

US EPA ARCHIVE DOCUMENT

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #99**



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



Reassessment Teams working near Mile Post 22.5

To: Lt. Paul Baker, Kalamazoo County Sheriff's Office
James Rutherford, Calhoun County Public Health Department
Durk Dunham, Calhoun County Emergency Management
Lt. Barry Reber, Michigan State Police, Emergency Management.
Mark DuCharme, 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
Tricia Edwards, U.S. EPA, On-Scene Coordinator
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Date: 05/17/2011

Reporting Period: 0700 hours 05/09/2011 through 0700 hours 05/16/2011

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

See Situation Report (SITREP) #51 for a comprehensive description of preliminary operations. Previous response actions performed to date may be found in SITREPs #1 through #98.

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. 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 05/09/2011 through 0700 hours 05/16/2011.

3. Operations

This current operational phase of the response consists of: 1) Shoreline and Overbank Re-assessment Technique (SORT); 2) Poling; 3) Operations and Maintenance (O&M); 4) Decontamination; and 5) Other Operations.

Sheen and/or oil were observed at the following locations inspected by the environmental inspectors at O&M points identified below.

Table 1 – Oil/Sheen Observations

Activity	Number of Locations	Location (MP)
Sheen and/or Product Observation	52	Talmadge Creek, B5, 2.25 L2, 2.50 L1, 2.75I1, 2.75 R1, 3.25 R1, 3.25 IA, 4.25 IE, 4.25 IF, 4.50 L1, C 0.5, 5.55 N, 6.00 L1, 6.00 R1, 6.00 R3, 6.00 R4, 7.00 R1, 8.50 L1, 8.50 L2, 9.00 I1, 9.00 L1, 9.50 I, 9.50 L1, 9.75, 10.25 LDB, 10.25 RDB, 10.50 L2, 10.75 L1, 10.75 L2 SO, 11.25 R1, 11.25 R2, 11.50 R1, 11.75 R1, 12.75 R1, 12.75 I1, 12.75 RDB, 14.75 RDB, 15.00 LDB, 15.00 RDB, 15.25, 15.50 C6, 16.00 LR1, 17.00 L1, 19.40 D3, 21.50 R1, 21.75 RDB, 22.00 RDB, 28.25 R1, 35.20 E3, 37.5 S and 37.75 E4

A summary of the daily activity at various types of sites as reported by Enbridge is summarized below.

Table 2 – Daily Activity/Progress

O&M Process	May 2011						
	15	14	13	12	11	10	9
Parks Assessment Sites	3	3	3	3	3	3	2
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	97	97	97	97	97	97	97
Control Points	6	6	6	6	6	6	6
Protective Containment Sites	37	37	37	37	36	37	37
River Erosion Sites	19	19	19	19	19	19	19
Monitoring Well Installation Sites	3	3	3	3	3	3	3

3.1 Shoreline and Overbank Re-assessment Technique (SORT)

Four SORT Teams continued reassessment of the shoreline and overbank areas within the floodplain as defined by the inundation model along the Talmadge Creek and Kalamazoo River. A summary of SORT progress for this period is presented below.

Table 3 – SORT Progress as of 5/15/2011

Quarter – mile Segments Completed	232 locations (72.5% of planned locations)
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3.2 Poling Re-assessment for submerged oil

Five poling teams began reassessment of the creek and river beds for submerged oil deposition. A summary of poling progress for this period is presented below.

Table 4 – Poling Progress on Talmadge Creek as of 5/15/2011

Number of Locations	81
Approximate Total Area:	0.7 acres (31,400 sq ft)
Moderate (45 Locations)	0.2 acres (8,100 sq ft)
Heavy (53 Locations)	0.5 acres (23,300 sq ft)

Table 5 – Poling Progress on Kalamazoo River as of 5/15/2011

Number of locations:	86
Approximate Total Area:	26.7 acres (1,160,300 sq ft)
Moderate (45 Locations)	4.0 acres (172,400 sq ft)
Heavy (53 Locations)	22.7 acres (987,900 sq ft)

3.3 Strike Team (ST)

Two Strike Teams (ST) continued to perform focus assessments of areas requiring further assessment, as designated by SORT and poling teams.

3.4 Operations and Maintenance (O&M)

Teams inspected O&M locations. In general, team activities included an inspection of containment boom to ensure proper placement and effectiveness and inspection for readily visible oil or oil-saturated soils.

3.4 Decontamination

Equipment and boom that were decontaminated during this operational period as reported by Enbridge is presented below.

Table 6 - Equipment Decontamination

Location/Media	Total	May						
		15	14	13	12	11	10	9
Frac Tanks	2	0	0	0	2	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
Jon Boats	0	0	0	0	0	0	0	0
Air Boats	0	0	0	0	0	0	0	0
Vehicles	0	0	0	0	0	0	0	0
Boom (feet)	0	0	0	0	0	0	0	0

3.5 Additional Operations

3.5.1 Air Operations

There were 3 over-flights for situational awareness during this operational. Air Operations personnel observed and documented progress in all operational areas and continued to assess areas of interest such as oil mobilization and decontamination activities.

A summary of the status of additional aerial imagery tasks being performed by Enbridge related to reassessment activities is presented below.

Table 7 – Aerial Imagery for Reassessment

Technology	Overflight	Ground Controls	Data Compilation	Report Complete
LIDAR	Completed	Completed	In-progress	Pending
FLS-AM	Completed	N/A	Completed	Pending
Polarimetric Imagery	Completed	N/A	Completed	Pending
Aerial Photography	Completed	Completed	In-progress	Pending

3.5.2 Environmental Compliance and Oversight

Continued waste management characterization, documentation and coordination. Coordination with the MDEQ continues, particularly with regards to MDEQ concurrence of work contemplated by Enbridge in ecologically sensitive areas during operations and state-required permitting.

3.5.3 Monitoring Branch

Under MDEQ direction, potable water, groundwater, soil, sediment and surface water sampling were performed in accordance with the existing U.S. EPA-approved Sampling and Analysis Plan (SAP) (adopted by MDEQ) and a reduced sampling frequency as approved by the MDEQ.

Samples reported by Enbridge are provided on the following page.

Table 8 – Samples Collected By Enbridge

Sample Type	Total	May						
		15	14	13	12	11	10	9
Surface Water	32	0	0	1	4	7	10	10
Private Well Samples	37	0	0	18	9	0	0	10
Groundwater Samples	0	0	0	0	0	0	0	0
Sediment Samples	15	0	0	2	4	6	0	3
Soil Samples	19	0	0	16	3	0	0	0

3.5.4 Wildlife Branch

Under Michigan Department of Natural Resources (MDNR) direction, release of rehabilitated wildlife nursed over the winter continues. Relocation of the wildlife care center to control point C 3.2 began.

4. Landowner Environmental Issues

Landowner environmental issues, as reported by Enbridge for this period are represented below.

Table 9 – Landowner Environmental Issues

Issues this Period	Issues Undergoing Evaluation	Issues Considered Addressed
1	12	0

5. Progress Metrics

Progress metrics reported in this section are as reported by Enbridge.

Table 10 - Boom and Aqua Dam Report

Metric	May						
	15	14	13	12	11	10	9
# Boom Locations	47	47	46	46	45	44	43
[# control points included]	[6]	[6]	[6]	[6]	[6]	[6]	[6]
Total Surface Boom Deployed (ft)	27,650	27,650	27,050	25,700	25,500	25,500	25,000
[ft of control point surface boom]	[8,400]	[8,400]	[8,400]	[7,050]	[7,050]	[7,050]	[7,050]
# Aqua Dam Locations	5	5	5	5	5	5	5
Aqua Dam Deployed (ft)	510	510	510	510	510	510	510
Sand-Super Sacks	39	39	39	39	39	39	39
[Sand Bags]	[1,288]	[1,288]	[1,288]	[1,288]	[1,288]	[1,288]	[1,288]

NR = Not Reported by Enbridge

Table 11 - Soil and Debris Shipped Off Site as of 5/15/2011

Waste Stream	Cumulative	Disposal Facility
Haz Soil (yd ³)	19,644	Envirosafe (Oregon, OH)
Non-Haz Soil & Debris (yd ³) (Excluding Ceresco Dredge)	74,170	Westside Recycling (Three Rivers, MI); Terra/C&C and EQ/Republic (Marshall, MI)
Non-Haz Soil (yd ³) (Ceresco Dredge Only)	5,562	
Haz Debris (yd ³)	12,075	EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI)
Non-Haz Household Debris (ton)	753	EQ/Republic (Marshall, MI); C&C
Non-Haz Impacted Debris (ton)	1,937	

Table 12 – Oil/Water Collected by Location (as of 5/15/2011)

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	1,564,628
Site A	206,665
Other Locations*	1,249,625
Subtotal	15,305,462
Sludge**	474,215
Total Oil/Water	14,831,247

* Decontamination Operations, 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 13 – Oil/Water Separation at Enbridge Facility in Griffith, IN (as of 5/15/2011)

Item	Cumulative (gallons)
Oil	766,288
Other Material	1,405,525
Total	2,171,813

Table 14 - Liquid Shipped Off-Site (as of 5/15/2011)

Stream	Destination Company	Destination Location	Cumulative Volume (gallons) †
Hazardous Water	Dynecol	Detroit, MI	3,594,579
Oil/Water	Enbridge Facility	Griffith, IN	2,171,813
Treated Non-Haz Water	Liquid Industrial Waste	Holland, MI	370,200
Treated Non-Haz Water	Plummer	Kentwood, MI	4,976,140
Hazardous Water	Safety Kleen ^a		825
Non-Haz Water	Dynecol	Detroit, MI	728,685
Treated Non-Haz Water*	Dynecol	Detroit, MI	150,700
Treated Non-Haz Water*	Battle Creek POTW	Battle Creek, MI	1,968,700
Non-Haz Water	Battle Creek POTW	Battle Creek, MI	866,980
Total			14,828,622

- * Treated Non-Haz Water no longer sent to this location.
- † Cumulative quantities may not reconcile with previous reports (due to auditing).
 - a. New Age lab water and methanol mix generated by mobile laboratory.

Table 15 - Oil/Water Remaining On-Site 5/15/2011

Item	Cumulative (gallons)
Oil/Water Collected	14,831,247
Oil/Water Shipped Off-Site	14,828,622
Total Oil/Water Remaining On-Site	2,625

6. Support Operations

6.1 Planning

The Planning Department coordinated with Enbridge Planning in the ICS planning cycle.

6.1.1 Environmental Unit

The Public Health Group under the environmental unit is being lead by Linda Dykema, Michigan Department of Community Health. The Public Health Group continues to review report submittals received from Enbridge and evaluate a path forward for the reopening of public parks, bridge and public access points along the river, the Kalamazoo River and Morrow Lake.

The Re-assessment Task Force continues to provide coordination of reassessment activities including SORT, poling, and aerial imagery. They stood up two Strike Teams that are a combination of poling and SORT capabilities to address areas previously identified by the SORT teams as not being assessable.

6.1.2 Data Management Unit

Continued importing preliminary and validated analytical results into Scribe, exporting daily briefings; and processing and printing maps as requested. Database management is being done in Vernon Hills, IL and/or Houston, TX.

6.1.3 Documentation Unit

Continued organization and archiving of electronic and paper files.

6.2 Safety

Due to the continued changing of the seasons, an emphasis continues to be placed on spring weather awareness (heavy rain, fog, snow, swift water, flood watch and rising of water levels) with the work crews.

The safety staff continue to provide field support for the reassessment teams and training to new reassessment staff. Minor boating safety issues were raised and addressed during the operational period to ensure the safety of all individual working in and on the Kalamazoo River.

A safety stand-down occurred on Friday, May 13, 2011 at Frac Tank City as a result of a safety incident whereby an Enbridge contractor was working unsupervised, without an approved work permit and improperly using equipment.

6.3 Public Information

The quantity of public inquiries reported by Enbridge for this period is presented below.

Table 16 – Public Inquiries Received by EPA and Enbridge

Location/Media	Total	May						
		15	14	13	12	11	10	9
Marshall Community Center	8	0	0	1	0	3	2	2
Oil Spill Public Information Hotline	21	1	1	2	1	11	4	1
Website	0	0	0	0	0	0	0	0
Total Public Inquiries	29	1	1	3	1	14	6	3

6.4 Finance

The current NPFC issued ceiling is \$31.2 Million. Approximately 87.6% of the ceiling has been spent through May 15, 2011. As of May 15, 2011, the latest average 7-day burn rate was \$41,190 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented on the following page.

Table 17 - Financial Summary

Item	Expended (Cumulative) as of 5/15/2011
ERRS Contractors	
EQM (EPS50802) T057	\$ 1,250,065
T060	\$ 204,905
LATA (EPS50804) T019	\$ 1,451,396
ER LLC (EPS50905) T040	\$ 723,669
Total ERRS Contractors	\$ 3,630,035
Other Contractors	
Lockheed Martin (EPW09031) – TAGA Support	\$ 150,000
T&T Bisso (EPA:HS800008)	\$ 1,255,000
Total Other Contractors	\$ 1,405,000
START Contractor – WESTON (EPS50604)	
T030-Response	\$10,909,737
T032-Sampling	\$ 180,214
T037-Doc Support	\$ 757,084
Total START Contractor	\$11,847,035
Response Contractor Sub-Totals	\$16,882,070
EPA Funded Costs: Total EPA Costs	\$ 4,865,921
Pollution Removal Funding Agreements – Total Other Agencies	\$ 1,823,682
Sub-Totals	\$23,571,673
Indirect Cost (16.00%)	\$ 3,771,468
Total Est. Oil Spill Cost	\$27,343,141
Oil Spill Ceiling Authorized by USCG	\$31,200,000
Oil Spill Ceiling Available Balance	\$ 3,856,859

7. Participating Entities

A Multi-Agency Coordination (MAC) Group meets 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).

8. Personnel On-Site

Staffing numbers for the entities and agencies active in the response are presented below.

Table 18 - Personnel On-Site

Agency/Entity	May						
	15	14	13	12	11	10	9
U.S. EPA	1	1	1	2	1	1	1
START	8	14	22	22	23	24	24
Calhoun County Public Health	0	0	0	2	0	0	0
Calhoun County (CC) EM	0	0	0	1	0	0	0
City of Battle Creek	0	0	0	1	0	0	0
City of Marshall	0	0	0	1	0	0	0
Village of Augusta	0	0	0	0	0	0	0
Kalamazoo County Public Health	0	0	0	1	0	0	0
Kalamazoo Sheriff	0	0	0	1	0	0	0
MDEQ	4	10	13	14	14	13	13
Michigan State Police EMD	0	0	0	1	0	0	0
NOAA – National Weather	0	0	0	0	0	0	0
USFWS	0	0	0	0	0	0	0
Enbridge – Operations	10	28	88	94	97	95	137
Enbridge – Field	43	43	130	135	149	138	93
Total	66	100	254	275	284	271	230

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

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/main.aspx?id=13168>.