10	14	14	20	1
Enbridge – Office Support*	22	33	50	52	51	25	9	11	12	47	52	48	52	47
Total	128	214	320	336	328	180	141	114	131	291	320	330	341	315

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