

US EPA ARCHIVE DOCUMENT

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #191**



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

US EPA ARCHIVE DOCUMENT



Excavation Activities at MP 21.5 Sediment Trap (10/18/2013)

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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: 11/07/2013

Operational Period: 0700 hours 10/07/2013 through 0700 hours 10/14/2013
 0700 hours 10/14/2013 through 0700 hours 10/21/2013

Reporting Period: 0700 hours 10/07/2013 through 0700 hours 10/21/2013

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

- Monthly Morrow Lake Delta and Morrow Lake monitoring (poling) was conducted from October 7 – 12, 2013, in accordance with the 2012 Morrow Lake Delta and Morrow Lake Monitoring and Management Work Plan (November 15, 2012).
- Sediment trap monitoring continued in accordance with the approved Sediment Trap Monitoring and Maintenance Plan (July 10, 2012). On October 9, 2013, Enbridge completed fourth quarter bathymetry surveys at all locations excluding locations undergoing active recovery. Samples were collected from Cylindrical Sampling Devices (CSDs) from October 14 – 17, 2013.

2.1.2 Water Operations Division

- Enbridge monitored and maintained 4,900 feet of surface hard boom and 4,250 feet of subsurface half-curtain at the E 4.0 Containment System.

- The Ceresco Dam Control Point was removed on October 14, 2013.
- 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. No responses were conducted during this reporting period.

2.1.3 Compliance Division

- As of the close of the reporting period, Enbridge was preparing supplemental information for the previously issued MDEQ dredging permit for the MP 10.4 sediment trap.
- As of the close of the reporting period, Enbridge was preparing supplemental information for the dredging modifications to the previously issued MDEQ permits for agitation toolbox recovery at the MP 26.00 and MP 36.10 sediment traps.
- As of the close of the reporting period, Enbridge was preparing an MDEQ dredging permit application for recovery actions at the MP 28.25 sediment trap. The permit application will require a full review by MDEQ and a public notice period.
- U.S. EPA outlined in Section 47 of the March 14, 2013 Administrative Order and subsequently verbally communicated to Enbridge that it is Enbridge's responsibility to apply for MDEQ dredging permits and to modify existing permits to include dredging as the submerged oil recovery method, in a timeframe which allows for compliance with the U.S. EPA Order deadline of December 31, 2013. Enbridge has elected to wait for triggers to occur before applying for or modifying the existing MDEQ dredging permits.
- Dredging activities have still not started in the Delta area of Morrow Lake.

2.2 Dredge Operations Branch

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

- Enbridge completed demobilization from the MP 10.5 sediment trap on October 10, 2013.
- Dredging continued at the Ceresco Dam and Mill Ponds impoundments. Dredging operations included water treatment and discharge, containment installation and maintenance, dewatering of dredged sediment in Geotube bags, sediment solidification and transportation for off-site disposal.
- Sediment removal activities began at the MP 21.50 RDB sediment trap on October 8, 2013. Activities included installation of sheet piling, dewatering, water treatment and discharge, excavation of oiled sediment, solidification and transportation for off-site disposal.
- 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, and the cumulative waste shipped off-site for disposal.
- Work area air monitoring, dissolved oxygen water quality monitoring, and turbidity water quality monitoring were conducted during dredging activities.
- As of the close of the reporting period, Enbridge has not provided U.S. EPA with evidence of substantive progress for oil removal in Morrow Lake or the Morrow Lake Delta.

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

- 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 October 9 and 18, 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 4.5 and MP 5.89 on October 7 – 12, and 14 – 17;
 - MP 11.79 back channel on October 9;
 - Mill Ponds impoundment at multiple locations between MP 14.75 and MP 15.25 October 7 – 12, and 14 – 17;
 - Multiple locations between MP 21.5 and MP 26.25 on October 7 – 12, and 14 – 17;
 - Morrow Lake Delta and/or Neck on October 7 – 8, 10 – 12, and 14 – 16; and
 - Morrow Lake North and/or South Coves on October 7 – 8, 10 – 12, and 14 – 16.
- 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

- 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 \$63.25 million. Approximately 91.7% of the ceiling has been spent through October 21, 2013. The latest average 14-day burn rate was \$23,698 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*

- 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 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	41,169,339
Mill Ponds	5,595,533
Sediment Traps	15,553,022
Morrow Lake	N/A

Table 2 – Dredging Waste (as of 10/21/2013)

Waste Stream	Estimated Dredge Waste On-Site in Geotube bags (yd ³)	Cumulative Estimated Dredge Waste (yd ³)	Cumulative Waste Shipped Off-Site for Disposal (tons)
Ceresco	46,118	95,304	50,556
Mill Ponds	3,760	6,335	1,792
Sediment Traps	0	5,017	4,548
Morrow Lake	N/A	0	0
C0.4/Wildlife Center/C3.2/FTC	N/A	694*	145
Total	49,878	107,350	57,041

*Estimated dredge waste related to oily debris.

Table 3 - Soil and Debris Shipped Off Site (as of 10/20/2013)

Waste Stream	Cumulative	Disposal Facility
<i>Haz Soil (yd³)</i>	<i>19,644</i>	<i>Envirosafe (Oregon, OH)</i>
Non-Haz Soil (yd ³)	127,981	SET/C&C
Non-Haz Soil (yd ³)	4,310	SET/WM Westside
<i>Non-Haz Soil & Debris (yd³) (Excluding 2010 Ceresco Dredge)</i>	<i>64,815</i>	<i>Westside Recycling (Three Rivers, MI)</i>
<i>Non-Haz Soil (yd³) (2010 Ceresco Dredge Only)</i>	<i>5,562</i>	<i>EQ/Republic (Marshall, MI)</i>
<i>Haz Debris (yd³)</i>	<i>12,075</i>	<i>EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)</i>
Non-Haz Household Debris (ton)	2,013	SET/C&C
Non-Haz Impacted Debris (ton)	8,741	

Shaded and italicized items are discontinued waste streams.

Table 4 - Liquid Shipped Off-Site (as of 10/20/2013)

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	639,119
<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			17,445,105

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 10/21/2013)

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	16,313*
	Envirosafe/ Westside RDF	Oregon, OH	278,665
<i>Geotube Sediment - (Impacted Sediment)</i>	<i>Envirosafe/ Westside RDF</i>	<i>Oregon, OH</i>	1,298
Debris - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass)	EQ Michigan	Belleville, MI	38,506
<i>Frac Tank City - Influent to Carbon Filtration System</i>	<i>C&C Landfill</i>	<i>Marshall, MI</i>	8,109
Frac Tank City - Water	Dynecol	Detroit, MI	46,178
	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>	90
<i>A-1 Pretreatment System</i>	<i>C&C Landfill</i>	<i>Marshall, MI</i>	9
Oily Water - RPP	Enbridge Facility	Griffith, IN	766,288
Total			1,155,456

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	October 2013													
		19	18	17	16	15	14	13	12	11	10	9	8	7	6
Surface Water	18	0	0	0	0	8	10	0	0	0	0	0	0	0	0
Private Well	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Groundwater	19	0	7	3	2	2	0	0	0	2	0	1	0	2	0
Sediment	58	0	0	4	12	23	17	0	0	0	0	0	2	0	0
Soil	94	0	0	6	5	7	14	0	0	3	10	19	16	14	0
Product	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dewatering	69	3	1	0	2	30	0	0	0	0	2	0	28	0	3
Sheen	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Table 7 – Public Inquiries Received by Enbridge

Location/Med	October 2013															
	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	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	
Total Public Inquiries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table 8 - Financial Summary (as of 10/21/2013)

Item	Expended (Cumulative)	
<i>ERRS Contractors</i>		
<i>EQM (EPS50802)</i>	<i>T057</i>	\$ 1,199,522
	<i>T060</i>	\$ 213,636
<i>LATA (EPS50804)</i>	<i>T019</i>	\$ 1,161,082
<i>ER LLC (EPS50905)</i>	<i>T040</i>	\$ 683,330
	Total ERRS Contractors	\$ 3,257,571
<i>Other Contractors</i>		
<i>Lockheed Martin (EPW09031) – TAGA Support</i>		\$ 198,379
<i>Lockheed Martin (EPW09031) -Biodegradability Study</i>		61,886
<i>T&T Bisso (EPA:HS800008)</i>		\$ 882,087
	Total Other Contractors	\$ 1,142,352
START Contractor – WESTON (EPS50604)		
	T030-Response	\$ 35,586,966
	Community Relations	\$ 114,563
	T032-Sampling	\$ 161,045
	T037-Doc Support	2,048,309
	Total START Contractor	\$ 37,910,883
	Response Contractor Sub-Totals	\$ 42,317,478
U.S. EPA Funded Costs: Total U.S. EPA Costs		\$ 6,694,002
Pollution Removal Funding Agreements		
Total Other Agencies		\$ 3,237,081
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		\$ 1,104,957
Cost Documentation/Billing Admin Fee (2.93%)*		\$ 552,768
	Total Est. Oil Spill Cost	\$ 57,987,175
Oil Spill Ceiling Authorized by USCG		\$ 63,250,000
Oil Spill Ceiling Available Balance**		\$ 5,262,825

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 with fill gaps in contractor/EPA staff planned resources as appropriate.

Table 9 - Personnel On-Site

Agency/Entity	October 2013													
	20	19	18	17	16	15	14	13	12	11	10	9	8	7
U.S. EPA	0	0	2	2	2	2	0	0	0	2	2	2	2	2
START	1	6	17	17	18	18	17	3	9	21	21	22	21	21
MDEQ	0	0	4	3	4	8	5	0	0	4	4	4	3	4
MDEQ Contractors	0	0	1	2	2	3	3	0	0	1	3	3	3	3
Other Agencies	3	5	2	0	0	2	2	2	2	2	0	0	2	2
Enbridge – Environmental Field Teams – Science*	7	13	32	36	35	36	36	8	9	29	35	37	36	33
Enbridge – Environmental Field Teams – Water Ops*	36	56	71	71	67	69	72	36	67	78	77	78	75	69
Enbridge – Dredge Operations – Ceresco*	95	105	133	133	159	172	155	107	126	141	143	148	144	146
Enbridge – Dredge Operations – Mill Ponds*	2	35	44	44	39	39	35	1	31	34	29	31	33	32
Enbridge – Dredge Operations – Delta/Morrow Lake*	0	1	0	0	0	0	0	1	1	1	0	0	0	0
Enbridge – Dredge Operations – Sediment Traps*	18	30	31	39	37	39	35	12	33	31	34	32	39	39
Enbridge – Waste Management*	1	68	54	47	49	60	61	0	58	51	51	52	46	43
Enbridge – Office Support*	13	23	50	51	53	50	47	24	23	47	51	49	45	47
Total	176	342	441	445	465	498	468	194	359	442	450	458	449	441

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