

US EPA ARCHIVE DOCUMENT

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #107**



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

US EPA ARCHIVE DOCUMENT



Overbank Excavation at MP 11.25 R1

To: Lt. Paul Baker, Kalamazoo County Sheriff's Office
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Durk Dunham, Calhoun County Emergency Management
Lt. Barry Reber, Michigan State Police, Emergency Management.
Mark DuCharme, MDEQ
Mike Alexander, MDEQ
Mike McKenzie, City of Battle Creek
Susan Hedman, U.S. EPA Regional Administrator
James Sygo, MDEQ
Cheryl Vosburg, City of Marshall
Christine Kosmowski, City of Battle Creek

From: Ralph Dollhopf, U.S. EPA, Federal On-Scene Coordinator
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Date: 7/12/2011

Reporting Period: 0700 hours 7/4/2011 through 0700 hours 7/11/2011

1. Site Data

Site Number:	Z5JS	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	OPA	Response Type:	Emergency
Response Lead:	PRP	Incident Category:	Removal Action
NPL Status:	Non-NPL	Operable Unit:	
Mobilization Date:	7/26/2010	Start Date:	7/26/2010
Demobilization Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:	E10527	Reimbursable Account:	

2. Previous Response Actions and Current Response Governance

- Previous response actions performed to date may be found in SITREPs #1 through #106.
- Governance for the project is provided by the U.S. Environmental Protection Agency (U.S. EPA) Federal On-Scene Coordinator (FOSC) and the Michigan Department of Environmental Quality (MDEQ). The structure of the response is the Incident Command System (ICS), with the FOSC serving as the Incident Commander (IC).
- The Operational Period covered in this report is: 0700 hours on 7/4/2011 through 0700 hours on 7/11/2011.

3. Operations

- This operational phase of the response consisted of: 1) Air Operations; 2) Waste Management; 3) Environmental Compliance; 4) Response Action including Overbank Excavation, Overbank Surface Cleanup, and Submerged Oil Recovery in Talmadge Creek and Kalamazoo River; 5) Monitoring; and 6) Wildlife Operations.
- The majority of operations were shut down from July 4 through July 5, 2011 due to the federal holiday on July 4, 2011.

3.1 Air Operations Branch

- During this operational period, four overflights were conducted for situational awareness. Air Operations personnel observed and documented progress in all operational areas and continued to assess areas of interest such as observations of oil sheen, oil removal and decontamination activities.

3.2 Waste Management Branch

3.2.1 Decontamination Unit

- Equipment and boom that were decontaminated during this operational period as reported by Enbridge are presented in Table 1.
- Due to increased river activity, there is an increased number of oil impacted marine vessels. Following an on-site review at Boat Launch C0.4, EPA and Enbridge personnel determined that boats may be spot decontaminated using sorbent pads with an approved decontamination agent.

3.2.2 Transportation and Disposal Unit

- Enbridge continued phased decommissioning of the waste management area at Site A.
- Waste management, characterization, and coordination of transportation and disposal continued according to approved plans. Minimal amounts of oil and debris were shipped off site during the reporting period, as noted in Tables 2 through 5.
- EPA continued oversight of waste characterization, transportation, and disposal activities.
- During this operational period, Enbridge began live-loading operations at the 11.25 R1 excavation sites. Impacted soils and sediment were solidified with sawdust in a rock box. Enbridge performed paint filter tests and collected aliquots for O&G/recovered oil analysis. The solidified material was transported to the landfill for disposal. Aliquots from each truck were taken to the ICP for homogenization and samples were collected from the homogenized material.
- EPA continued to work with Enbridge to reduce comingling of municipal solid waste (MSW) with oil impacted material through an improved MSW receptacle program at primary location throughout the response site. Enbridge agreed that all impacted debris roll-offs would be properly labeled as such and strategically placed to alleviate excessive distances from the shoreline. Labeled, designated areas for MSW with appropriate containment will also be implemented..

3.3 Environmental Compliance Branch

3.3.1 Operations and Maintenance (O&M)

- During the operational period, Enbridge continued to monitor Operations and Maintenance sites. Daily activity and progress information is presented in Table 6.
- Teams continued inspections of control points, containment boom locations, and protective boom locations. Teams evaluated boom placement, boom effectiveness, and presence of readily visible oil or oil-saturated soils.
- Teams continued to install and enhance surface and subsurface containment as necessary. Hard boom, X-Tex curtain, absorbent boom, t-posts, and cinder blocks were installed at existing and new locations throughout the Kalamazoo River from MP 4.8 through MP 27.50, in the Delta Sites I through K, and near Control Point E3. Boom information is presented in Table 6.

- Teams continued to perform sheen sweeps along the Kalamazoo River near MP 6.0 and between Control Points E4 and E5.

3.3.2 Plans and Permitting

- On July 8, 2011, a mussel survey was conducted at MP 9.50 in anticipation of the bridge installation. Buoys were placed to redirect boat traffic around the left downstream side of the nearby island.

3.4 Response Action Branch

3.4.1 Overbank Surface Cleanup Unit

- During this operational period, overbank surface cleanup work was conducted at 36 sites along Talmadge Creek and the Kalamazoo River from MP 2.50 to MP 18.50. Enbridge teams removed tar patties using approved techniques to eliminate visible surface contamination. All sites were documented before and after cleanup activities. Recovered materials were handled in accordance with the management practice for proper disposal. Erosion control and stabilization measure were implemented as required at each area of tar patty removal. Overbank surface cleanup progress information is presented in Table 7.

3.4.2 Overbank Excavation Unit

- During this operational period, teams completed excavation and backfill activities at MP 11.25 R1; performed site preparation and began excavation at MP 11.25 R2; and conducted site evaluation, hydro-excavation, and restoration at the Winding Way site. Teams also began to mobilize mats from site A to MP 9.5 Island near Historic Bridge Park to prepare for excavation during the next operational period.

3.4.3 Submerged Oil Recovery and Cleanup Unit

- Submerged oil recovery operations continued on the Kalamazoo River. Recovery operation techniques followed the approved submerged oil recovery tool box and included flushing and other mechanical agitation techniques.
- During this operational period, teams conducted site preparation and recovery operations at 18 sites from MP 4.15 to MP 24.65. Teams continued oil recovery at the MP 37.75 Delta Islands, conducted vegetation removal and submerged oil recovery at Delta A and Delta B.

3.5 Monitoring Branch

3.5.1 Surface Water and Sediment Sampling

- Under MDEQ direction, soil, sediment and surface water sampling were performed in accordance with the existing Sampling and Analysis Plan (SAP) with a reduced sampling frequency as approved by the MDEQ. Samples collected as reported by Enbridge are provided in Table 8.

3.5.2 Air Monitoring and Sampling

- Enbridge continued to implement a comprehensive air monitoring and sampling program. The quantity of monitoring and sampling locations is provided in Tables 8 and 9. On July 6, 2011, Enbridge submitted a request to reduce air monitoring and sampling because no detections above action levels have been found as a result of the program to date.
- Effective July 6, 2011, work perimeter and community air monitoring and sampling was discontinued and replaced with air sampling within river segments being considered for reopening for public use. Enbridge

established 26 sampling locations within the 3 segments. On July 8, 2011, Enbridge began collecting 12 hour samples rather than 8 hour samples, to be more representative of a recreational user.

- On July 4 and July 5, 2011, Enbridge received odor complaints from a property owner immediately upstream of Ceresco Dam. On July 6, 2011, Enbridge personnel responded to the complaint and EPA conducted oversight. Organic material had collected in the boom, resulting in a decaying plant matter odor. Real-time air monitoring was conducted for benzene, VOCs, and H₂S. No detections were noted. A grab sample was collected and a Summa canister was deployed for a 24 hour analytical sampling event. On July 7, 2011, the Summa canister was collected, the boom was cleaned, and no odors were noted. As of July 11, 2011, sampling results remained pending.
- On July 8, 2011, Enbridge demobilized the weather station from MP 13.0, because the property owner did not renew the access agreement. The weather station was relocated to a different location near Baker Estates. Weather data continued to be obtained from the weather stations near Ceresco Dam and the airport.
- EPA personnel continued to perform oversight of the air monitoring and sampling program. The results of the duplicate sampling conducted during the last operational period remain pending.

3.6 Wildlife Branch

- The Wildlife Branch continued to provide medical health assessment, treatment, and release of rehabilitated wildlife under Michigan Department of Natural Resources (MDNR) direction.
- Throughout the operational period, the Wildlife Branch conducted turtle trapping and release along the Kalamazoo River. From July 8 through July 11, 2011, there were 239 turtles captured, 52 oiled, and 22 admitted to the wildlife center. As the July 11, 2011, there were 49 turtles remaining in captivity.

4. Planning

4.1 Situation Unit

- Air Operations personnel conducted observations of proposed public river access points near Perrin Dam at MP -2.7. No activities were observed at this location.
- Throughout the operational period, Air Operations personnel observed submerged oil recovery work in the Kalamazoo River. Sheen and sediment were generally observed to be within containment. On July 6, 2011, Air Operations personnel observed sediment breaching containment and entering the Kalamazoo River at MP 10.75 LDB. Crews were present, but did not observe the breach from the ground. No sediment was observed breaching containment since the July 6, 2011 observation.
- On June 8, 2011, Air Operations personnel observed a sheen plume at MP 28.0 LDB. Sheen was also noted on Morrow Lake east of Control Point E5. Air Operations personnel notified Operations and SWAT personnel.
- On June 9, 2011, Air Operations and Operations personnel observed sheen outside of containment at MP 5.75 and two significant sheen ribbons in the center of Morrow Lake. Operations personnel conducted the appropriate notifications.

4.2 Environmental Unit

- The Public Health Group under the Environmental Unit continues to be led by Dr. Linda Dykema, Michigan Department of Community Health (MDCH). The Public Health Group continues to review report submittals received from Enbridge and evaluate a path forward for the reopening of public parks, bridges and public access points along the Kalamazoo River and Morrow Lake.

- The Recovery Task Force conducted coordination of oil recovery activities including overbank surface recovery and submerged oil recovery activities.

4.3 Documentation Unit

- Documentation Unit personnel continued organization and archiving of electronic and paper files.

4.4 GIS Support

- During the operational period, EPA GIS personnel continued to support Operations with the generation of site maps.

5. Command

6.1 Safety

- Throughout the operational period, minor incidents occurred, including two bee stings, two cuts, two slips and falls into the Kalamazoo River, and one incident of heat stress. All the affected personnel were able to return to work.
- On July 8, 2011, Enbridge amended the policy on Tyvek usage for water operations personnel because the hazards of heat exposure became a potentially greater risk to workers than that of contamination.

6.2 Public Information

- The quantity of public inquiries reported by Enbridge for this period is presented in Table 10.

6. Landowner Environmental Issues

- Landowner environmental issues, as reported by Enbridge for this period are presented in Table 11.

7. Finance

- The current National Pollution Funds Center (NPFC) issued ceiling is \$34.2 Million. Approximately 85.0% of the ceiling has been spent through July 11, 2011. As of July 3, 2011, the latest average 7-day burn rate was \$57,522 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 12.

8. Participating Entities

- A Multi-Agency Coordination (MAC) Group continues to meet weekly regarding the progress of the response. Entities participating in the MAC include:
 - U.S. Environmental Protection Agency
 - Michigan Department of Environmental Quality
 - Michigan State Police Emergency Management Division
 - City of Battle Creek
 - City of Marshall
 - Calhoun County Public Health Department
 - Calhoun County Emergency Management
 - Kalamazoo County Sheriff
 - Enbridge (Responsible Party)

- For a list of cooperating and assisting agencies and the congressional presence, see SITREP #51 (Sections 3.2 and 3.3).

9. Personnel On-Site

- Staffing numbers for the entities and agencies active in the response are presented in Table 13.

10. Source of Additional Information

- For additional information, refer to <http://www.epa.gov/enbridgespill>. For sampling analysis data, see <http://response.enbridge.com/response/main.aspx?id=13168>.

11. Clean-up Progress Metrics

Table 1 - Equipment Decontamination

Location/Media	Total	July 2011						
		10	9	8	7	6	5	4
Frac Tanks	0	0	0	0	0	0	0	0
Vac Trucks-Tankers	0	0	0	0	0	0	0	0
Roll-Off Boxes	0	0	0	0	0	0	0	0
Yellow Iron (light)	0	0	0	0	0	0	0	0
Yellow Iron (heavy)	0	0	0	0	0	0	0	0
Boats	3	2	1	0	0	0	0	0
Vehicles	0	0	0	0	0	0	0	0
Boom (feet)	0	0	0	0	0	0	0	0

Table 2 - Soil and Debris Shipped Off Site (as of 7/11/2011)

Waste Stream	Cumulative	Disposal Facility
<i>Haz Soil (yd³)</i>	19,644	<i>Envirosafe (Oregon, OH)</i>
Non-Haz Soil & Debris (yd ³) (Excluding Ceresco Dredge)	10,895	Terra/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)	814	EQ/Republic (Marshall, MI); C&C
Non-Haz Impacted Debris (ton)	2,677	

Shaded and italicized items are discontinued waste streams.

Table 3 – Oil/Water Collected by Location (as of 7/11/2011)

Location	Cumulative (gallons)
Division A	5,356,315
Division B	4,868,279
Division C	1,891,406
Division D	121,106
Division E	47,438
Decontamination	1,726,983
Site A	316,464
Other Locations*	1,295,634
Subtotal	15,623,625
Sludge**	474,215
Total Oil/Water	15,149,410

* Wildlife Center Operations, Sediment Trap Cleaning, Hydro-Vacuuming.

** Sludge collected is tracked as a liquid waste inbound; however, after stabilization, the sludge is disposed of as solid waste. Therefore, the volume of sludge is not included within the cumulative oil/water totals. Stabilized sludge is included in the solid waste disposal metrics.

Table 4 - Liquid Shipped Off-Site (as of 7/11/2011)

Stream	Destination Company	Destination Location	Cumulative Volume (gallons) †
<i>Hazardous Water</i>	<i>Dynecol</i>	<i>Detroit, MI</i>	3,594,579
<i>Oil Other Material</i>	<i>Enbridge Facility</i>	<i>Griffith, IN</i>	766,288 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
Non-Haz Water	Dynecol	Detroit, MI	867,722
Non-Haz Water	Liquid Industrial Waste	Holland, MI	152,301
<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
Non-Haz Water	Battle Creek POTW	Battle Creek, MI	893,980
Total			15,146,960

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.

* Treated Non-Haz Water no longer sent to this location.

Table 5 - Oil/Water Remaining On-Site (as of 7/11/2011)

Item	Cumulative (gallons)
Oil/Water Collected	15,149,410
Oil/Water Shipped Off-Site	15,146,960
Total Oil/Water Remaining On-Site	2,450

Table 6 – Daily Activity/Progress

	July 2011						
	10	9	8	7	6	5	4
Parks Assessment Sites	3	3	3	3	3	3	3
Bridge Assessment Sites	21	21	21	21	21	21	21
High Use Access Points Assessment Sites	9	9	9	9	9	9	9
Operations & Maintenance Site	107	107	107	107	107	107	107
Boom Locations							
Control Points	10	10	10	10	10	10	10
Protective Containment Sites	38	38	38	38	37	37	37
River Erosion Sites	26	26	26	26	26	26	26
Total Surface Boom Deployed (ft)	38,975	38,975	38,975	38,975	38,975	38,975	38,975
[ft of control point surface boom]	[18,500]	[18,500]	[18,500]	[18,500]	[18,500]	[18,500]	[18,500]

Table 7 – Overbank Surface Cleanup Progress (as of 7/11/2011)

Quarter – mile Segments Completed: 158	158 of 240 locations (65.8% of planned locations)
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Table 8 – Samples Collected By Enbridge

Sample Type	Total	July 2011						
		10	9	8	7	6	5	4
Surface Water	31	0	0	11	12	8	0*	0*
Private Well	0	0	0	0	0	0	0*	0*
Groundwater	8	0	1	2	2	3	0*	0*
Sediment	19	0	0	16	0	3	0*	0*
Soil	27	0	25	2	0	0	0*	0*
Dewatering	4	0	0	2	2	0	0*	0*
Air (Community Locations)	2	0	0	0	0	2	0*	0*
Air (Response Work Area Locations)	0	0	0	0	0	0	0*	0*
Air (Odor Complaint)	2	0	0	0	1	1	0*	0*
Air (River Opening)	117	21	27	27	26	16	0*	0*

*Sampling was not conducted due to the Fourth of July Federal Holiday.

Table 9 – Real-Time Air Monitoring Conducted By Enbridge

Sample Type	Total	July 2011						
		10	9	8	7	6	5	4
Community Locations	4	0	1	0	0	3	0*	0*
Response Work Area Perimeter	0	0	0	0	0	0	0*	0*
Response Work Area	656	0	200	162	209	85	0*	0*
Tar Patty Study	34	0	0	0	34	0	0*	0*
Odor Complaint Response	7	0	0	0	4	3	0*	0*
River Opening Monitoring	504	59	118	125	134	68	0*	0*

*Air monitoring was not conducted due to the Fourth of July Federal Holiday.

Table 10 – Public Inquiries Received by EPA and Enbridge

Location/Media	Total	July 2011						
		10	9	8	7	6	5	4
Marshall Community Center	12	0	0	2	2	7	1	0
Oil Spill Public Information Hotline	11	0	0	0	7	0	3	1
Website	0	0	0	0	0	0	0	0
Total Public Inquiries	22	0	0	2	9	7	4	1

Table 11 – Landowner Environmental Issues (as of 7/11/2011)

Issues this Period	Issues Undergoing Evaluation	Issues Considered Addressed
0	11	0

Table 12 - Financial Summary

Item	Expended (Cumulative) as of 7/11/2011
ERRS Contractors	
EQM (EPS50802) T057	\$ 1,199,522
T060	\$ 213,636
LATA (EPS50804) T019	\$ 1,161,082
ER LLC (EPS50905) T040	\$ 683,330
Total ERRS Contractors	\$ 3,257,571
Other Contractors	
Lockheed Martin (EPW09031) – TAGA Support	\$ 185,951
T&T Bisso (EPA:HS800008)	\$ 882,087
Total Other Contractors	\$ 1,068,038
START Contractor – WESTON (EPS50604)	
T030-Response	\$ 12,908,937
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 873,668
Total START Contractor	\$13,962,819
Response Contractor Sub-Totals	\$18,288,428
EPA Funded Costs: Total EPA Costs	\$ 4,952,636
Pollution Removal Funding Agreements – Total Other Agencies	\$ 1,823,682
Sub-Totals	\$25,064,746
Indirect Cost (16.00%)	\$ 4,010,359
Total Est. Oil Spill Cost	\$29,075,106
Oil Spill Ceiling Authorized by USCG	\$34,200,000
Oil Spill Ceiling Available Balance	\$ 5,124,894

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Table 13 - Personnel On-Site

Agency/Entity	July 2011						
	10	9	8	7	6	5	4
U.S. EPA	0	0	1	2	2	1	0
START	5	40	41	41	38	6	0
MDEQ	0	0	4	5	4	1	0
MDEQ Contractors	0	6	10	9	8	4	0
Calhoun County Public Health	0	0	0	2	0	0	0
Calhoun County (CC) EM	0	0	0	0	0	0	0
City of Battle Creek	0	0	0	1	0	0	0
City of Marshall	0	0	0	1	0	0	0
Kalamazoo County Public Health	0	0	0	2	0	0	0
Kalamazoo Sheriff	0	0	0	0	0	0	0
MDCH	0	0	0	1	0	0	0
Michigan State Police EMD	0	0	0	0	0	0	0
Enbridge – Operations	42	63	130	135	133	24	0
Enbridge – Field	56	335	333	332	319	27	1
Total	103	444	519	531	504	63	1

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